



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412

NAAC ACCREDITED 'A' GRADE
(Affiliated to Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon)

Prof. Dr. M.J. Raghuwanshi
I/Principal

Email: gtpcollege@rediffmail.com
Ph: 2564-222293
Website: ntvsgtpcollege.org

Date: 10-05-2023

Declaration

This is to inform that information, reports, true copies of the supporting documents, numerical data etc. submitted/ presented in this file is verified by Internal Quality Assurance Cell (IQAC) and is correct as per the records. This declaration is for the purpose of NAAC Accreditation of HEI for Third Cycle period 2017-18 to 2021-22.

Date:10-05-2023

Place: Nandurbar


Dr.V.Z.Chaudhari
Co-ordinator, IQAC
GTP College, Nandurbar




(Prof. Dr. M.J. Raghuwanshi)
PRINCIPAL
GT Patil College,
Nandurbar-425412



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Lt. Dr. V. Z. Chaudhari
Associate NCC Officer

NATIONAL CADET CORPS

Prof. V.S. Shrivastava
Principal

Report on Activity- 2017-18

1. Title of Event: Tree Plantation (Environment Day-Week)

Date: 16/06/2017

2. Introduction of the event: The National Cadet Corps (NCC) unit frequently organises tree plantation on the college campus including Environment Day-week. Mostly every year summer vacation ends on 14 June and 15 June the college commences opening of new academic session. The activity of tree plantation was organised at the auspicious hands of the president of NTVS Hon. Shri. Manojbhaiyya Raghuwanshi in the presence of Principal Dr V S Shrivastava, Vice Principal Dr M J Raghuwanshi, NCC officer Lt Vijay Chaudhari, Staff, Students and Cadets. Around 20 plants were planted which includes Neem, Champa, Mogara, Saptaparni etc. The Chairman of the Institute positively responded to such extension activity and asked the authorities to promote the same society for human wellbeing.

3. Duration: One Day.

4. Place: G. T. Patil Arts, Commerce and Science College Nandurbar.

5. Inaugurator/Chief Guest: Hon. Shri. Manojbhaiyya Raghuwanshi and College Administrators


6. Attendees: 50

7. Particular activity: Tree Plantation.

8. Social inclusion/alliance: The host college and the NCC unit.

9. Message to society: The Cadets, Staff and other students got aware of importance of Tree plantation and adding beauty to the culture of the college.

10. Concluding Remarks: The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


Lt. Dr VIJAY Z. CHAUDHARI
NCC OFFICER (ANO)
(49 Maharashtra Battalion) No.NCC/09110342
G T P COLLEGE, NANDURBAR 425412




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Principal
PRINCIPAL
G.T.Patil Arts, Commerce &
Science College
NANDURBAR - 425412 (M.S.)



नंदुरबार-येथील जी.टी.पाटील महाविद्यालयात वृक्षरोपण करतांना संस्थेचे उपाध्यक्ष मनोज रघुवंशी समवेत यशवंत पाटील, प्राचार्य डॉ.व्ही.एस.श्रीवास्तव, डॉ.एम.जे.रघुवंशी, डॉ.आर.आर.कासार, प्रा.ए.के.शेवाळे डॉ.विजय चौधरी, प्रा.सतिष सुर्ये, प्रा.तारक दास, प्रा.दिनेश देवरे, प्रा.अमोल भुयार, डॉ.माधव कदम आदी

नंदुरबार: शहरासह जिल्ह्यातील विविध विद्यालया व महाविद्यालयांमध्ये शासनाच्या वनमहात्सव हरित महाराष्ट्र योजनेतर्गत शालेय परिसरात वृक्षारोपण करण्यात आले. यावेळी वृक्ष लागवडीसह संवर्धनाचा संकल्प केला. नंदुरबार जिल्हा स्थापनेच्या वाधांपेन दिनानिमित्त देखील विविध कार्यक्रम घेण्यात आले. वृक्षारोपणांनी शालेय परिसर हरितमय झाले.

जीटीपी महाविद्यालय
नंदुरबार येथील जी.टी.पाटील महाविद्यालयात राष्ट्रीय सेवा योजना व राष्ट्रीय छात्रसेना विभाग आवाजित कार्यक्रमात नेताविसंचे उपाध्यक्ष मनोज रघुवंशी यांच्या हस्ते वृक्षारोपण करण्यात आले. याप्रसंगी उपस्थित मान्यवरांत पाटील, प्राचार्य डॉ.व्ही.एस.श्रीवास्तव, उपाध्यक्ष डॉ.एम.जे.रघुवंशी, डॉ.आर.आर.कासार, उपाध्यक्ष प्रा.ए.के.शेवाळे यांनी वृक्षारोपण करून संवर्धनाचे आवाहन केले. परिसरात कडुलिंबू, मिस्र, सिरस, काशंद व जांबूळ अशी १२० वृक्षांची लागवड करण्यात आली. कार्यक्रम यशस्वीतसाठी एन.सी.सी.प्रमुख डॉ.विजय चौधरी, एन.एस.एस. कार्यक्रमाधिकारी प्रा.सतिष सुर्ये, ब्रोड्रा संचालक प्रा.तारक दास, प्रा.दिनेश देवरे,

नगरमधील स्काऊट कार्यालयाच्या जागेवर आ.चंद्रकांत रघुवंशी, गाईड मुख्ख आयुक्त रत्ना रघुवंशी, जिल्हा आयुक्त तथा माध्यमिक शिक्षणाधिकारी घनश्याम पाटील, नगरसेवक राजेंद्र माळी, जिल्हा सचिव व्ही.बी.इंदीस, जिल्हा कोषाध्यक्ष एन.जी.गुरुव, संघटन आयुक्त महेंद्र वसावे, कविता बाघ, हेमंत पाटील, प्रसाद दिक्षित, ज्ञानेश्वर सावंत, पुणेप्र शिरसाठ आदींनी वृक्षारोपण केले. या नगरात १०० झाडे लागवण्यात आली. यावेळी डॉ.काणे गर्से, श्रीक.हायस्कूल, कमला नेहरू, विद्यालयातील स्काऊट व गाईडच्या मुले-मुली उपस्थित होते. कार्यक्रमासाठी एस.जाय कुळकर्णी, एस.एस.गावित, एस.एस.पाटील, प्रशांत कासार, जे.एस.गावित, डॉ.एच.माळी, पी.बी.नेकर,

यावेळी सामाजिक कार्यकर्ते रविंद्र भवार व गणेश मोर यांच्या हस्ते ५० वृक्षारोपण करण्यात आले. संस्थेचे अध्यक्ष हेमंत राजपुत, सचिव अविनाश राजपुत यांच्या मार्गदर्शनाखाली कार्यक्रम घेण्यात आला. याप्रसंगी अविनाश मोरे, विवेक बामुल, अमोघ गवळे, तुषार पाडवी, कल्याण शिंपी, आकाश बाकिस्कर, भुषण कुलथे, विजय साळुंके, देवेंद्र पाटील, दिनेश पोपे, वेगेश सोनवणे, खुशाल कुळकर्णी आदी संस्थेचे पदाधिकारी व सदस्य परिश्रम घेतले.

रघुवंशी हायस्कूल
नंदुरबार येथील डॉ.अर.हायस्कूलमध्ये हरितसेना स्काऊट विभाग, एन.सी.सी., समाजसेवा विभाग यांच्या विद्यमान डॉ. आर.हायस्कूल परिसरात मान्यवरांच्या हस्ते



जीटीपी महाविद्यालय

प्रा.अमोल भुयार व डॉ.माधव कदम यांनी परिश्रम घेतले.
भारत स्काऊट आणि गाईड जिल्हा संस्था
नंदुरबार येथील भारत स्काऊट आणि गाईड संस्थेतर्फे वेणुगोपाळ

युसेफ गावित आदी उपस्थित होते.
आण्णाई बहुउद्देशिय संस्था
नंदुरबार येथील गुरुकुल नगरातील हनुमान मंदिर परिसरात आण्णाई सामाजिक, शैक्षणिक व बहुउद्देशिय संस्थेमार्फत वृक्षारोपणाचा कार्यक्रम घेण्यात आला.

वृक्षारोपण करण्यात आले. संस्थेचे अध्यक्ष अंडे.परिक्षित मोडक, कार्याध्यक्ष गिरीष खुटे, उपाध्यक्ष नंदेद सगफ, सचिव प्रशांत पाटक, प्राची कुळकर्णी, डॉ.गोपाळ काणे, राजेंद्र पाटील, श्रीराम मोडक, मुख्याध्यापक एन.टी.ओ.होत्रे, उपमुख्याध्यापक जी.एस.



GTP COLLEGE, NANDURAR

NCC UNIT 2017 -18

ATTENDANCE

SR NO	REG.NO. SENIOR DIVISION	RANK	NAME OF CADET	FATHER	SING
1	MH/2017/A/406472	CDT	Bhadane Paras	Prabhakar	P. Bhadane.
2	MH/2017/A/406473	CDT	Girase Jamsing	Chatursing	Girase.
3	MH/2017/A/406474	CDT	Patil Amol	Machhindra	Patil.
4	MH/2017/A/406475	CDT	Girase Pramod	Nanabhau	G. Pramod
5	MH/2017/A/406476	CDT	Mali Ganesh	Raju	Mali.
6	MH/2017/A/406477	CDT	Raul Indrasing	Virpalsing	—
7	MH/2017/A/406478	CDT	Rekhi Shrey	Mahesh	Rekhi.
8	MH/2017/A/406479	CDT	Shewale Hitesh	Mohan	Shewale.
9	MH/2017/A/406480	CDT	Dhangar Dipak	Mansaram	Dhangar.
10	MH/2017/A/406481	CDT	Gabhane Shubam	Ramesh	Gabhane.
11	MH/2017/A/406482	CDT	Shah Bhanav	Anklesh	Shah.
12	MH/2017/A/406483	CDT	Kadam Pratik	Madhav	Kadam.
13	MH/2017/A/406484	CDT	Desale Rushab	Bharat	Desale.
14	MH/2017/A/406485	CDT	Bagul Avinash	Arvind	Avinash.
15	MH/2017/A/406486	CDT	More Macchindranath	Devidas	M. m. d.
16	MH/2017/A/406487	CDT	Wadar Pappu	Sanjay	Wadar.
17	MH/2017/A/406488	CDT	Patil Pankaj	Rajendra	Patil.
18	MH/2017/A/406489	CDT	Thorat Nilesh	Bhimrao	T. Nilesh
19	MH/2017/A/406490	CDT	Girase Pandurang	Komalsing	Girase.
20	MH/2017/A/406491	CDT	Pagare Rahul	Rajendra	Pagare.
21	MH/2017/A/406492	CDT	Koli Prakash	Gulab	Koli.
22	MH/2016/A/406451	CDT	Patil Dnyaneshwar	Gokul	Patil.
23	MH/2016/A/406453	CDT	Khairnar Samadhan	Gokul	Samadhan.
24	MH/2016/A/406454	CDT	Jadhav Manoj	Daga	Jadhav.
25	MH/2016/A/406456	CDT	Marathe Rahul	Suresh	Marathe.
26	MH/2016/A/406457	CDT	Patil Vishal	Nimba	P. Vishal.
27	MH/2016/A/406458	CDT	Mavhal Rahul	Vijay	Mavhal.
28	MH/2016/A/406459	CDT	Padavi Govind	Kagalya	Padavi.
29	MH/2016/A/406461	CDT	Rajput Shailendra	Rajesing	R. R. S.
30	MH/2016/A/406462	CDT	Gavali Mukund	Vijay	Gavali.
31	MH/2016/A/406464	CDT	Patil Rupesh	Bhaskar	Patil.
32	MH/2016/A/406465	CDT	Borane Avinash	Murlidhar	A. B.
33	MH/2016/A/406466	CPL	Marathe Ganesh	Bharat	M. Ganesh



34	MH/2016/A/406467	CDT	Patil Krishna	Pralhad	Padil h
35	MH/2016/A/406468	CDT	Mali Ganesh	Lotan	Chamer
36	MAH/2015/177221	CDT	Patil Pradip	Ramesh	Pradip
37	MAH/2015/177225	CDT	Shinde Yogesh	Sanjay	Sanjay
38	MAH/2015/177226	CDT	Pawara Vijay	Chamar	Chamar
39	MAH/2015/177228	CDT	Patil Nitesh	Ravindra	Patil
40	MAH/2015/177229	CDT	Mali Vasant	Sambhaji	M.V.
41	MAH/2015/177231	CDT	Patil Vinod	Mohan	Patil
42	MAH/2015/177234	CDT	Dhangar Samadhan	Dagadu	S.D
43	MAH/2015/177235	CDT	Patil Vikas	Nana	Vikas
44	MAH/2015/177236	CDT	Girase Umesh	Suratsing	U.G
45	MAH/2015/177237	CDT	Patil Bhushan	Ananda	—
46	MAH/2015/177239	LCPL	Mali Vanji	Eknath	MVE
47	MAH/2015/177241	CDT	Sonawane Devendra	Daga	Devendra
48	MAH/2015/177242	CDT	Koli Rakesh	Dhudku	Roli...
49	MAH/2015/177243	CDT	Shewale Sanjay	Dagadu	Shewale
50	MAH/2015/177244	JUO	Marathe Aakash	Suresh	—
51	MAH/2015/177245	CDT	Patil Nilesh	Ananda	Patil...
52	MAH/2015/177246	SGT	Gavali Naresh	Prakash	—
53	MAH/2015/177247	SUO	Bendre Kiran	Sukdev	K. Bendre
54	MAH/2015/177250	CDT	Jadhav Bhushan	Devasi	J.B.


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REPORT

1. Title of Event: International Day of Yoga

Date: 22/06/2017

2. Introduction of the event: The College celebrated International Day of Yoga as per the instructions and guidelines of Government, University and the 49 Maharashtra Battalion, NCC, Amalner. The institute made the arrangement of the event on the central ground with mats. The team of yoga teachers, Prof. B.K. Mahale, Prof. N.S. Pawar and others, performed the Asanas for the participants. There were nearby 700 participants including vice-chairman, coordinators, principal, students, cadets, staff and citizens. The cadets performed all the asanas enthusiastically since the yoggurus were explaining the importance of each yogasanas with practical utility. The day is celebrated all over the country since it has steered up the participants to do it consistently. Many participants performed without hesitation.

3. Duration: One day.

4. Place: GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: The Principal, GTP College, Nandurbar.

6. Attendees: 700.

7. Particular activity: suryanamaskar, shawasan, anolam, vinolam, shirshasam all the important asanas.

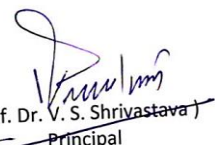
8. Social inclusion/alliance: The activity revitalised participants from different organisation and citizens of neighbouring locality which enhanced the scope of the activity.

9. Message to society: Thought the celebration is for one day, it inspires many beginners to maintain the Yogas in their life which makes a chain of yoga performers that converted into a yoga group. The group every practices on the college ground.

10. Concluding Remarks: The organization of the international day of yoga ultimately results in continuation of beginners as converted into a practitioners of Yoga.


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GTP COLLEGE, NANDURAR


NCC UNIT 2017 -18

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6	MH/2017/A/406477	CDT	Raul Indrasing	Virpalsing	—
7	MH/2017/A/406478	CDT	Rekhi Shrey	Mahesh	Rekhi.
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14	MH/2017/A/406485	CDT	Bagul Avinash	Arvind	Avinash.
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16	MH/2017/A/406487	CDT	Wadar Pappu	Sanjay	Wadar.
17	MH/2017/A/406488	CDT	Patil Pankaj	Rajendra	Patil.
18	MH/2017/A/406489	CDT	Thorat Nilesh	Bhimrao	T. Nilesh
19	MH/2017/A/406490	CDT	Girase Pandurang	Komalsing	Girase.
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43	MAH/2015/177235	CDT	Patil Vikas	Nana	Vikas
44	MAH/2015/177236	CDT	Girase Umesh	Suratsing	U.G
45	MAH/2015/177237	CDT	Patil Bhushan	Ananda	—
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47	MAH/2015/177241	CDT	Sonawane Devendra	Daga	Sonawane
48	MAH/2015/177242	CDT	Koli Rakesh	Dhudku	Roli...
49	MAH/2015/177243	CDT	Shewale Sanjay	Dagadu	Shewale
50	MAH/2015/177244	JUO	Marathe Aakash	Suresh	—
51	MAH/2015/177245	CDT	Patil Nilesh	Ananda	Patil...
52	MAH/2015/177246	SGT	Gavali Naresh	Prakash	—
53	MAH/2015/177247	SUO	Bendre Kiran	Sukdev	K. Bendre
54	MAH/2015/177250	CDT	Jadhav Bhushan	Devasi	J.B.


 Lt. Dr VIJAY Z. CHAUDHARI
 NCC OFFICER (ANO)
 (49 Maharashtra Battalion) No.NCC/09110342
 G T P COLLEGE, NANDURBAR 425412




 (Prof. Dr. V. S. Shrivastava)
 Principal
 PRINCIPAL
 G.T.Patil Arts, Commerce &
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 NANDURBAR - 425 412 (M.S.)



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412
NAAC ACCREDITED 'A' GRADE



Lt. Dr. V. Z. Chaudhari
Associate NCC Officer

NATIONAL CADET CORPS

Prof. V.S. Shrivastava
Principal

Report on Activity- 2018-19

Date: 16/06/2018

1. Title of Event: Tree Plantation (World Environment Day-Week)

2. Introduction of the event: The National Cadet Corps (NCC) unit frequently organises tree plantation on the college campus including Environment Day-week. Mostly every year summer vacation ends on 14 June and 15 June the college commences opening of new academic session. The activity of tree plantation was organised at the auspicious hands of the president of NTVS Hon. Shri. Manojbhaiyya Raghuwanshi in the presence of Principal Dr V. S. Shrivastava, Vice Principal, Dr M. J. Raghuwanshi, NCC officer Lt Vijay Chaudhari, Staff, Students and Cadets. Around 25 plants were planted which includes Neem, Champa, Mogara, Saptaparni etc. The activity is collaborated with NSS Unit as well. The Chairman of the Institute positively responded to such extension activity and asked the authorities to promote the same society for human wellbeing. The trees are taken care by the cadets and Volunteers every week.

3. Duration: One Day.

4. Place: G. T. Patil Arts, Commerce and Science College Nandurbar.

5. Inaugurator/Chief Guest: Hon. Shri. Manojbhaiyya Raghuwanshi and College Administrators


6. Attendees: 50

7. Particular activity: Tree Plantation.

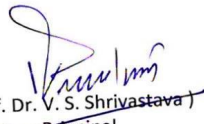
8. Social inclusion/alliance: The host college and the NCC unit.

9. Message to society: The Cadets, Staff and other students got aware of importance of Tree plantation and adding beauty to the culture of the college.

10. Concluding Remarks: The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


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वनमहोत्सव सप्ताहांतर्गत जीटीपी महाविद्यालयात वृक्षारोपण

नंदुरबार (प्रतिनिधी)- येथील नंदुरबार तालुका विधायक समिती संचलित गजमल तुळेशिराम पाटील महाविद्यालयात नंदुरबार नगरपालिका यांच्या सौजन्याने वनमहोत्सव सप्ताहांतर्गत वृक्षारोपणाचा उपक्रम संस्थेचे उपाध्यक्ष मनोज रघुवंशी यांच्या प्रमुख उपस्थितीत पार पडला.

'जल ही जीवन है' या संकल्पनेचे महत्त्व लक्षात घेता देशात पाणी संवर्धन संदर्भात विविध कार्यक्रम आयोजित केले जातात. जेणेकरून या देशव्यापी समस्येवर मात करता येईल, यासाठी जनतेचा समावेश अत्यंत मोलाचा ठरेल. याचे महत्त्व जाणून संस्थेचे पदाधिकारी तसेच जी.टी.पाटील महाविद्यालयातील प्राचार्य, उपप्राचार्य, प्राध्यापक, राष्ट्रीय छात्रसैनिक, राष्ट्रीय सेवा योजनेचे स्वयंसेवक व विद्यार्थी यांनी जल प्रतिज्ञा घेवून वृक्षारोपणाची सुरुवात केली. यावेळी सुमारे २५० स्वयंसेवक, छात्रसैनिक विद्यार्थ्यांनी सहभाग नोंदविला. जल प्रतिज्ञेचे वाचन डॉ. मनोज शेवाळे (रा.स.यो. ज्यु. डीव्हीजन) यांनी केले. नंदुरबार



नगरपालिकेच्यावतीने प्रातिनिधी स्वरूपात राजेश परदेशी उपस्थित होते. त्यांच्या हस्तेही वृक्षारोपण करण्यात आले. नगरपालिकेच्या सौजन्याने एकूण १०० रोपे उपलब्ध करून महाविद्यालयाच्या परिसरात लावण्यात आली. वृक्षांचे संवर्धनाचा ध्यास महाविद्यालयाचे प्रशासन, प्राध्यापक, स्वयंसेवक, छात्रसैनिक व विद्यार्थ्यांनी घेतला. संस्थेच्यावतीने उपाध्यक्ष मनोज रघुवंशी यांनी सर्व रोपंचे संवर्धन करण्याचे आवाहन महाविद्यालयाच्या प्राध्यापक, कर्मचारी व विद्यार्थ्यांना करत ट्री गार्ड पुरविण्याचे आश्वासनही दिले. महाविद्यालयाचे प्राचार्य डॉ.व्ही.एस.श्रीवास्तव, उपप्राचार्य डॉ.आर.आर.कासारे,

डॉ.महेंद्र रघुवंशी, प्रा.ए.के.शेवाळे, प्रशासकीय अधिकारी डॉ.एम.एस.रघुवंशी, राष्ट्रीय सेवा योजनेचे जिल्हा समन्वयक डॉ.माधव कदम, कार्यक्रम अधिकारी डॉ.अमोल भुयार, डॉ.मनोज शेवाळे, पनसीसी अधिकारी डॉ.विजय चौधरी, विद्यार्थी विकास अधिकारी प्रा.माधव बाघमारे, क्रीडा संचालक डॉ.तारकदास, प्राध्यापक वृंद व विद्यार्थी यांनी वृक्षारोपण करून त्यांचे संवर्धन व महाविद्यालय परिसरात जास्तीत जास्त हिरवळी करण्याचा संकल्प घेतला. कार्यक्रमाच्या यशस्वीतेसाठी राष्ट्रीय सेवा योजना, राष्ट्रीय छात्र सेना, क्रीडा विभाग, विद्यार्थी कल्याण विभाग आदींनी परिश्रम घेतले.

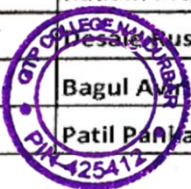


GTP COLLEGE, NANDURAR


NCC UNIT 2018 -19

ATTENDANCE

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1	MH/SD/A/18/406493	CDT	Ahire Khandu	Dagadu	<u>A. Khandu</u>
2	MH/SD/A/18/406494	CDT	Mali Mohan	Bhavarao	<u>M. Mali</u>
3	MH/SD/A/18/406495	CDT	Patil Mahesh	Manohar	<u>Patil</u>
4	MH/SD/A/18/406496	CDT	Patil Pavba	Kailas	<u>Pavapatil</u>
5	MH/SD/A/18/406497	CDT	Chaudhari Akshay	Manohar	<u>A.</u>
6	MH/SD/A/18/406498	CDT	Deore Dhanraj	Bansilal	<u>D. Deore</u>
7	MH/SD/A/18/406499	CDT	Marathe Ram	Sanjay	<u>R. Marathe</u>
8	MH/SD/A/18/406500	CDT	Dhangar Sagar	Rajendra	<u>S. Dhangar</u>
9	MH/SD/A/18/406501	CDT	Girase Pramod	Ramsing	<u>P. Girase</u>
10	MH/SD/A/18/406502	CDT	Kumbhar Rohit	Bapu	<u>R. Kumbhar</u>
11	MH/SD/A/18/406503	CDT	Marathe Kishor	Khandu	<u>M. Marathe</u>
12	MH/SD/A/18/406504	CDT	Patil Dnyaneshwar	Bhoju	<u>D. B. P.</u>
13	MH/SD/A/18/406505	CDT	Valvi Dinesh	Kalusing	<u>V.</u>
14	MH/SD/A/18/406506	CDT	Chaudhari Jignesh	Bharat	<u>J. Chaudhari</u>
15	MH/SD/A/18/406507	CDT	Dhangar Swapnil	Pratap	<u>S.</u>
16	MH/SD/A/18/406508	CDT	Kokani Suraj	Shantaram	<u>S. Kokani</u>
17	MH/SD/A/18/406509	CDT	Mahale Hemant	Ratilal	<u>H.</u>
18	MH/SD/A/18/406510	CDT	Patil Kalpesh	Arun	<u>Patil</u>
19	MH/SD/A/18/406511	CDT	Patil Vijay	Bharat	<u>Patil</u>
20	MH/SD/A/18/406512	CDT	Girase Jayendrasing	Sanjubhai	<u>J. G.</u>
21	MH/SD/A/18/406513	CDT	Varsale Pramod	Vijay	
22	MH/SD/A/18/406514	CDT	Patil Suresh	Subhash	<u>Patil</u>
23	MH/SD/A/18/406515	CDT	Salunke Praful	Rajendra	<u>Praful</u>
24	MH/SD/A/18/406516	CDT	Gawale Kunal	Subhash	
25	MH/SD/A/18/406517	CDT	Thakur Prakash	Ravindra	<u>P. Thakur</u>
26	MH/SD/A/17/406472	CDT	Bhadane Paras	Prabhakar	<u>P. Bhadane</u>
27	MH/SD/A/17/406473	CDT	Girase Jamsing	Chatursing	<u>Girase</u>
28	MH/SD/A/17/406474	CDT	Patil Amol	Machhindra	<u>Patil</u>
29	MH/SD/A/17/406476	CDT	Mali Ganesh	Raju	<u>M.</u>
30	MH/SD/A/17/406477	CDT	Raul Indrasing	Virpalsing	<u>R.</u>
31	MH/SD/A/17/406478	SGT	Rekhi Shrey	Mahesh	<u>R.</u>
32	MH/SD/A/17/406479	CDT	Shewale Hitesh	Mohan	<u>H.</u>
33	MH/SD/A/17/406480	CDT	Dhangar Dipak	Mansaram	<u>D.</u>
34	MH/SD/A/17/406481	CDT	Gabhane Shubam	Ramesh	<u>G.</u>
35	MH/SD/A/17/406482	CDT	Shah Bhanav	Anklesh	<u>S.</u>
36	MH/SD/A/17/406483	SGT	Kadam Pratik	Madhav	<u>K.</u>
37	MH/SD/A/17/406484	CDT	Desale Prashant	Bharat	<u>P.</u>
38	MH/SD/A/17/406485	CDT	Bagul Anirash	Arvind	<u>A.</u>
39	MH/SD/A/17/406488	CDT	Patil Parthaj	Rajendra	<u>Patil</u>



40	MH/SD/A/17/406489	LCPL	Thorat Nilesh	Bhimrao	T. Nilesh
41	MH/SD/A/17/406490	CDT	Girase Pandurang	Komalsing	U.S.R. 1/27
42	MH/SD/A/17/406492	CDT	Koli Prakash	Gulab	Ph
43	MH/SD/A/16/406451	CDT	Patil Dnyaneshwar	Gokul	Patil
44	MH/SD/A/16/406453	SUO	Khairnar Samadhan	Gokul	Samadhan
45	MH/SD/A/16/406454	CDT	Jadhav Manoj	Daga	J. Manoj
46	MH/SD/A/16/406456	CDT	Marathe Rahul	Suresh	M.R.R.
47	MH/SD/A/16/406457	LCPL	Patil Vishal	Nimba	P. Vishal
48	MH/SD/A/16/406458	CPL	Mavhal Rahul	Vijay	Mavhal
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52	MH/SD/A/16/406465	CDT	Borane Avinash	Murlidhar	A.B.
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REPORT

1. Title of Event: International Day of Yoga

Date: 22/06/2018

2. Introduction of the event: The College celebrated International Day of Yoga as per the instructions and guidelines of Government, University and the 49 Maharashtra Battalion, NCC, Amalner. The institute made the arrangement of the event on the central ground with mats. The team of yoga teachers, Prof. B.K. Mahale, Prof. N.S. Pawar and Patanjali group performed the Asanas for the participants. There were nearby 690 participants including vice-chairman, coordinators, principal, students, cadets, staff and citizens. The cadets performed all the asanas enthusiastically since the yog gurus were explaining the importance of each yogasanas with practical utility. The day is celebrated all over the country since it has steered up the participants to do it consistently. Many participants performed without hesitation.

3. Duration: one day.

4. Place: GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: The Principal, GTP College, Nandurbar.


6. Attendees: 690.

7. Particular activity: suryanamaskar, shawasan, anolam, vinolam, shirshasam all the important asanas.

8. Social inclusion/alliance: The activity revitalised participants from different organisation and citizens of neighbouring locality which enhanced the scope of the activity.

9. Message to society: Thought the celebration is for one day, it inspires many beginners to maintain the Yogas in their life which makes a chain of yoga performers that converted into a yoga group. The group every practices on the college ground.

10. Concluding Remarks: The organization of the international day of yoga ultimately results in continuation of beginners as converted into a practitioners of Yoga.


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Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412
NAAC ACCREDITED 'A' GRADE




Lt. Dr. V. Z. Chaudhari
Associate NCC Officer

NATIONAL CADET CORPS


Prof. V.S. Shrivastava
Principal

Report
Guest lecture on Health and Hygiene

- 1. Title of Event: Lecture on Health and Hygiene** **Date: 20/08/2018**
- 2. Introduction:** The 49 Maharashtra Battalion, NCC, Amalner prepares an agenda for the year about various awareness programmes for cadets and society as well. Health and Hygiene is one of the important aspect for NCC since every year new entrants should get aware of this crucial aspect of life. A special lecture was organised for the cadets which was addressed by Dr. Tarak Das, Director of Physical Education, GTP College, Nandurbar. In his address, he could touched upon importance of difference exercises and food plan in daily routine. The queries of cadets had been solved by the guest speaker. In resulted in cadets positive response to it.
- 3. Duration:** 10 days.
- 4. Place:** Nandurbar, Tal-Dist- Nandurbar.
- 5. Inaugurator/Chief Guest:** Director of Physical Education, Dr.Tarak Das
- 6. Attendees:** 50
- 7. Particular activity:** Practicing Drill and Weapon Training.
- 8. Social inclusion/alliance:** The speaker touched up cadets' initiative about health and hygienity while glooming in society and creation of awareness to society as well.
- 9. Message to society:** various activities conducted by the NCC unit reaches to society specially swachha Bharat abhiyan during town fare, people notice about contribution of the cadets towards hygienity which compels them to put garbage in dustbin only.
- 10. Concluding Remarks:** The cadets took lesson about laisoing with people in public places to make aware about health and hygienity.


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GTP COLLEGE, NANDURAR

NCC UNIT 2018 -19 ATTENDANCE

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9	MH/SD/A/18/406501	CDT	Girase Pramod	Ramsing	<u>P. Girase</u>
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24	MH/SD/A/18/406516	CDT	Gawale Kunal	Subhash	<u>K. Gawale</u>
25	MH/SD/A/18/406517	CDT	Thakur Prakash	Ravindra	<u>T. Thakur</u>
26	MH/SD/A/17/406472	CDT	Bhadane Paras	Prabhakar	<u>P. Bhadane</u>
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1. Title of Event: Swachha Bharat Summer Internship

Date: 13/09/2018

The 49 Maharashtra Battalion NCC Amalner had organized Swachha Bharat Summer Internship Programme as per the guidelines of Directorate of Maharashtra, NCC. The cadets of the Unit participated enthusiastically to clean the campus wastage and also visited the surrounding locality for the collection of plastic and wastage. The collection of total garbage was near about 30 kg. The programme was inaugurated by the Principal of the college, Dr. V. S. Shrivastava who addressed the cadets with importance of cleanliness in personal and social life.

3. Duration: one day

4. Place: GTP College, Nandurbar, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: The Vice-Principal, Dr. M. J. Raghuwanshi, GTP College, Nandurbar.


6. Attendees: 54.

7. Particular activity: Cleaning of the Campus and surrounding locality.

8. Social inclusion/alliance: The activity was an exposure to the cadets about social interface and a challenge of convincing the locality with importance of Cleanliness. The local corporates helped in organising such activity by providing 'Ghanta - Gadi' a vehicle for collecting wastage or garbage.

9. Message to society: The activity was student oriented and awareness to society which could reach to change the minds of the surrounding locality about collecting garbage wet and dry separately.

10. Concluding Remarks: The activity ultimate prepared cadets for cleanliness at crowded events like village fare and Nirmalya Sankalan during Ganpati Festival or Navratri.


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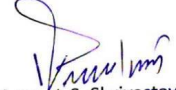
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Report on Anit-Plastic Campaign

1. Title of Event: Anti-Plastic Campaign

Date: 30/09/2018

As per the guidelines of government and 49 Maharashtra Battalion the Anti-plastic campaign was conducted by the NCC unit of the College. It was as a part of the Movement 'Save Environment' which appeals people not to use plastic in daily life. The activity was also a path to create an awareness among the population of the city. The Rally was inaugurated by the Police Inspector of the city police station, Shri. Girish Patil who addressed the participants about the danger of use of plastic to environment and how it can be avoid if the society takes it as a cause to social wellbeing. The rally was organised through the major paths of the city to create awareness among shopkeepers, dwellers and street hawkers. The cadets also went with slogans like 'Swach Bharat Sundar Bharat', 'Swachhata hai Jindagi ki pehchan' etc..

3. Duration: one Day

4. Place: Nandurbar- Andhare Chowk to Neharu Chowk via Tehasil Office- Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: Shri. Girish Patil, Police Inspector, City Police Station Nandurbar.


6. Attendees: 250.

7. Particular activity: Awareness Rally about use of plastic and its danger to life.


8. Social inclusion/alliance: The activity was organised by the three NCC units of Nandurbar city as Eklavya School and D.R. High School, Nandurbar.

9. Message to society: The rally created an awareness among the shopkeepers who started keeping dustbins for the collection garbage and started avoiding plastic.

10. Concluding Remarks: The activity reached to society which received reward in return about the institution also made commendable changes about use of plastic in bouquets and other.


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महाराष्ट्राचा मानविंदू

लोकमत

नंदुरबार, पृष्ठे : १०+४+४ = १८, किंमत : ₹ ५.००

जळगाव, मंगळवार, दि. २ ऑक्टोबर २०१८

एनसीसीतर्फे जनजागृती रॅली

प्लॅस्टिकबंदीबाबत माहिती : नंदुरबारात उपक्रम

लोकमत न्यूज नेटवर्क

नंदुरबार : देश व पर्यावरणासाठी प्लॅस्टिक विरोधी मोहिम एक महत्त्वाचा उपक्रम आहे. यातून नागरिकांमध्ये जागृती होऊन पर्यावरण याचवण्यासाठी मदत होईल, असे प्रतिपादन पोलीस निरीक्षक गिरीश पाटील यांनी केले. जी.टी. पाटील महाविद्यालय, डी.आर. हायस्कूल, एकलव्य विद्यालयाच्या राष्ट्रीय छात्र सेना आणि ज्युनियर डिक्रिजन राष्ट्रीय सेवा योजना एककाच्या वतीने आयोजित उपक्रमात ते बोलत होते. जी.टी.पी महाविद्यालय, डी.आर. हायस्कूल आणि एकलव्य हायस्कूल यांच्या संयुक्त विद्यमाने स्वच्छ भारत

◆ एनसीसीच्या विद्यार्थ्यांनी गणवेशात केलेल्या संचालनामुळे नागरिकांचे त्याकडे लक्ष वेधले गेले होते. एनएसएसच्या विद्यार्थ्यांनी विविध जनजागृतीपर घोषणा देत परिसर दणापून सोडला होता.

अभियानांतर्गत प्लॅस्टिक विरोधी जनजागृती रॅलीचे आयोजन करण्यात आले होते. रॅलीला डी.आर. हायस्कूलच्या प्रांगणातून सुरुवात झाली. यावेळी पोलीस निरीक्षक पाटील यांनी दिक्की झेंडी दाखवली. प्रसंगी संस्थेचे चेअरमन गिरीश खुटे, हवालदार सागर अहमद, एनसीसी कार्यक्रम अधिकारी विलास धाध, राहुल पाटील, डॉ. विजय चौधरी उपस्थित होते. पुढे बोलतांना गिरीश

पाटील यांनी छात्रसेनिकांनी प्लॅस्टिकबंदीची सुरुवात स्वतःपासून करावी, असे सांगितले.

ही रॅली शहरातील महाराणा प्रताप चौक, बस स्टॅंड, नेहरू चौक, नगरपालिका, अंधारे चौक या भागांनी काढण्यात आली. रॅलीचा डी.आर. हायस्कूलमध्ये समारोप करण्यात आला. रॅलीत २५० छात्रसैनिक आणि ५० रासेयो स्वयंसेवक यांचा सहभाग होता. विद्यार्थ्यांनी परिसरात स्वच्छता मोहीम राबवत नागरिकांना प्लॅस्टिकबंदीची माहिती दिली. प्राचार्य डॉ.पी.एस. श्रीवास्तव, उपप्राचार्य डॉ. महेंद्र राष्ट्रवंशी, ए.के. शेवाळे, मनोज शेवाळे, प्रा.डॉ. माधव फडके यांनी मार्गदर्शन केले.



नवी आशा, नवी दिशा देशदूत

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नंदाखार | रविवार, दि. ३० सप्टेंबर २०१८

जी.टी.पी.महाविद्यालयात सर्जिकल स्ट्राइक डे निमित्त व्याख्याना

नंदाखार | दि. २९ | प्रतिनिधी

पेथील जी टी पाटील महाविद्यालयात राष्ट्रीय छात्र सेना ४९ महाराष्ट्र बटालियन व संरक्षण शास्त्र विभाग यांच्या संयुक्त विद्यमाने सर्जिकल स्ट्राइक डे निमित्त प्रा.उपेंद्र धगधगे यांच्या व्याख्यानाचे आयोजन करण्यात आले होते.

सर्जिकल स्ट्राइक डे निमित्त अनेक कार्यक्रमांचे आयोजन करण्यात आले होते. कार्यक्रमाच्या अंतिम टप्प्यात विद्यार्थ्यांचे प्रा.धर्ष डी. व्ही. एम. श्रीवास्तव तर प्रमुख पाहुणे म्हणून मेजर डी. महेंद्र रघुवंशी, उपप्रधान ए. के. शेखाळे, संरक्षण शास्त्र विभाग प्रमुख प्रा.राहुल मेहे, एकलव्य विद्यालयाचे पदवीसी अधिकार विलास बाघ, महाविद्यालयाचे पदवीसी अधिकारी लेफ्ट.डॉ. विजय चौधरी व भारतीय सेना स्ट्राक अशोक कुमार यांची प्रमुख उपस्थिती होती. यावेळी प्रा.उपेंद्र धगधगे यांनी सांगितले की, सर्जिकल स्ट्राइक ची संकल्पना आरपीए व आंतरराष्ट्रीय सर्जिकल स्ट्राइक संदर्भात उदाहरणांसह माहिती दिली. २९



मर्यादा हा दिवस भारतीय सेना माठी गौरवदायी दिवस ठरला. दहशतवादांना आळा बसण्याच्या दृष्टीने परतकी ठरला म्हणून हा दिवस भारतीय सेनेतील सैनिकांच्या सन्मान म्हणून साजरा करण्यात यावा असे आवाहन केंद्र, सकारकदून करण्यात आले आहे. यामुळे आंबेडकर कार्यक्रमाचे आयोजन करण्यात आले आहे. सर्जिकल स्ट्राइक ची संकल्पना पुरातन काळात सुद्धा होती असे स्पष्ट करत उपस्थित विद्यार्थ्यांना स्फोटात जाण्यात यावेल्ले केले सध्या कार्यक्रमात शोभन छात्र सैनिक व विद्यार्थ्यांनी सहभाग घेतला.

अध्यक्षीय भाषणात प्रा.धर्ष भोवराहच यांनी सुद्धा सर्जिकल स्ट्राइक संदर्भात माहिती दिली. सर्जिकल स्ट्राइक संदर्भात विवेक चौधरी यांनी केले विलास बाघ यांनी आभार मानले.

सकाळ

पुणे / नंदाखार, रविवार, ३० सप्टेंबर २०१८

देशातील सैनिकांच्या सन्मानाचा दिवस

प्रा. उपेंद्र धगधगे : जी. टी. पाटील महाविद्यालयात 'सर्जिकल स्ट्राइक डे'

सकाळ पुरस्तेचा

नंदाखार, सा. २९ : 'सर्जिकल स्ट्राइक डे' हा भारतीय सैनिकांची गौरवदायी दिवस ठरला. दहशतवादांचे आळा बसण्याच्या दृष्टीने सैन्याची दखल घ्यायची हा दिवस भारतीय सेनेतील सैनिकांच्या सन्मान म्हणून साजरा करण्यात येतो, असे प्रा. उपेंद्र धगधगे यांनी आज येथे सांगितले.

हा दिवस साजरा करण्याबाबत केंद्र सकारकदून आवाहन करण्यात आले. यानुसार 'सर्जिकल स्ट्राइक डे' निमित्त आज जी. टी. पाटील महाविद्यालयात कार्यक्रमात शोभन छात्र, प्रा.धर्ष डी. व्ही. एम. श्रीवास्तव अख्यक्षमानी हे. मेजर डॉ.



नंदाखार : जी. टी. पाटील महाविद्यालयात राष्ट्रीय छात्रसेनेच्या महाराष्ट्र बटालियन व संरक्षणशास्त्र विभागातर्फे 'सर्जिकल स्ट्राइक डे' निमित्त आयोजित कार्यक्रमात बोलाताना प्रा. उपेंद्र धगधगे, जेव्हा प्रा.धर्ष डी. व्ही. एम. श्रीवास्तव, डॉ. नुरुल भावसागर, डॉ. महेंद्र रघुवंशी, ए. के. शेखाळे, प्रा. राहुल मेहे, विलास बाघ, डॉ. विजय चौधरी, अशोक कुमार.

सुहास भावसागर यांनी मार्गदर्शन केले. उपप्रधान ए. के. शेखाळे, प्रा. राहुल मेहे, एससीसी अधिकार विलास बाघ, लेफ्टनंट डॉ. विवेक चौधरी व भारतीय सेना स्ट्राक अशोक कुमार

उपस्थित होते. प्रा. उपेंद्र धगधगे यांनी राष्ट्रीय व आंतरराष्ट्रीय 'सर्जिकल स्ट्राइक संदर्भात उदाहरणांसह माहिती दिली. ते यामुळे, जी. टी. पाटील महाविद्यालयात आज सन्मानाच्या दृष्टीने परतकी

दिवस म्हणून हा दिवस भारतीय सेनेतील सैनिकांच्या सन्मानाचा दिवस ठरला आहे. 'सर्जिकल स्ट्राइक डे' संकल्पना पुरातन काळात सुद्धा होती. डॉ. विवेक चौधरी यांनी सुद्धा याबाबत केले विलास बाघ यांनी आभार मानले.




GTP COLLEGE, NANDURAR

NCC UNIT 2018 -19 ATTENDANCE

SR NO	REG.NO. SENIOR DIVISION	RANK	NAME OF CADET	FATHER	SIGN
1	MH/SD/A/18/406493	CDT	Ahire Khandu	Dagadu	<u>A.Khandu</u>
2	MH/SD/A/18/406494	CDT	Mali Mohan	Bhavarao	<u>M.M.Mali</u>
3	MH/SD/A/18/406495	CDT	Patil Mahesh	Manohar	<u>Patil</u>
4	MH/SD/A/18/406496	CDT	Patil Pavba	Kailas	<u>Patil Pavba</u>
5	MH/SD/A/18/406497	CDT	Chaudhari Akshay	Manohar	<u>A</u>
6	MH/SD/A/18/406498	CDT	Deore Dhanraj	Bansilal	<u>D.Deore</u>
7	MH/SD/A/18/406499	CDT	Marathe Ram	Sanjay	<u>R. Marathe</u>
8	MH/SD/A/18/406500	CDT	Dhangar Sagar	Rajendra	<u>Sagar</u>
9	MH/SD/A/18/406501	CDT	Girase Pramod	Ramsing	<u>P. Girase</u>
10	MH/SD/A/18/406502	CDT	Kumbhar Rohit	Bapu	<u>R.Kumbhar</u>
11	MH/SD/A/18/406503	CDT	Marathe Kishor	Khandu	<u>M.Kishor</u>
12	MH/SD/A/18/406504	CDT	Patil Dnyaneshwar	Bhoju	<u>D.B.P</u>
13	MH/SD/A/18/406505	CDT	Valvi Dinesh	Kalusing	<u>D</u>
14	MH/SD/A/18/406506	CDT	Chaudhari Jignesh	Bharat	<u>Jignesh</u>
15	MH/SD/A/18/406507	CDT	Dhangar Swapnil	Pratap	<u>S</u>
16	MH/SD/A/18/406508	CDT	Kokani Suraj	Shantaram	<u>S. Kokani</u>
17	MH/SD/A/18/406509	CDT	Mahale Hemant	Ratilal	<u>Hemant</u>
18	MH/SD/A/18/406510	CDT	Patil Kalpesh	Arun	<u>Patil</u>
19	MH/SD/A/18/406511	CDT	Patil Vijay	Bharat	<u>Patil</u>
20	MH/SD/A/18/406512	CDT	Girase Jayendrasing	Sanjubhai	<u>J.G</u>
21	MH/SD/A/18/406513	CDT	Varsale Pramod	Vijay	<u>W. Pramod</u>
22	MH/SD/A/18/406514	CDT	Patil Suresh	Subhash	<u>S. Patil</u>
23	MH/SD/A/18/406515	CDT	Salunke Praful	Rajendra	<u>Praful</u>
24	MH/SD/A/18/406516	CDT	Gawale Kunal	Subhash	<u>K.Gawale</u>
25	MH/SD/A/18/406517	CDT	Thakur Prakash	Ravindra	<u>P. Thakur</u>
26	MH/SD/A/17/406472	CDT	Bhadane Paras	Prabhakar	<u>P. Bhadane</u>
27	MH/SD/A/17/406473	CDT	Girase Jamsing	Chatursing	<u>Girase</u>
28	MH/SD/A/17/406474	CDT	Patil Amol	Machhindra	<u>Patil</u>
29	MH/SD/A/17/406476	CDT	Mali Ganesh	Raju	<u>Mali</u>
30	MH/SD/A/17/406477	CDT	Raul Indrasing	Virpalsing	<u>R. Raul</u>
31	MH/SD/A/17/406478	SGT	Rekhi Shrey	Mahesh	<u>R. Rekhi</u>
32	MH/SD/A/17/406479	CDT	Shewale Hitesh	Mohan	<u>H. Shewale</u>
33	MH/SD/A/17/406480	CDT	Dhangar Dipak	Mansaram	<u>D. Dhangar</u>
34	MH/SD/A/17/406481	CDT	Gabhane Shubam	Ramesh	<u>G. Shubham</u>
35	MH/SD/A/17/406482	CDT	Shah Bhanav	Anklesh	<u>S. Bhanav</u>
36	MH/SD/A/17/406483	SGT	Kadam Pratik	Madhav	<u>K. Pratik</u>
37	MH/SD/A/17/406484	CDT	Desale Rushab	Bharat	<u>D. Rushab</u>
38	MH/SD/A/17/406485	CDT	Bagul Avinash	Arvind	<u>A. Avinash</u>
39	MH/SD/A/17/406488	CDT	Patil Pankaj	Rajendra	<u>Patil</u>

40	MH/SD/A/17/406489	LCPL	Thorat Nilesh	Bhimrao	T. Nilesh
41	MH/SD/A/17/406490	CDT	Girase Pandurang	Komalsing	वि. गि. पा. दि.
42	MH/SD/A/17/406492	CDT	Koli Prakash	Gulab	(Ph)
43	MH/SD/A/16/406451	CDT	Patil Dnyaneshwar	Gokul	Patil
44	MH/SD/A/16/406453	SUO	Khairnar Samadhan	Gokul	Samadhan
45	MH/SD/A/16/406454	CDT	Jadhav Manoj	Daga	J. Manoj
46	MH/SD/A/16/406456	CDT	Marathe Rahul	Suresh	म. रा. र.
47	MH/SD/A/16/406457	LCPL	Patil Vishal	Nimba	P. Vishal
48	MH/SD/A/16/406458	CPL	Mavhal Rahul	Vijay	व. रा.
49	MH/SD/A/16/406461	CDT	Rajput Shailendra	Rajesing	R. R. S
50	MH/SD/A/16/406462	CDT	Gawali Mukund	Vijay	Mukund
51	MH/SD/A/16/406464	CDT	Patil Rupesh	Bhaskar	
52	MH/SD/A/16/406465	CDT	Borane Avinash	Murlidhar	A. B.
53	MH/SD/A/16/406466	JUO	Marathe Ganesh	Bharat	
54	MH/SD/A/16/406468	CPL	Mali Ganesh	Lotan	Ganesh


 Lt. Dr VIJAY Z. CHAUDHARI
 NCC OFFICER (ANO)
 (49 Maharashtra Battalion) No. NCC/09110342
 G T P COLLEGE, NANDURBAR 425412




 (Prof. Dr. V. S. Shrivastava)
 Principal
 PRINCIPAL
 G.T. Patil Arts, Commerce &
 Science College
 NANDURBAR - 425 412 (M.S.)



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412
NAAC ACCREDITED 'A' GRADE



Lt. Dr. V. Z. Chaudhari
Associate NCC Officer

NATIONAL CADET CORPS


Prof. V.S. Shrivastava
Principal

Date:03/10/2018

Report

Mahaswachhata Rally on Gandhi Jayanti

1. **Title :** Mahaswachhata Rally
2. **Introduction:** On the occasion of Mahatma Gandhi Jayanti, the NCC unit organised a Mahaswachhata Rally to celebrate Mahatma Gandhi Jayanti in collaboration with NSS Unit, student Development Unit and Sports department. It was really a great experience with cadets and students who enthusiastically participated in the rally and marched with slogans about swachhbharat. The rally began from the College Campus; it went through main roads of the city and ends at Gandhi Putala Chowk of Nandurbar City.
3. **Duration :** 1 day
4. **Place :** Nandurbar
5. **Inaugurator/ Chief Guest:** Shri. Manoj Raghuwanshi, Vice-Chairman, NTVS, Nandurbar.
6. **Attendees :** 250
7. **Particular activity:** Creating Awareness in Locality
8. **Social inclusion/alliance:** The rally could reach to society about keeping the city clean and keep diseases away.
9. **Message to society:** The importance of the day and its connection with swachhat has been conveyed to society through slogans and banners.
10. **Concluding Remarks:** Over all organisation makes impression of key role of NCC in cadets' life.


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29	MH/SD/A/17/406476	CDT	Mali Ganesh	Raju	<u>M. Mali</u>
30	MH/SD/A/17/406477	CDT	Raul Indrasing	Virpalsing	<u>R. Raul</u>
31	MH/SD/A/17/406478	SGT	Rekhi Shrey	Mahesh	<u>R. Rekhi</u>
32	MH/SD/A/17/406479	CDT	Shewale Hitesh	Mohan	<u>H. Shewale</u>
33	MH/SD/A/17/406480	CDT	Dhangar Dipak	Mansaram	<u>D. Dhangar</u>
34	MH/SD/A/17/406481	CDT	Gabhane Shubam	Ramesh	<u>G. Gabhane</u>
35	MH/SD/A/17/406482	CDT	Shah Bhanav	Anklesh	<u>S. Shah</u>
36	MH/SD/A/17/406483	SGT	Kadam Pratik	Madhav	<u>K. Pratik</u>
37	MH/SD/A/17/406484	CDT	Desale Rushab	Bharat	<u>D. Desale</u>
38	MH/SD/A/17/406485	CDT	Bagul Avinash	Arvind	<u>A. Bagul</u>
39	MH/SD/A/17/406488	CDT	Patil Pankaj	Rajendra	<u>P. Patil</u>



40	MH/SD/A/17/406489	LCPL	Thorat Nilesh	Bhimrao	T. Nilesh
41	MH/SD/A/17/406490	CDT	Girase Pandurang	Komalsing	41520: P
42	MH/SD/A/17/406492	CDT	Koli Prakash	Gulab	PB
43	MH/SD/A/16/406451	CDT	Patil Dnyaneshwar	Gokul	Patil
44	MH/SD/A/16/406453	SUO	Khalrnar Samadhan	Gokul	Samadhan
45	MH/SD/A/16/406454	CDT	Jadhav Manoj	Daga	J. Manoj
46	MH/SD/A/16/406456	CDT	Marathe Rahul	Suresh	41210: R.
47	MH/SD/A/16/406457	LCPL	Patil Vishal	Nimba	P. Vishal
48	MH/SD/A/16/406458	CPL	Mavhal Rahul	Vijay	R. R. S
49	MH/SD/A/16/406461	CDT	Rajput Shailendra	Rajesing	R. R. S
50	MH/SD/A/16/406462	CDT	Gawali Mukund	Vijay	Mukund
51	MH/SD/A/16/406464	CDT	Patil Rupesh	Bhaskar	R. B. Patil
52	MH/SD/A/16/406465	CDT	Borane Avinash	Murlidhar	A. B.
53	MH/SD/A/16/406466	JUO	Marathe Ganesh	Bharat	Ganesh
54	MH/SD/A/16/406468	CPL	Mali Ganesh	Lotan	Ganesh


 Lt. Dr. VIJAY Z. CHAUDHARI
 NCC OFFICER (ANO)
 (49 Maharashtra Battalion) No. NCC/09110342
 G T P COLLEGE, NANDURBAR 425412




 (Prof. Dr. V. S. Shrivastava)
 Principal
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 G.T. Patil Arts, Commerce &
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 NANDURBAR - 425 412 (M.S.)



Nandurbar Taluka Vidhayak Samiti's
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Lt. Dr. V. Z. Chaudhari
Associate NCC Officer

NATIONAL CADET CORPS

Prof. V.S. Shrivastava
Principal

Report on Activity- 2019-20

Date: 18/06/2019

1. Title of Event: Tree Plantation (World Environment Day-Week)

2. Introduction of the event: The National Cadet Corps (NCC) unit frequently organises tree plantation on the college campus including Environment Day-week. Mostly every year summer vacation ends on 14 June and 15 June the college commences opening of new academic session. The activity of tree plantation was organised at the auspicious hands of the Vice-chairman of NTVS Hon. Shri. Manojbhaiyya Raghuwanshi in the presence of Principal Dr V S Shrivastava, Vice Principal Dr M J Raghuwanshi, NCC officer Lt Vijay Chaudhari, Staff, Students and Cadets. Around 25 plants were planted which includes Neem, Champa, Mogara, Saptaparni etc. The activity is collaborated with NSS Unit as well. The Chairman of the Institute positively responded to such extension activity and asked the authorities to promote the same society for human wellbeing. The trees are taken care by the cadets and Volunteers every week.

3. Duration: One Day.

4. Place: G. T. Patil Arts, Commerce and Science College Nandurbar.

5. Inaugurator/Chief Guest: Hon. Shri. Manojbhaiyya Raghuwanshi and College Administrators


6. Attendees: 50

7. Particular activity: Tree Plantation.


8. Social inclusion/alliance: The host college and the NCC unit.

9. Message to society: The Cadets, Staff and other students got aware of importance of Tree plantation and adding beauty to the culture of the college.

10. Concluding Remarks: The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


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(49 Maharashtra Battalion) No.NCC/09110342
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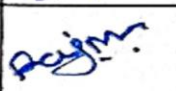
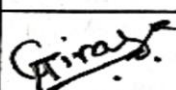
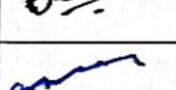
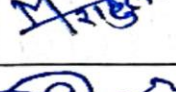
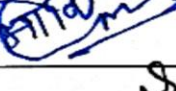

(Prof. Dr. V. S. Shrivastava)
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G.T.Patil Arts, Commerce &
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NANDURBAR - 425412 (M.S.)



GTP COLLEGE, NANDURAR

NCC UNIT 2019 -20

ATTENDANCE

1	MH20SDA406541	CDT	Mujage Shubham Nimba	Mujage Nimba Badiram	
2	MH20SDA406542	CDT	Patil Mayur Raosaheb	Patil Raoshaeb Bhika	
3	MH20SDA406543	CDT	Patil Ajay Vilas	Patil Vilas Vishnu	
4	MH20SDA406544	CDT	Patil Shrikant Sukdev	Patil Sukdev Vaman	
5	MH20SDA406545	CDT	Marathe Rajesh Vilas	Marathe Vilas Ishvar	
6	MH20SDA406546	CDT	Pawar Vishal Bharat	Pawar Bharat Shankar	
7	MH20SDA406547	CDT	Girase Amol Bharatsing	Girase Bharatsing Suratsing	
8	MH20SDA406548	CDT	Salunkhe Devendra Gulab	Salunkhe Gulab Babulal	
9	MH20SDA406549	CDT	Marathe Bhavesh Hiralal	Marathe Hiralal Harchand	
10	MH20SDA406550	CDT	Patil Dipak Rajendra	Patil Rajendra Santosh	
11	MH20SDA406551	CDT	Sonawane Sachin Ganesh	Sonawane Ganesh Vishnu	
12	MH20SDA406552	CDT	Koli Abhishek Namdeo	Koli Namdeo Mulchand	
13	MH20SDA406553	CDT	Pawara Ajit Lotya	Pawara Lotya Surjya	
14	MH20SDA406554	CDT	Marathe Rahul Kailas	Marathe Kailas Brijlal	
15	MH20SDA406555	CDT	Mali Bhojraj Vijay	Mali Vijay Baliram	
16	MH20SDA406556	CDT	Raul Kiran Virpalsing	Raul Virpalsing Dhansing	
17	MH20SDA406557	CDT	Girase Hardipsing Ravindrasing	Girase Ravindrasing Dajbhau	
18	MH20SDA406558	CDT	Patil Anraj Yuvraj	Patil Yuvraj Rupchand	



19	MH19SDA406518	SGT	Desale Jayesh Yuvraj	Desale Yuvraj Girdhar	J. Desale
20	MH19SDA406519	CDT	Girase Manish Mansing	Girase Mansing Navalsing	Girase
21	MH19SDA406520	CPL	Khiarnar Dinesh Murlidhar	Khairnar Murlidhar Santosh	S.P.
22	MH19SDA406522	CDT	Shinde Rakesh Subhash	Shinde Subhash Sahebrao	Shinde
23	MH19SDA406523	CDT	Patil Bhavesh Chandrabhan	Patil Chandrabhan Vinayak	C.P.
24	MH19SDA406524	CDT	Patil Atul Ganesh	Patil Ganesh Shriram	
25	MH19SDA406525	CDT	Patil Pandharinath Popat	Patil Popat Kashiram	P. Patil
26	MH19SDA406526	CDT	Girase Prashant Bharatsing	Girase Bharatsing Suratsing	Girase
27	MH19SDA406527	CDT	Kumbhar Sandip Ravindra	Kumbhar Ravindra Shivdas	K.R.S.
28	MH19SDA406528	CDT	Thakare Sandip Ramkrushna	Thakare Ramkrushna Pandit	Rahakerni
29	MH19SDA406530	CDT	Dhangar Manoj Lotan	Dhangar Lotan Dhanraj	Dhangar
30	MH19SDA406531	CDT	Wagh Amol Bapu	Wagh Bapu Pitambar	W.S.
31	MH19SDA406532	CDT	Pawara Sunil Shildar	Pawara Shildar Ganya	S.P. U.P.
32	MH19SDA406533	CDT	Raul Pankaj Yogendrasing	Raul Yogendrasing Mohansing	R. P.
33	MH19SDA406534	CDT	Patil Sagar Krushna	Patil Krushna Rangrao	P. Krushna
34	MH19SDA406535	CDT	Rajput Pruthviraj Zingesing	Girase Zingesing Mangalsing	Girase
35	MH19SDA406536	CDT	Jadhav Bhausahab Daga	Jadhav Daga Sona	J. Sona
36	MH19SDA406537	CDT	Thehari Karan Budha	Thehari Budha Suka	B.S.
37	MH19SDA406538	CDT	Dhangar Rushikesh Sanjay	Dhangar Sanjay Totaram	Z. Thehari
38	MH19SDA406539	CDT	Mahale Ravindra Madhukar	Mahale Madhukar Sitaram	
39	MH19SDA406540	CDT	Girase Bramod Rupasing	Girase Rupasing Paulatsing	P. Girase



40	MH18SDA406498	CDT	Deore Dhanraj Bansilal	Deore Bansilal Zopa	<u>Dahire</u>
41	MH18SDA406500	CDT	Dhangar Sagar Rajendra	Dhangar Rajendra Maharu	<u>Sogand</u>
42	MH18SDA406501	CDT	Girase Pramod Ramsing	Girase Ramsing Bhuresing	<u>Pramod</u>
43	MH18SDA406504	CDT	Patil Dnyaneshwar Bhoju	Patil Bhoju Baburao	<u>BB Patil</u>
44	MH18SDA406505	CDT	Valvi Dinesh Kalusing	Valvi Kalusing Lalji	<u>K. Valvi</u>
45	MH18SDA406506	CDT	Chaudhari Jignesh Bharat	Chaudhari Bharat Fakira	<u>Bharat</u>
46	MH18SDA406507	SGT	Dhangar Swapnil Pratap	Dhangar Pratap Daga	<u>Dhangar sp</u>
47	MH18SDA406508	SUO	Kokani Suraj Shantaram	Kokani Shantaram Bhamtya	<u>Kokani</u>
48	MH18SDA406509	CDT	Mahale Hemant Ratilal	Mahale Ratilal Nanabhau	<u>Hmahale</u>
49	MH18SDA406510	LCPL	Patil Kalpesh Arun	Patil Arun Namdev	<u>Arun Patil</u>
50	MH18SDA406512	CDT	Girase Jayendrasing Sanjubhai	Girase Sanjubhai Jotesing	<u>Girase</u>
51	MH18SDA406514	CDT	Patil Suresh Subhash	Patil Subhash Punju	<u>Patil</u>
52	MH18SDA406515	CDT	Salunke Praful Rajendra	Salunke Rajendra Govindrao	<u>Praful</u>
53	MH18SDA406516	CDT	Gawale Kunal Subhash	Gawale Subhash Shankar	<u>Gawale</u>
54	MH18SDA406517	JUO	Thakur Prakash Ravindra	Thakur Ravindra Shivaji	<u>Thakur</u>

Chaudhari
Lt. Dr. VIJAY Z. CHAUDHARI
NCC OFFICER (ANO)
(49 Maharashtra Battalion) No. NCC/09110342
G T P COLLEGE, NANDURBAR 425412



Shrivastava
(Prof. Dr. V. S. Shrivastava)
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Associate NCC Officer

NATIONAL CADET CORPS

Prof. V.S. Shrivastava
Principal

REPORT

1. Title of Event: International Day of Yoga

Date: 22/06/2019

2. Introduction of the event: The College celebrated International Day of Yoga as per the instructions and guidelines of Government, University and the 49 Maharashtra Battalion, NCC, Amalner. The institute made the arrangement of the event on the central ground with mats. The team of yoga teachers, Prof. B.K. Mahale, Prof. N.S. Pawar and Patanjali group performed the Asanas for the participants. There were nearby 690 participants including vice-chairman, coordinators, principal, students, cadets, staff and citizens. The cadets performed all the asanas enthusiastically since the yog gurus were explaining the importance of each yogasanas with practical utility. The day is celebrated all over the country since it has steered up the participants to do it consistently. Many participants performed without hesitation.

3. Duration: one day.

4. Place: GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: The Principal, GTP College, Nandurbar.


6. Attendees: 50 out of 450.

7. Particular activity: suryanamaskar, shawasan, anolam, vinolam, shirshasam all the important asanas.


8. Social inclusion/alliance: The activity revitalised participants from different organisation and citizens of neighbouring locality which enhanced the scope of the activity.

9. Message to society: Thought the celebration is for one day, it inspires many beginners to maintain the Yogas in their life which makes a chain of yoga performers that converted into a yoga group. The group every practices on the college ground.

10. Concluding Remarks: The organization of the international day of yoga ultimately results in continuation of beginners as converted into a practitioners of Yoga.


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नंदुरबार येथील जीटीपी महाविद्यालयात योग दिन उत्साहात साजरा



नंदुरबार - योग दिनानिमित्त जीटीपी महाविद्यालय येथे उद्घाटन करताना जिल्हाधिकारी बालाजी मंजुळे, व्हा.चेअरमन बाळासाहेब रघुवंशी, प्रांताधिकारी वान्मती सी, योग प्रशिक्षक माळीसर व उपस्थित मान्यवर तर दुसऱ्या छायाचित्रात योगासन करताना जिल्हाधिकारी बालाजी मंजुळे, व्हा.चेअरमन बाळासाहेब रघुवंशी, प्रांताधिकारी वान्मती सी

जिल्हाभरात आंतरराष्ट्रीय योगा दिन उत्साहात



योग साधनेमुळे शरीर, बुद्धी आणि मनाचा सुंदर समन्वय : जिल्हाधिकारी मंजुळे



सकाळ नंदुरबार

शनिवार, २२ जून २०१९

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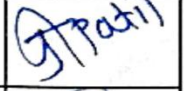

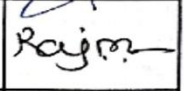
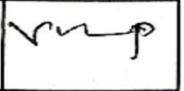
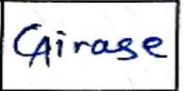
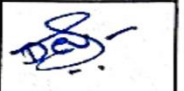
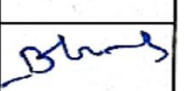
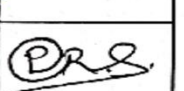
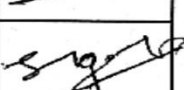

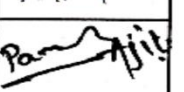
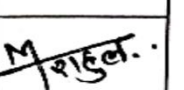

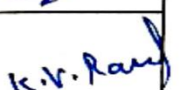

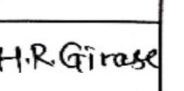
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GTP COLLEGE, NANDURAR

NCC UNIT 2019 -20

ATTENDANCE

1	MH20SDA406541	CDT	Mujage Shubham Nimba	Mujage Nimba Badiram	
2	MH20SDA406542	CDT	Patil Mayur Raosaheb	Patil Raoshaeb Bhika	
3	MH20SDA406543	CDT	Patil Ajay Vilas	Patil Vilas Vishnu	
4	MH20SDA406544	CDT	Patil Shrikant Sukdev	Patil Sukdev Vaman	
5	MH20SDA406545	CDT	Marathe Rajesh Vilas	Marathe Vilas Ishvar	
6	MH20SDA406546	CDT	Pawar Vishal Bharat	Pawar Bharat Shankar	
7	MH20SDA406547	CDT	Girase Amol Bharatsing	Girase Bharatsing Suratsing	
8	MH20SDA406548	CDT	Salunkhe Devendra Gulab	Salunkhe Gulab Babulal	
9	MH20SDA406549	CDT	Marathe Bhavesh Hiralal	Marathe Hiralal Harchand	
10	MH20SDA406550	CDT	Patil Dipak Rajendra	Patil Rajendra Santosh	
11	MH20SDA406551	CDT	Sonawane Sachin Ganesh	Sonawane Ganesh Vishnu	
12	MH20SDA406552	CDT	Koli Abhishek Namdeo	Koli Namdeo Mulchand	
13	MH20SDA406553	CDT	Pawara Ajit Lotya	Pawara Lotya Surjya	
14	MH20SDA406554	CDT	Marathe Rahul Kailas	Marathe Kailas Brijlal	
15	MH20SDA406555	CDT	Mali Bhojraj Vijay	Mali Vijay Baliram	
16	MH20SDA406556	CDT	Raul Kiran Virpalsing	Raul Virpalsing Dhansing	
17	MH20SDA406557	CDT	Girase Hardipsing Ravindrasing	Girase Ravindrasing Dajbhau	
18	MH20SDA406558	CDT	Patil Dhanraj Yuvraj	Patil Yuvraj Rupchand	



19	MH19SDA406518	SGT	Desale Jayesh Yuvraj	Desale Yuvraj Girdhar	Y. Desale
20	MH19SDA406519	CDT	Girase Manish Mansing	Girase Mansing Navalsing	C. Mansing
21	MH19SDA406520	CPL	Khairnar Dinesh Murlidhar	Khairnar Murlidhar Santosh	S. W. R.
22	MH19SDA406522	CDT	Shinde Rakesh Subhash	Shinde Subhash Sahebrao	Shinde
23	MH19SDA406523	CDT	Patil Bhavesh Chandrabhan	Patil Chandrabhan Vinayak	C. Patil
24	MH19SDA406524	CDT	Patil Atul Ganesh	Patil Ganesh Shriram	
25	MH19SDA406525	CDT	Patil Pandharinath Popat	Patil Popat Kashiram	P. Patil
26	MH19SDA406526	CDT	Girase Prashant Bharatsing	Girase Bharatsing Suratsing	G. Girase
27	MH19SDA406527	CDT	Kumbhar Sandip Ravindra	Kumbhar Ravindra Shivdas	K. R. S.
28	MH19SDA406528	CDT	Thakare Sandip Ramkrushna	Thakare Ramkrushna Pandit	R. Thakare
29	MH19SDA406530	CDT	Dhangar Manoj Lotan	Dhangar Lotan Dhanraj	Dhangar
30	MH19SDA406531	CDT	Wagh Amol Bapu	Wagh Bapu Pitambar	W. P. S.
31	MH19SDA406532	CDT	Pawara Sunil Shildar	Pawara Shildar Ganya	S. Pawara
32	MH19SDA406533	CDT	Raul Pankaj Yogendrasing	Raul Yogendrasing Mohansing	R. Raul
33	MH19SDA406534	CDT	Patil Sagar Krushna	Patil Krushna Rangrao	P. Patil
34	MH19SDA406535	CDT	Rajput Pruthviraj Zingeesing	Girase Zingeesing Mangalsing	G. Rajput
35	MH19SDA406536	CDT	Jadhav Bhausahab Daga	Jadhav Daga Sona	J. Daga
36	MH19SDA406537	CDT	Thehari Karan Budha	Thehari Budha Suka	B. T. S.
37	MH19SDA406538	CDT	Dhangar Rushikesh Sanjay	Dhangar Sanjay Totaram	D. Dhangar
38	MH19SDA406539	CDT	Mahale Ravindra Madhukar	Mahale Madhukar Sitaram	
39	MH19SDA406540	CDT	Girase Pramod Rupsing	Girase Rupsing Paulatsing	P. Girase



40	MH18SDA406498	CDT	Deore Dhanraj Bansilal	Deore Bansilal Zopa	<i>D. Ahire</i>
41	MH18SDA406500	CDT	Dhangar Sagar Rajendra	Dhangar Rajendra Maharu	<i>Sagar D.</i>
42	MH18SDA406501	CDT	Girase Pramod Ramsing	Girase Ramsing Bhuresing	<i>P. Pramod</i>
43	MH18SDA406504	CDT	Patil Dnyaneshwar Bhoju	Patil Bhoju Baburao	<i>B. B. Patil</i>
44	MH18SDA406505	CDT	Valvi Dinesh Kalusing	Valvi Kalusing Lalji	<i>K. Valvi</i>
45	MH18SDA406506	CDT	Chaudhari Jignesh Bharat	Chaudhari Bharat Fakira	<i>Chaudhari</i>
46	MH18SDA406507	SGT	Dhangar Swapnil Pratap	Dhangar Pratap Daga	<i>Dhangar P.</i>
47	MH18SDA406508	SUO	Kokani Suraj Shantaram	Kokani Shantaram Bhamtya	<i>S. Kokani</i>
48	MH18SDA406509	CDT	Mahale Hemant Ratilal	Mahale Ratilal Nanabhau	<i>H. Mahale</i>
49	MH18SDA406510	LCPL	Patil Kalpesh Arun	Patil Arun Namdev	<i>Arun Patil</i>
50	MH18SDA406512	CDT	Girase Jayendrasing Sanjubhai	Girase Sanjubhai Jotesing	<i>Girase</i>
51	MH18SDA406514	CDT	Patil Suresh Subhash	Patil Subhash Punju	<i>Patil</i>
52	MH18SDA406515	CDT	Salunke Praful Rajendra	Salunke Rajendra Govindrao	<i>Salunke</i>
53	MH18SDA406516	CDT	Gawale Kunal Subhash	Gawale Subhash Shankar	<i>Gawale</i>
54	MH18SDA406517	JUO	Thakur Prakash Ravindra	Thakur Ravindra Shivaji	<i>Thakur</i>

V. Chaudhari
Lt. Dr VIJAY Z. CHAUDHARI
NCC OFFICER (ANO)
(49 Maharashtra Battalion) No.NCC/09110342
G T P COLLEGE, NANDURBAR 425412



V. S. Shrivastava
(Prof. Dr. V. S. Shrivastava)
Principal
PRINCIPAL
G.T.Patil Arts, Commerce &
Science College
NANDURBAR - 425 412 (M.S.)



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Lt. Dr. V. Z. Chaudhari
Associate NCC Officer

NATIONAL CADET CORPS

Prof. V.S. Shrivastava
Principal

Report on Anit-Plastic Campaign

1. Title of Event: Anti-Plastic Campaign

Date: 25/09/2019

As per the guidelines of government and 49 Maharashtra Battalion the Anti-plastic campaign was conducted by the NCC unit of the College. It was as a part of the Movement 'Save Environment' which appeals people not to use plastic in daily life. The activity was also a path to create an awareness among the population of the city. The Rally was inaugurated by the Vice-Principal Dr. M.J. Raghuwanshi who addressed the participants about the danger of use of plastic to environment and how it can be avoid if the society takes it as a cause to social wellbeing. The rally was organised through the major paths of the city to create awareness among shopkeepers, dwellers and street hawkers. The cadets also went with slogans like 'Swach Bharat Sundar Bharat', ' Swachhata hai Jindagi ki pehchan' etc..

3. Duration: one Day

4. Place: Nandurbar- Andhare Chowk to Neharu Chowk via Tehasil Office- Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: Dr. M.J. Raghuwanshi, Vice-Principal, GTP College Nandurbar


6. Attendees: 350.

7. Particular activity: Awareness Rally about use of plastic and its danger to life.

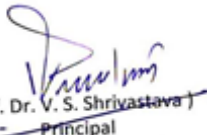
8. Social inclusion/alliance: The activity was organised by the NCC units and NSS Unit of GTP College Nandurbar.

9. Message to society: The rally created an awareness among the shopkeepers who started keeping dustbins for the collection garbage and started avoiding plastic.

10. Concluding Remarks: The activity reached to society which received reward in return about the institution also made commendable changes about use of plastic in bouquets and other.


Lt. Dr VIJAY Z. CHAUDHARI
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(49 Maharashtra Battalion) No.NCC/09110342
G T P COLLEGE, NANDURBAR 425412




(Prof. Dr. V. S. Shrivastava)
Principal
PRINCIPAL
G.T.Patil Arts, Commerce &
Science College
NANDURBAR - 425412 (M.S.)



जो.टी.पाटील महाविद्यालयात प्लास्टिकबंदीबाबत जागृती करणाऱ्या रॅलीचे हिरोवी झेंडी चाखवून उद्घाटन करताना एनटीव्हीएस्चे उपाध्यक्ष मनोज रघुवंशी. सोबत डॉ.एम.जे. रघुवंशी यांच्यासह महाविद्यालयातील प्राध्यापक, एनएसएस आणि एनसीसीचे स्वयंसेवक.

पाने दिली शिक्षा
तूत घडली होती घटना

न्यायमूर्ती ए.डी. करभजन यांच्यासमोर सुरू होते. साक्षी पुरावे तपासून त्यांनी जयसिंग तडवी, किरण तडवी, हिरालाल तडवी व पंकज तडवी या चौघांना १ वर्ष चांगल्या वर्तणुकीची शिक्षा, ५०० रुपये दंड आणि फिर्त्यादला दीड हजार रुपयांचा दंड ठोठावला आहे. सरकार पक्षातर्फे अंड, अजय सुळकर यांनी काम पाहिले. पैवी अधिकारी म्हणून पोलीस नाईक विश्वनाथ सपकाळे यांनी काम पाहिले.

जीटीपी महाविद्यालयाच्या विद्यार्थ्यांची जनजागृती रॅली

लोकमत न्यूज नेटवर्क

नेंदुरबार : राहतातील जो.टी.पाटील महाविद्यालयाच्या एनसीसी व रसेये एककारण अँटी प्लास्टिक रॅलीचे आयोजन करण्यात आले होते.

रॅलीचे उद्घाटन संस्थेचे उपाध्यक्ष मनोज रघुवंशी यांच्या हस्ते हिरोवी झेंडी चाखवून केले. प्राचार्य डॉ.बी.एस. श्रीवास्तव, उपप्राचार्य डॉ.आर.आर. कासार, डॉ.एम.जे.रघुवंशी, ए.के.

शेवाळे उपस्थित होते. विद्यार्थ्यांनी क्लिन इंडिया-ग्रीन इंडिया अशा घोषणा देत रॅलीत सहभाग नोंदवला. रॅलीचा बसस्थानकात समारोप करण्यात आला. आगार व्यवस्थापक मनोज पाटील विद्यार्थ्यांना शपथ दिली. २०० स्वयंसेवकांनी सहभाग नोंदविला. यावेळी डॉ.विजय चौधरी, प्रा.डॉ.मनोज शेवाळे व डॉ.अमोल भुवार, प्रा. उर्फेड धामणे, प्रा.संगीता पिपरे उपस्थित होते.



GTP COLLEGE, NANDURAR

NCC UNIT 2019 -20

ATTENDANCE

1	MH20SDA406541	CDT	Mujage Shubham Nimba	Mujage Nimba Badiram	<i>(Signature)</i>
2	MH20SDA406542	CDT	Patil Mayur Raosaheb	Patil Raoshaeb Bhika	<i>(Signature)</i>
3	MH20SDA406543	CDT	Patil Ajay Vilas	Patil Vilas Vishnu	<i>(Signature)</i>
4	MH20SDA406544	CDT	Patil Shrikant Sukdev	Patil Sukdev Vaman	<i>(Signature)</i>
5	MH20SDA406545	CDT	Marathe Rajesh Vilas	Marathe Vilas Ishvar	<i>(Signature)</i>
6	MH20SDA406546	CDT	Pawar Vishal Bharat	Pawar Bharat Shankar	<i>(Signature)</i>
7	MH20SDA406547	CDT	Girase Amol Bharatsing	Girase Bharatsing Suratsing	<i>(Signature)</i>
8	MH20SDA406548	CDT	Salunkhe Devendra Gulab	Salunkhe Gulab Babulal	<i>(Signature)</i>
9	MH20SDA406549	CDT	Marathe Bhavesh Hiralal	Marathe Hiralal Harchand	<i>(Signature)</i>
10	MH20SDA406550	CDT	Patil Dipak Rajendra	Patil Rajendra Santosh	<i>(Signature)</i>
11	MH20SDA406551	CDT	Sonawane Sachin Ganesh	Sonawane Ganesh Vishnu	<i>(Signature)</i>
12	MH20SDA406552	CDT	Koli Abhishek Namdeo	Koli Namdeo Mulchand	<i>(Signature)</i>
13	MH20SDA406553	CDT	Pawara Ajit Lotya	Pawara Lotya Surjya	<i>(Signature)</i>
14	MH20SDA406554	CDT	Marathe Rahul Kailas	Marathe Kailas Brijlal	<i>(Signature)</i>
15	MH20SDA406555	CDT	Mali Bhojraj Vijay	Mali Vijay Baliram	<i>(Signature)</i>
16	MH20SDA406556	CDT	Raul Kiran Virpalsing	Raul Virpalsing Dhansing	<i>(Signature)</i>
17	MH20SDA406557	CDT	Girase Hardipsing Ravindrasing	Girase Ravindrasing Dajbhau	<i>(Signature)</i>
18	MH20SDA406558	CDT	Patil Dhanraj Yuvraj	Patil Yuvraj Rupchand	<i>(Signature)</i>

19	MH19SDA406518	SGT	Desale Jayesh Yuvraj	Desale Yuvraj Girdhar	J. Desale
20	MH19SDA406519	CDT	Girase Manish Mansing	Girase Mansing Navalsing	Cmstrg
21	MH19SDA406520	CPL	Khairnar Dinesh Murlidhar	Khairnar Murlidhar Santosh	SwR
22	MH19SDA406522	CDT	Shinde Rakesh Subhash	Shinde Subhash Sahebrao	Shinde
23	MH19SDA406523	CDT	Patil Bhavesh Chandrabhan	Patil Chandrabhan Vinayak	Cprg
24	MH19SDA406524	CDT	Patil Atul Ganesh	Patil Ganesh Shriram	Asabil
25	MH19SDA406525	CDT	Patil Pandharinath Popat	Patil Popat Kashiram	P. Patil
26	MH19SDA406526	CDT	Girase Prashant Bharatsing	Girase Bharatsing Suratsing	Girase
27	MH19SDA406527	CDT	Kumbhar Sandip Ravindra	Kumbhar Ravindra Shivdas	KRS
28	MH19SDA406528	CDT	Thakare Sandip Ramkrushna	Thakare Ramkrushna Pandit	Rahakar
29	MH19SDA406530	CDT	Dhangar Manoj Lotan	Dhangar Lotan Dhanraj	Dhangar
30	MH19SDA406531	CDT	Wagh Amol Bapu	Wagh Bapu Pitambar	Wp's
31	MH19SDA406532	CDT	Pawara Sunil Shildar	Pawara Shildar Ganya	SP (192)
32	MH19SDA406533	CDT	Raul Pankaj Yogendrasing	Raul Yogendrasing Mohansing	Raul
33	MH19SDA406534	CDT	Patil Sagar Krushna	Patil Krushna Rangrao	Krushna
34	MH19SDA406535	CDT	Rajput Pruthviraj Zingesing	Girase Zingesing Mangalsing	SP Girase
35	MH19SDA406536	CDT	Jadhav Bhauasaheb Daga	Jadhav Daga Sona	Dzema
36	MH19SDA406537	CDT	Thelari Karan Budha	Thelari Budha Suka	BTS
37	MH19SDA406538	CDT	Dhangar Rushikesh Sanjay	Dhangar Sanjay Totaram	SP (192)
38	MH19SDA406539	CDT	Mahale Ravindra Madhukar	Mahale Madhukar Sitaram	Emhale
39	MH19SDA406540	CDT	Girase Pramod Rupsing	Girase Rupsing Paulatsing	P Girase

40	MH18SDA406498	CDT	Deore Dhanraj Bansilal	Deore Bansilal Zopa	<u>Dahire</u>
41	MH18SDA406500	CDT	Dhangar Sagar Rajendra	Dhangar Rajendra Maharu	<u>Sagar D.</u>
42	MH18SDA406501	CDT	Girase Pramod Ramsing	Girase Ramsing Bhuresing	<u>Pramod</u>
43	MH18SDA406504	CDT	Patil Dnyaneshwar Bhoju	Patil Bhoju Baburao	<u>BB Patil</u>
44	MH18SDA406505	CDT	Valvi Dinesh Kalusing	Valvi Kalusing Lalji	<u>K.I. Valvi</u>
45	MH18SDA406506	CDT	Chaudhari Jignesh Bharat	Chaudhari Bharat Fakira	<u>Bharat</u>
46	MH18SDA406507	SGT	Dhangar Swapnil Pratap	Dhangar Pratap Daga	<u>Dhangar P.</u>
47	MH18SDA406508	SUO	Kokani Suraj Shantaram	Kokani Shantaram Bhamtya	<u>Kokani</u>
48	MH18SDA406509	CDT	Mahale Hemant Ratilal	Mahale Ratilal Nanabhau	<u>Hmahale</u>
49	MH18SDA406510	LCPL	Patil Kalpesh Arun	Patil Arun Namdev	<u>Anurpatil</u>
50	MH18SDA406512	CDT	Girase jayendrasing Sanjubhai	Girase Sanjubhai Jotesing	<u>Jay Singh</u>
51	MH18SDA406514	CDT	Patil Suresh Subhash	Patil Subhash Punju	<u>Patil</u>
52	MH18SDA406515	CDT	Salunke Praful Rajendra	Salunke Rajendra Govindrao	<u>Prof. S.</u>
53	MH18SDA406516	CDT	Gawale Kunal Subhash	Gawale Subhash Shankar	<u>K. S. 2019/20</u>
54	MH18SDA406517	JUO	Thakur Prakash Ravindra	Thakur Ravindra Shivaji	<u>Thakur</u>

Chaudhari
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Report on online Tree plantation Activity- 2020-21

Date: 18/06/2020

- 1. Title of Event: Tree Plantation (World Environment Day-online in locality)**
- 2. Introduction of the event:** During the academic year 2020-21 the entire education system of India suffered due to the pandemic situation or lockdown. But the Maharashtra Government sent the directives time to time for various educational activities preferably online education or activities were given priority. By keeping the norms of social distance the NCC cadets individually took initiative for tree plantation in their locality which was recorded via geo-tagged photographs. Nearabout 35 cadets did tree plantation in their locality keeping the norms of pandemic intact.
- 3. Duration:** One Day.
- 4. Place:** Rural and Urban part of Nandurbar District.
- 5. Inaugurator/Chief Guest:** NA
- 6. Attendees:** 35
- 7. Particular activity:** Tree Plantation.
- 8. Social inclusion/alliance:** social distancing restricted the activity so individually created an awareness about importance of greenery.
- 9. Message to society:** Trees make life healthy if each one serves to it.
- 10. Concluding Remarks:** The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


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GTP COLLEGE, NANDURAR

NCC UNIT 2020-21


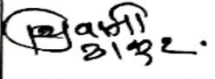





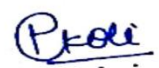
ATTENDANCE


SR NO	REG.NO. SENIOR DIVISION	NAME OF CADET	FATHER	SIGN
1	MH19SDA406518	Desale Jayesh Yuvraj	Desale Yuvraj Girdhar	y. Desale.
2	MH19SDA406519	Girase Manish Mansing	Girase Mansing Navalsing	Cmsing
3	MH19SDA406520	Khiarnar Dinesh Murlidhar	Khairnar Murlidhar Santosh	Sank
4	MH19SDA406521	Patil Mahendra Dnyaneshwar	Patil Dnyaneshwar Shivdas	Dnyaneshwar
5	MH19SDA406522	Shinde Rakesh Subhash	Shinde Subhash Sahebrao	Shinde
6	MH19SDA406523	Patil Bhavesh Chandraban	Patil Chandraban Vinayak	Chandrabhan
7	MH19SDA406524	Patil Atul Ganesh	Patil Ganesh Shriram	Patil
8	MH19SDA406525	Patil Pandharinath Popat	Patil Popat Kashiram	P. Patil
9	MH19SDA406526	Girase Prashant Bharatsing	Girase Bharatsing Suratsing	
10	MH19SDA406527	Kumbhar Sandip Ravindra	Kumbhar Ravindra Shivdas	KR
11	MH19SDA406528	Thakare Sandip Ramkrushna	Thakare Ramkrushna Pandit	Ramkrushna
12	MH19SDA406529	Raul Pravin Sanjaysing	Raul Sanjaysing Indrasing	R.P.S
13	MH19SDA406530	Dhangar Manoj Lotan	Dhangar Lotan Dhanraj	Dhangar
14	MH19SDA406531	Wagh Amol Bapu	Wagh Bapu Pitambar	Wagh
15	MH19SDA406532	Pawara Sunil Shildar	Pawara Shildar Ganya	Shildar
16	MH19SDA406533	Raul Pankaj Yogendrasing	Raul Yogendrasing Mohansing	P. Raul
17	MH19SDA406534	Patil Sagar Krushna	Patil Krushna Rangrao	Patil Krushna



18	MH19SDA406535	Rajput Pruthviraj Zingeing	Girase Zingeing Mangalsing	<i>GP Girase</i>
19	MH19SDA406536	Jadhav Bhausheb Daga	Jadhav Daga Sona	<i>D. Sona</i>
20	MH19SDA406537	Thehari Karan Budha	Thehari Budha Suka	<i>B.T.S</i>
21	MH19SDA406538	Dhangar Rushikesh Sanjay	Dhangar Sanjay Totaram	
22	MH19SDA406539	Mahale Ravindra Madhukar	Mahale Madhukar Sitaram	
23	MH19SDA406540	Girase Pramod Rupsing	Girase Rupsing Paulatsing	
24	MH18SDA406493	Ahire Khandu Dagadu	Ahire Dagadu Motiram	
25	MH18SDA406495	Patil Mahesh Manohar	Patil Manohar Lotan	<i>mpatil</i>
26	MH18SDA406498	Deore Dhanraj Bansilal	Deore Bansilal Zopa	<i>DS</i>
27	MH18SDA406500	Dhangar Sagar Rajendra	Dhangar Rajendra Maharu	
28	MH18SDA406501	Girase Pramod Ramsing	Girase Ramsing Bhuresing	
29	MH18SDA406504	Patil Dnyaneshwar Bhoju	Patil Bhoju Baburao	<i>BBPatil</i>
30	MH18SDA406505	Valvi Dinesh Kalusing	Valvi Kalusing Lalji	<i>K.V. valvi</i>
31	MH18SDA406506	Chaudhari Jignesh Bharat	Chaudhari Bharat Fakira	<i>CB Bharat</i>
32	MH18SDA406507	Dhangar Swapnil Pratap	Dhangar Pratap Daga	<i>Dhangar P</i>
33	MH18SDA406508	Kokani Suraj Shantaram	Kokani Shantaram Bhamtya	
34	MH18SDA406509	Mahale Hemant Ratilal	Mahale Ratilal Nanabhau	
35	MH18SDA406510	Patil Kalpesh Arun	Patil Arun Kamdev	<i>Arunpatil</i>
36	MH18SDA406511	Patil Vijay Bharat	Patil Bharat Narayan	



37	MH18SDA406512	Girase jayendrasing Sanjubhai	Girase Sanjubhai Jotesing	
38	MH18SDA406514	Patil Suresh Subhash	Patil Subhash Punju	
39	MH18SDA406515	Salunke Praful Rajendra	Salunke Rajendra Govindrao	
40	MH18SDA406516	Gawale Kunal Subhash	Gawale Subhash Shankar	
41	MH18SDA406517	Thakur Prakash Ravindra	Thakur Ravindra Shivaji	
42	MH17SDA406472	Bhadane Paras Prabhakar	Bhadane Prabhakar Gorakh	
43	MH17SDA406473	Girase Jamsing Chatursing	Girase Chatursing Ransing	
44	MH17SDA406474	Patil Amol Machhindra	Patil Machhindra Shivdas	
45	MH17SDA406476	Mali Ganesh Raju	Mali Raju Shivram	
46	MH17SDA406477	Raul Indrasing Virpalsing	Raul Virpalsing Dhansing	
47	MH17SDA406478	Rekhi Shrey Mahesh	Rekhi Mahesh Sharadchandra	
48	MH17SDA406479	Shewale Hitesh Mohan	Shewale Mohan Hiraman	
49	MH17SDA406483	Kadam Pratik Madhav	Kadam Madhav Kautik	
50	MH17SDA406484	Desale Vrushabh Bharat	Desale Bharat Nimba	
51	MH17SDA406485	Bagul Avinash Arvind	Bagul Arvind Kalu	
52	MH17SDA406489	Thorat Nilesh Bhimrao	Thorat Bhimrao Bhika	
53	MH17SDA406490	Girase Pandurang Komalsing	Girase Komalsing Bhimsing	
54	MH17SDA406492	Koli Prakash Gulab	Koli Gulab Daga	


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Nandurbar Taluka Vidhayak Samiti's
PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412
NAAC ACCREDITED 'A' GRADE



Lt. Dr. V. Z. Chaudhari
Associate NCC Officer


NATIONAL CADET CORPS

Prof. V.S. Shrivastava
Principal

Report on online celebration of International Day of Yoga

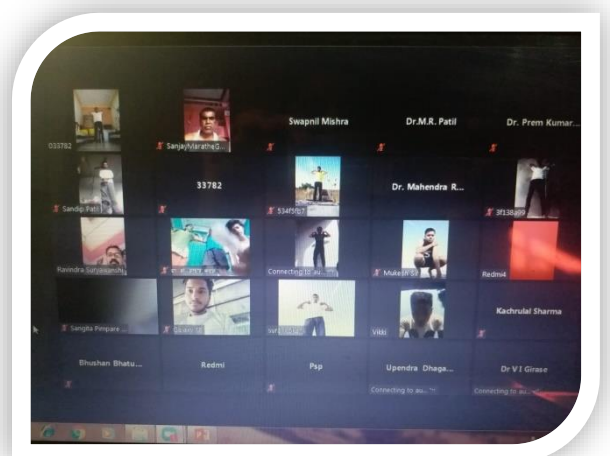
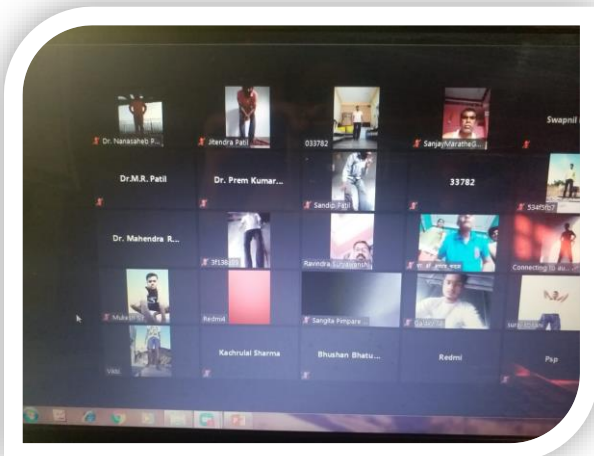
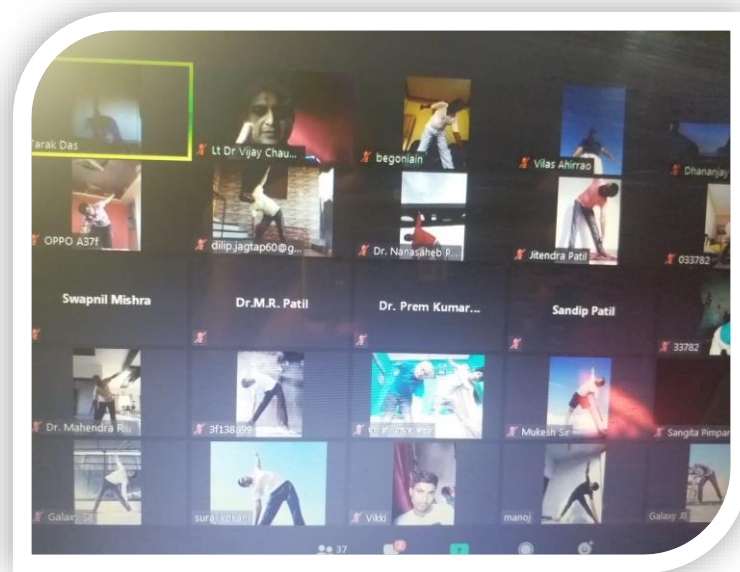
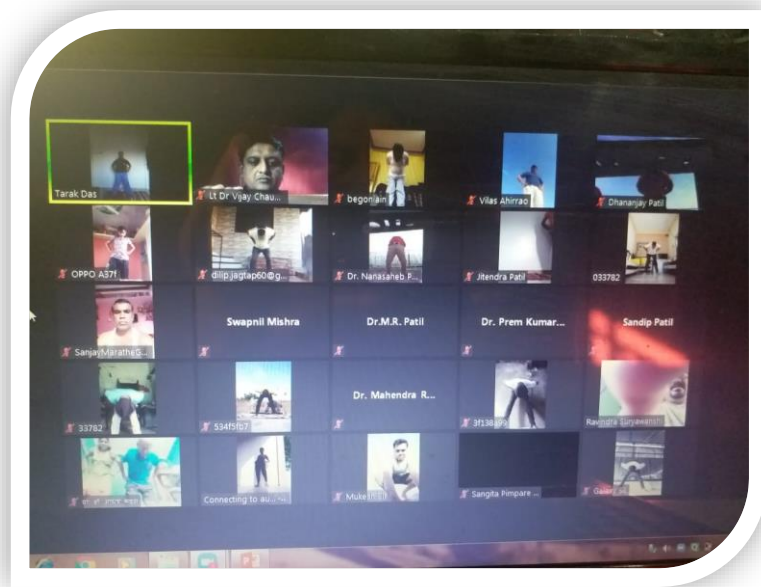
Date: 22/06/2020

- 1. Title of Event:** online celebration of International Day of Yoga
- 2. Introduction of the event:** During the academic year 2020-21 the entire education system of India suffered due to the pandemic situation or lockdown. But the Maharashtra Government sent the directives time to time for various educational activities preferably online education or activities were given priority. By keeping the norms of social distance the NCC Unit and the Department of Sports organised online International Day of Yoga. All the staff members, students and Cadets responded to this via Zoom app and did different yogasanas. The online day celebration was quite new for the participants but all got involved to makes things successful. Director of Physical Education Dr.Tarak Das performed different yogas and explained the same to the participants online by giving Demo online.
- 3. Duration:** One Day.
- 4. Place:** Rural and Urban part of Nandurbar District.
- 5. Inaugurator/Chief Guest:** Principal and Vice-principal of the college.
- 6. Attendees:** 90
- 7. Particular activity:** learning of Yoga online.
- 8. Social inclusion/alliance:** social distancing restricted the activity so individually created atmosphere of yoga and healthy life.
- 9. Message to society:** yogasanas exalted the minds of all the participants .
- 10. Concluding Remarks:** The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


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FIT India – Awareness of Covid -19 – online video

<https://www.youtube.com/watch?v=ULNmGhHqsAA&t=113s>





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NATIONAL CADET CORPS

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Principal

Report on online Tree plantation Activity- 2021-22

Date: 18/06/2021

1. Title of Event: Tree Plantation (World Environment Day)

2. Introduction of the event: During the academic year 2021-22 the entire education system of India suffered due to the pandemic situation or lockdown. But the Maharashtra Government sent the directives time to time for various educational activities preferably online education or activities were given priority. By keeping the norms of social distance the NCC cadets individually took initiative for tree plantation in the campus. Near about 25 cadets did tree plantation in the campus keeping the norms of pandemic intact.

3. Duration: One Day.

4. Place: Rural and Urban part of Nandurbar District.

5. Inaugurator/Chief Guest: NA


6. Attendees: 25

7. Particular activity: Tree Plantation.

8. Social inclusion/alliance: social distancing restricted the activity so individually created an awareness about importance of greenery.

9. Message to society: Trees make life healthy if each one serves to it.

10. Concluding Remarks: The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


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GTP COLLEGE, NANDURAR

NCC UNIT 2021-22

ATTENDANCE

SR NO	REG.NO. SENIOR DIVISION	RANK	NAME OF CADET	FATHER	SIGN
1	MH21SDA406559	CDT	Patil Gaurav Ashok	Patil Ashokn Pandit	
2	MH21SDA406560	CDT	Patil Dinesh Pravin	Patil Pravin Fula	
3	MH21SDA406561	CDT	Thakare Bhavesh Nana	Thakare Nana Baburao	
4	MH21SDA406562	CDT	Patil Vijay Bhagwan	Patil Bhagwan Bhaidas	
5	MH21SDA406563	CDT	Patil Prashant Himmat	Patil Himmat Niba	
6	MH21SDA406564	CDT	Patil Pramod Santosh	Patil Santosh Manik	
7	MH21SDA406565	CDT	Patil Prashant Naresh	Patil Naresh Pandit	
8	MH21SDA406566	CDT	Chitrakathi Arun Prakash	Chitrakathi Prakash Devising	
9	MH21SDA406567	CDT	Mahajan Khushal Dhangraj	Mahajan Dhangraj Sukhlal	
10	MH21SDA406568	CDT	Dhangar Umesh Vishnu	Dhangar Vishnu Shivaji	
11	MH21SDA406569	CDT	Rajput Virendra Vitthalsing	Rajput Vitthalsing Gulabsing	
12	MH21SDA406570	CDT	Patil Rohit Gavarchand	Patil Gavarchand Dajbhai	
13	MH21SDA406571	CDT	Buva Suraj Hiralal	Buva Hiralal Nathhu	
14	MH21SDA406572	CDT	Pawara Bhimraj Mersing	Pawara Mersing Satya	



15	MH21SDA406573	CDT	Patil Kunal Sanjay	Patil Sanjay Kalu	<u>Kunal</u>
16	MH21SDA406574	CDT	Patil Chetan Kailas	Patil Kailas Bapurao	<u>Pcheta</u>
17	MH21SDA406575	CDT	Patil sagar Arvind	Patil Arvind Parshuram	<u>A Patil</u>
18	MH21SDA406576	CDT	Thakare Kalpesh Pandurang	Thakare Pandurang Chinda	<u>Thakare</u>
19	MH21SDA406577	CDT	Patil Manish Mahendra	Patil Mahendra Sitaram	<u>M. Patil</u>
20	MH21SDA406578	CDT	Marathe Sandip Govind	Marathe Govind Onkar	<u>M. Marathe</u>
21	MH20SDA406541	LCPL	Mujage Shubham Nimba	Mujage Nimba Badiram	<u>M. Mujage</u>
22	MH20SDA406542	CDT	Patil Mayur Raosaheb	Patil Raoshaeb Bhika	<u>M. Patil</u>
23	MH20SDA406543	CDT	Patil Ajay Vilas	Patil Vilas Vishnu	<u>A. Patil</u>
24	MH20SDA406544	CDT	Patil Shrikant Sukdev	Patil Sukdev Vaman	<u>Patil</u>
25	MH20SDA406545	CDT	Marathe Rajesh Vilas	Marathe Vilas Ishvar	<u>Rajesh</u>
26	MH20SDA406546	CDT	Pawar Vishal Bharat	Pawar Bharat Shankar	<u>V. Sp</u>
27	MH20SDA406547	CDT	Girase Amol Bharatsing	Girase Bharatsing Suratsin	<u>Girase</u>
28	MH20SDA406548	CDT	Salunkhe Devendra Gulab	Salunkhe Gulab Babulal	<u>Dev</u>
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34	MH20SDA406554	CDT	Marathe Rahul Kailas	Marathe Kailas Brijlal	M. R. Brijlal
35	MH20SDA406555	CDT	Mali Bhojraj Vijay	Mali Vijay Baliram	M. S. M. S.
36	MH20SDA406556	CDT	Raul Kiran Virpalsing	Raul Virpalsing Dhansing	K. V. Raul
37	MH20SDA406557	CDT	Girase Hardipsing Ravindrasing	Girase Ravindrasing Dajbhau	H. R. Girase
38	MH20SDA406558	CDT	Patil Dhanraj Yuvraj	Patil Yuvraj Rupchand	Dhanraj
39	MH19SDA406518	JUO	Desale Jayesh Yuvraj	Desale Yuvraj Girdhar	J. Desale
40	MH19SDA406519	CDT	Girase Manish Mansing	Girase Mansing Navalsing	Girase
41	MH19SDA406520	SGT	Khiarnar Dinesh Murlidhar	Khairnar Murlidhar Santosh	Santosh
42	MH19SDA406522	CDT	Shinde Rakesh Subhash	Shinde Subhash Sahebrao	Shinde
43	MH19SDA406525	CDT	Patil Pandharinath Popat	Patil Popat Kashiram	P. Patil
44	MH19SDA406526	CDT	Girase Prashant Bharatsing	Girase Bharatsing Suratsing	Girase
45	MH19SDA406528	CDT	Thakare Sandip Ramkrushna	Thakare Ramkrushna Pandit	Kalatra
46	MH19SDA406530	CDT	Dhangar Manoj Lotan	Dhangar Lotan Dhanraj	Dhangar



47	MH19SDA406532	CDT	Pawara Sunil Shildar	Pawara Shildar Ganya	<u>SAUR</u>
48	MH19SDA406533	SUO	Raul Pankaj Yogendrasing	Raul Yogendrasing Mohansing	<u>Raul</u>
49	MH19SDA406534	CDT	Patil Sagar Krushna	Patil Krushna Rangrao	<u>Qrush</u>
50	MH19SDA406535	CDT	Rajput Pruthviraj Zingasing	Girase Zingasing Mangalsing	<u>Girase</u>
51	MH19SDA406537	CDT	Thehari Karan Budha	Thehari Budha Suka	<u>B.T.S</u>
52	MH19SDA406538	CDT	Dhangar Rushikesh Sanjay	Dhangar Sanjay Totaram	<u>28/10/13</u>
53	MH19SDA406539	CDT	Mahale Ravindra Madhukar	Mahale Madhukar Sitaram	<u>M. Ravindra</u>
54	MH19SDA406540	CDT	Girase Prmod Rupsing	Girase Rupsing Paulatsing	<u>P. Girase</u>


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Principal

Report on celebration of International Day of Yoga

Date: 22/06/2021

1. Title of Event: celebration of International Day of Yoga

2. Introduction of the event: During the academic year 2021-22 the entire education system of India suffered due to the pandemic situation or lockdown. But the Maharashtra Government sent the directives time to time for various educational activities preferably online education or activities were given priority. By keeping the norms of social distance the NCC Unit and the Department of Sports organised International Day of Yoga. All the staff members, students and Cadets responded to it and did different yogasanas. The day celebration was quite new for the participants but all got involved to makes things successful. The team of Patanjali Yog, Nandurbar performed different yogasanas and the participants performed positively.

3. Duration: One Day.

4. Place: Rural and Urban part of Nandurbar District.

5. Inaugurator/Chief Guest: Principal, Vice-principal of the college and Coordinator of the Institute.


6. Attendees: 90

7. Particular activity: Learning of Yoga.

8. Social inclusion/alliance: social distancing restricted the activity so individually created atmosphere of yoga and healthy life.

9. Message to society: yogasanas exalted the minds of all the participants .

10. Concluding Remarks: The plantation is done in a positive note about taking care of trees for long. The cadets were admired and appreciated for the initiation by the administrators.


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केवल एक दिवस नव्हे तर ३६५ दिवस प्रत्येकाने योग करणे गरजेचे



जीटीपी महाविद्यालयाच्या मैदानावर कार्यक्रमाचे उद्घाटन करताना खासदार डॉ. हीना गावित, समवेत मान्यवर.

खासदार डॉ. हीना गावित यांनी केले प्रतिपादन

प्रतिनिधी | नंदुरबार

गेल्या आठ वर्षांपासून २२ जून आंतरराष्ट्रीय योग दिवस म्हणून जगन्मान्य झाला आहे. मानवाच्या आयुष्यातील ताणतणाव दूर होण्यासाठी दैनंदिन योग क्रिया करणे महत्वाचे आहे. केवळ एक दिवस न करता वर्षाचे ३६५ दिवस योगासन करणे काळाची गरज असल्याचे प्रतिपादन खासदार डॉ. हीना गावित यांनी केले.

नंदुरबार शहरातील जी. टी. पाटील महाविद्यालयाच्या मैदानावर मंगळवारी विश्व योग दिनानिमित्त

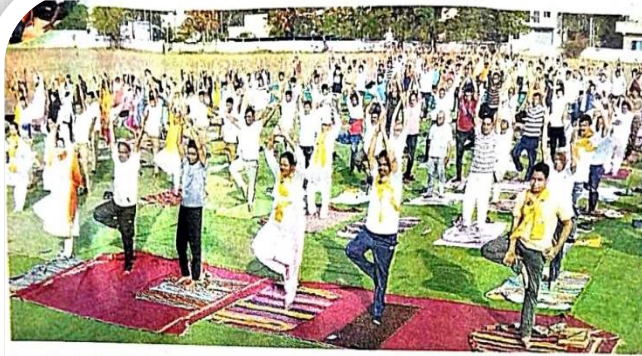
सामूहिक योगासनांचे आयोजन करण्यात आले होते. याप्रसंगी सर्वप्रथम भारत माता पूजन आणि दीपप्रज्वलन करण्यात आले. या वेळी जिल्हा परिषदेचे मुख्य कार्यकारी अधिकारी रघुनाथ गावडे, शिक्षणाधिकारी सतीश चौधरी, जिल्हा क्रीडा अधिकारी सुनंदा पाटील उपस्थित होते. रघुनाथ गावडे यांनी अनुभवातील मनोगत व्यक्त केले.

पतंजली योग समिती, गावत्री परिवार, आर्ट ऑफ लिव्हिंग, एनएसएस, एनसीसी, स्काऊट, गाईड निरीक्षक शिक्षण विभाग ज्युनिअर कालेज- मुल मुली शिक्षक जीटीपी, एकलव्य, कमला नेहरू, डॉ. आर., यशवंत, श्रॉफ

हायस्कूलचे विद्यार्थी सहभागी झाले होते. आर. बी. पाटील, नंताविस समन्वयक डॉ. एम.एस. रघुवंशी, प्राचार्य डॉ. व्ही.एस. श्रीवास्तव, प्राचार्य डॉ. महेंद्र रघुवंशी, एनएसएस जिल्हा समन्वयक व तालुका योग समिती प्रा. डॉ. उमेश शिंदे, क्रीडा शिक्षक प्रा. डॉ. तारक दास, कीर्ती राजपुत, हर्षद महाजन, क्रीडाधिकारी सुनंदा पाटील, पतंजली योग समिती एनडी माळी, नवनीत शिंदे, वसंत पाटील, अजय गिरासे, राम रामोळे, रास्वसंचाचे विजय कासार, हर्षल महाजन, निखिल शर्मा, बळवंत निकुंभ, प्रकाश गवळे उपस्थित होते. सूत्रसंचलन प्रा. डॉ. तारक दास यांनी केले.



नंदुरबार येथील जी.टी.पी.महाविद्यालयात योग विद्याधामसह विविध संघटनेतर्फे घेण्यात आलेल्या योग शिविराचे उद्घाटन खा.डॉ. हीना गावित यांच्यासोबत करण्यात आले.यावेळी खा.डॉ.हीना गावितांसह जि.प.सीईओ रघुनाथ गावडे, सतीश चौधरी, प्राचार्य कि.एस.श्रीवास्तव, डॉ.महेंद्र रघुवंशी, नवनीत शिंदे, एन.डी.माळी, वसंत पाटील, हिरालाल महाजन, विजय कासार आदींनी योगांचे प्रात्यक्षि केले. (छात्रा.ए.पी.)



नंदुरबार येथील जी.टी. पाटील महाविद्यालयाच्या मैदानावर पतंजली योग समितीतर्फे जागतिक योग दिनानिमित्त आयोजित कार्यक्रमात सहभागी खासदार डॉ.हीना गावित, मुख्य कार्यकारी अधिकारी रघुनाथ गावडे, शिक्षणाधिकारी सतीश चौधरी, जयंत घारे, क्रीडाधिकारी सुनंदा पाटील व शिक्षक, विद्यार्थी व नागरिक.



GTP COLLEGE, NANDURAR

NCC UNIT 2021-22

ATTENDANCE

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17	MH21SDA406575	CDT	Patil sagar Arvind	Patil Arvind Parshuram	<u>Sagar Patil</u>
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32	MH20SDA406552	CDT	Koli Abhishek Namdeo	Koli Namdeo Mulchand	<i>AKT</i>
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34	MH20SDA406554	CDT	Marathe Rahul Kailas	Marathe Kailas Brijlal	<i>M. R. Marathe...</i>
35	MH20SDA406555	CDT	Mali Bhojraj Vijay	Mali Vijay Baliram	<i>(Mali) M.S.</i>
36	MH20SDA406556	CDT	Raul Kiran Virpalsing	Raul Virpalsing Dhansing	<i>K.V. Rauf</i>
37	MH20SDA406557	CDT	Girase Hardipsing Ravindrasing	Girase Ravindrasing Dajbhau	<i>H.R. Girase</i>
38	MH20SDA406558	CDT	Patil Dhanraj Yuvraj	Patil Yuvraj Rupchand	<i>Dhanraj</i>
39	MH19SDA406518	JUO	Desale Jayesh Yuvraj	Desale Yuvraj Girdhar	<i>J. Desale</i>
40	MH19SDA406519	CDT	Girase Manish Mansing	Girase Mansing Navalsing	<i>Girase</i>
41	MH19SDA406520	SGT	Khiarnar Dinesh Murlidhar	Khairnar Murlidhar Santosh	<i>[Signature]</i>
42	MH19SDA406522	CDT	Shinde Rakesh Subhash	Shinde Subhash Sahebrao	<i>Shinde</i>
43	MH19SDA406525	CDT	Patil Pandharinath Popat	Patil Popat Kashiram	<i>P. Patil</i>
44	MH19SDA406526	CDT	Girase Prashant Bharatsing	Girase Bharatsing Suratsing	<i>Girase</i>
45	MH19SDA406528	CDT	Thakare Sandip Ramkrushna	Thakare Ramkrushna Pandit	<i>Kalatrao</i>
46	MH19SDA406530	CDT	Dhangar Manoj Lotan	Dhangar Lotan Dhanraj	<i>Dhangar</i>



47	MH19SDA406532	CDT	Pawara Sunil Shildar	Pawara Shildar Ganya	<u>शुभकर</u>
48	MH19SDA406533	SUO	Raul Pankaj Yogendrasing	Raul Yogendrasing Mohansing	
49	MH19SDA406534	CDT	Patil Sagar Krushna	Patil Krushna Rangrao	<u>Patil</u>
50	MH19SDA406535	CDT	Rajput Pruthviraj Zingesting	Girase Zingesting Mangalsing	<u>Girase</u>
51	MH19SDA406537	CDT	Thelari Karan Budha	Thelari Budha Suka	<u>B.T.S.</u>
52	MH19SDA406538	CDT	Dhangar Rushikesh Sanjay	Dhangar Sanjay Totaram	<u>रुशिकेश</u>
53	MH19SDA406539	CDT	Mahale Ravindra Madhukar	Mahale Madhukar Sitaram	<u>M.Ravi</u>
54	MH19SDA406540	CDT	Girase Pramod Rupsing	Girase Rupsing Paulatsing	


Lt. Dr VIJAY Z. CHAUDHARI
NCC OFFICER (ANO)
(49 Maharashtra Battalion) No.NCC/09110342
G T P COLLEGE, NANDURBAR 425412




(Prof. Dr. V. S. Shrivastava)
Principal
PRINCIPAL
G.T.Patil Arts, Commerce &
Science College
NANDURBAR - 425 412 (M.S.)



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412
NAAC ACCREDITED 'A' GRADE



Dr. A. R. Bhuyar
NSS Program Officer

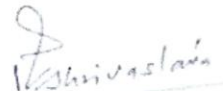
National Service Scheme

Prof. V.S. Shrivastava
Principal

- 1. Title of Event:** Tree Plantation **Date:** 08/07/2019
- 2. Introduction of the event:** The Department of NSS organised a program for tree plantation on the college campus. Around 30 trees of Neem, Mango, Shishav, Pipal and many others are planted by the auspicious hands of the president of NTVS Hon. Shri. Manojbhaiyya Raghuwanshi in the presence of Principal Dr. V. S. Shrivastava, Vice Principal Dr M. J. Raghuwanshi, and NSS Program Officer Dr. A. R. Bhuyar were present for the program.
- 3. Duration:** One Day.
- 4. Place:** G. T. Patil Art's, Commerce and Science College, Nandurbar.
- 5. Inaugurator/Chief Guest:** Hon. Shri. Manojbhaiyya Raghuwanshi and College Administrator
- 6. Attendees:** 250.
- 7. Particular activity:** Tree Plantation.
- 8. Social inclusion/alliance:** The Host College and NSS Department.
- 9. Message to Society:** NSS volunteers are made aware of the importance of trees and assigned responsibilities to take care of the planted trees.
- 10. Concluding Remarks:** Trees are planted and the water supply system is installed. The administrator praised the efforts of the volunteers and the initiative of the NSS department.


Program Officer
National Service Scheme
G. T. Patil College, Nandurbar




PRINCIPAL
G.T.Patil College
Nandurbar



खैरनार फोटो

नंदुरबार येथील जी.टी.पाटील महाविद्यालयात वृक्षारोपण करताना संस्थेचे उपाध्यक्ष मनोज रघुवंशी. सोबत प्राचार्य डॉ.व्ही.एस. श्रीवास्तव, डॉ.प्रा.महेंद्र रघुवंशी, प्रा.ए.के. शेवाळे, प्रा.माधव कदम, डॉ.प्रा.मनोज शेवाळे आदी.





N.T.V.S.'s

G. T. Patil Arts, Commerce and Science College, Nandurbar

NATIONAL SERVICE SCHEME (NSS)

List of Regular Students 2019-20

Tree Plantation

Date 08-07-2019



Sr. No.	Reg. Code No.	Name	Signature
1	MH-06-21-N72-19-001	Pende Gaurav Arjun	Gaurav
2	MH-06-21-N72-19-002	Pawara Rajya Shikdar	Rajya
3	MH-06-21-N72-19-003	Pawar Kanika Saur	Kanika
4	MH-06-21-N72-19-004	Kokani Krushna Ramsing	Krushna
5	MH-06-21-N72-19-005	Kuswar Rohan Jagan	Rohan
6	MH-06-21-N72-19-006	Gavil Sachin Sarsing	Sachin
7	MH-06-21-N72-19-007	Mali Vaibhav Sahebrao	Vaibhav
8	MH-06-21-N72-19-008	Gavali Vilas Antaram	Vilas
9	MH-06-21-N72-19-009	Valvi Ayush Anil	Ayush
10	MH-06-21-N72-19-010	Vasave Anil Singu	Anil
11	MH-06-21-N72-19-011	Velvi Vijay Goma	Vijay
12	MH-06-21-N72-19-012	Velvi Amarsing Jivan	Amarsing
13	MH-06-21-N72-19-013	Velvi Sukdeo Arun	Sukdeo
14	MH-06-21-N72-19-014	Sonawane Umesh Vijaysa	Umesh
15	MH-06-21-N72-19-015	Vasave Dilip Gama	Dilip
16	MH-06-21-N72-19-016	Paavi Dhanashri Dharmendra	Dhanashri
17	MH-06-21-N72-19-017	Desai Sangita Pandya	Sangita
18	MH-06-21-N72-19-018	Gavil Pannam Vinod	Pannam
19	MH-06-21-N72-19-019	Vasave Devita Dharna	Devita
20	MH-06-21-N72-19-020	Sonawane Sachin Babu	Sachin
21	MH-06-21-N72-19-021	Girase Jayesh Ufarsingh	Jayesh
22	MH-06-21-N72-19-022	Girase Vinod Gotsing	Vinod
23	MH-06-21-N72-19-023	Sonawane Rahul Narabhai	Rahul
24	MH-06-21-N72-19-024	Mali Jayesh Dilip	Jayesh
25	MH-06-21-N72-19-025	Marathe Nikhil Shravan	Nikhil
26	MH-06-21-N72-19-026	Patil Umesh Suresh	Umesh
27	MH-06-21-N72-19-027	Patil Arun Anant	Arun
28	MH-06-21-N72-19-028	Tawar Sumit Sanjay	Sumit
29	MH-06-21-N72-19-029	Bagul Mahesh Vedu	Mahesh
30	MH-06-21-N72-19-030	Mali Sujit Dattary	Sujit
31	MH-06-21-N72-19-031	Thakare Samadhan Devidas	Samadhan
32	MH-06-21-N72-19-032	Shewale Purushottam Sanjiv	Purushottam
33	MH-06-21-N72-19-033	Girase Akash Rajendrasing	Akash
34	MH-06-21-N72-19-034	Mali Dhara Rajtilal	Dhara
35	MH-06-21-N72-19-035	Mali Dhiraj Kuntal	Dhiraj
36	MH-06-21-N72-19-036	Pawar Ujwal Kalidas	Ujwal
37	MH-06-21-N72-19-037	Thakur Nayan Nitin	Nayan
38	MH-06-21-N72-19-038	Kozani Mayur Arvind	Mayur
39	MH-06-21-N72-19-039	Nikumbh Bhushan Gurudas	Bhushan

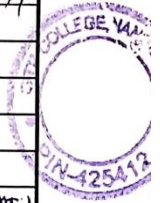
40	MH-06-21-N72-19-040	Pawar Chetan Dilip	R Dilip
41	MH-06-21-N72-19-041	Salunkhe Krishna Sanjay	Sanjay
42	MH-06-21-N72-19-042	Rajput Prashant Ujjansing	Rajansing
43	MH-06-21-N72-19-043	Chavan Rahul Ambalal	CRA
44	MH-06-21-N72-19-044	Girase Akshay Jagatsing	JG
45	MH-06-21-N72-19-045	Patil Kalpesh Bhoju	Rchoja
46	MH-06-21-N72-19-046	Desale Subham Hiranman	DSubham
47	MH-06-21-N72-19-047	Girase Harshal Dashrathsing	HarshalG
48	MH-06-21-N72-19-048	Shinde Shubham Manohar	Shubh
49	MH-06-21-N72-18-049	Bhavsar Darshan Chittaranjan	BDCSrajare
50	MH-06-21-N72-19-050	Patil Pradip Ravindra	Pradip
51	MH-06-21-N72-19-051	Chavhan Dipali Kailas	Dipali
52	MH-06-21-N72-19-052	Dhirkunde Harshada Vijay	HD
53	MH-06-21-N72-19-053	Kalkate Kalyani Suresh	KSKalkate
54	MH-06-21-N72-19-054	Patil Rohini Bajirao	RPatil
55	MH-06-21-N72-19-055	Padvi Megha Ranjit	Megha
56	MH-06-21-N72-19-056	Pawara Laxmi Ramesh	Laxmi
57	MH-06-21-N72-19-057	Chaure Neha Narayan	NE
58	MH-06-21-N72-19-058	Bagul Kavita Madhukar	KMadhukar
59	MH-06-21-N72-19-059	Padvi Pallavi Vishwas	Pallavi
60	MH-06-21-N72-19-060	Patil Nikita Pandharinath	NPatil
61	MH-06-21-N72-19-061	Patil Komal Dilip	KPatil
62	MH-06-21-N72-19-062	Vasave Sanjay Vasant	Vasave
63	MH-06-21-N72-19-063	Padvi Ajay Shantilal	APadvi
64	MH-06-21-N72-19-064	Thakare Karan Sanjay	K.S.Thakare
65	MH-06-21-N72-19-065	Pawar Vitthal Deva	Vitthal
66	MH-06-21-N72-19-066	Chavan Nilesh Prakash	N.Chavan
67	MH-06-21-N72-19-067	Yevale Usha Vijaynath	Uyevale
68	MH-06-21-N72-19-068	Pawar Aakansha Dilip	APawar
69	MH-06-21-N72-19-069	Pathan Rumana Bi Jamaluddin	RBJP
70	MH-06-21-N72-19-070	Tadvi Ravindra Rayjya	Ravindra
71	MH-06-21-N72-19-071	Kadam Pratik Madhav	Pratik
72	MH-06-21-N72-19-072	Gavit Nitesh Vasnt	N.V.Gavit
73	MH-06-21-N72-19-073	Vasave Dajya Dharma	D.D.Vasave
74	MH-06-21-N72-19-074	Rathod Jitendra Shivdas	J.S.Rathod
75	MH-06-21-N72-19-075	Rathod Umesh Gulabsing	URathod
76	MH-06-21-N72-19-076	Gangurde Anand Dinesh	AGangurde
77	MH-06-21-N72-19-077	Sapkal Vinayak Ramesh	VSapkal
78	MH-06-21-N72-19-078	Padvi Umesh Akash	UPadvi
79	MH-06-21-N72-19-079	Pawar Sachin Bhaidas	SPawar
80	MH-06-21-N72-19-080	Banjara Pawan Babya	Pawan
81	MH-06-21-N72-19-081	Khairnar Manoj Arun	M.Khairnar
82	MH-06-21-N72-19-082	Tadvi Rajendra SAYSING	R.Tadvi
83	MH-06-21-N72-19-083	Padvi shhikant Rohidas	SPadvi
84	MH-06-21-N72-19-084	Chitrathe Vilas Dagdu	Chitrathe
85	MH-06-21-N72-19-085	Rathod Rahul Ranchod	R.R.R



86	MH-06-21-N72-19-086	Patle Ganesh Juma	GJPatle
87	MH-06-21-N72-19-087	Panpatil Rahul Dilip	R. D. PanPatil
88	MH-06-21-N72-19-088	Vasave Jitendra Ramesh	Vasave
89	MH-06-21-N72-19-089	Paradke Raghav Aarshya	RAParadke
90	MH-06-21-N72-19-090	Valvi Dilwarsing Botya	DBVani
91	MH-06-21-N72-19-091	Padvi Sagar Prakash	SPadvi
92	MH-06-21-N72-19-092	Salunkhe Prakash santosh	PSalunkhe
93	MH-06-21-N72-19-093	Vasave Vikram Bhimsing	Vasave
94	MH-06-21-N72-19-094	Dhangar Sagar Ravan	SDD
95	MH-06-21-N72-19-095	Mali Vinod Vilas	Vmali
96	MH-06-21-N72-19-096	Pawara Thikya Nayka	TPawara
97	MH-06-21-N72-19-097	Bawa Sumit Aaba	Bawa
98	MH-06-21-N72-19-098	Vasave Vinayak Kirta	VKirta
99	MH-06-21-N72-19-099	Naik Dinesh Gimbya	DNaik
100	MH-06-21-N72-19-100	Gawali Tufan Shivaji	TGawali
101	MH-06-21-N72-19-101	Thakare Vijay Babhuta	VThakare
102	MH-06-21-N72-19-102	Rathod Gokul Bhama	GRathod
103	MH-06-21-N72-19-103	Pawara Rayasing Bhikarya	R.B. Pawara
104	MH-06-21-N72-19-104	Valvi Sandip Vijay	Sandip
105	MH-06-21-N72-19-105	Valvi Bashir Ramesh	Bashir
106	MH-06-21-N72-19-106	Valvi Hemant Dilip	Hemant
107	MH-06-21-N72-19-107	Bagal Sushil Manohar	Sushil
108	MH-06-21-N72-19-108	Mali Umesh Sudam	UMSudam
109	MH-06-21-N72-19-109	Patel Rahul Govind	RPatel
110	MH-06-21-N72-19-110	Vasave Mahesh Gambghir	MVasave
111	MH-06-21-N72-19-111	Vasave Naresh Parsing	NParsing
112	MH-06-21-N72-19-112	Bashinge Gorakh Sankjay	GBashinge
113	MH-06-21-N72-19-113	Padavi Dipak Yuvraj	YPadavi
114	MH-06-21-N72-19-114	Banjara Hitesh Shantilal	HSBanjara
115	MH-06-21-N72-19-115	Marathe Nilesh Raju	NRMarathe
116	MH-06-21-N72-19-116	Gavit Yogesh Raya	YGavit
117	MH-06-21-N72-19-117	More Deepak Suklal	DSMore
118	MH-06-21-N72-19-118	Pawara Jagdish Ramesh	JRPawara
119	MH-06-21-N72-19-119	Dhanraj Raju Pawar	DRPawar
120	MH-06-21-N72-19-120	Valvi Harshad Vinod	H.V. Valvi
121	MH-06-21-N72-19-121	Patil Divya Babu	D.B.Patil
122	MH-06-21-N72-19-122	Pimpale Sunayana Santosh	SPimpale
123	MH-06-21-N72-19-123	Nikumbh Nisha Rajendra	NRNikumbh
124	MH-06-21-N72-19-124	Girase Bharati Chandrasing	BGirase
125	MH-06-21-N72-19-125	Panpatil Aarti Babu	ABPanpatil
126	MH-06-21-N72-19-126	Marathe Gayatri Govind	GMMarathe
127	MH-06-21-N72-19-127	Gavit Laxmi Kashinath	LGavit
128	MH-06-21-N72-19-128	Patle Priyanka Barkya	PPPatle
129	MH-06-21-N72-19-129	Tadvi Yogita Homa	YTadvi
130	MH-06-21-N72-19-130	Vasve Babita Jegala	BVasve
131	MH-06-21-N72-19-131	Raut Shila Motya	SRM



132	MH-06-21-N72-19-132	Padvi Bharati ishwar	Padvi B
133	MH-06-21-N72-19-133	Valvi Kanti Kutrya	Valvi K
134	MH-06-21-N72-19-134	Khanale Punam Sanjay	PS Khanale
135	MH-06-21-N72-19-135	Dodhare Ujwala Rajendra	LRD Dhare
136	MH-06-21-N72-19-136	Valvi Sarita Sanjay	Sarita V
137	MH-06-21-N72-19-137	Dhangar Bhagyshree Rangraj	B.R. Dhangar
138	MH-06-21-N72-19-138	Bedse Sakshi Sanjay	Sakshi B
139	MH-06-21-N72-19-139	Salve Tejsvini Devidas	Tejsvini S
140	MH-06-21-N72-19-140	More Pravin Sayaji	PS More
141	MH-06-21-N72-19-141	Koli Pravin Shivdas	K.P.S
142	MH-06-21-N72-19-142	Mahale Vishal Devidas	Vishal M
143	MH-06-21-N72-19-143	Marathe Jagdish Gopal	Jagdish M
144	MH-06-21-N72-19-144	Krushna Dilip Salunkhe	Dilip K
145	MH-06-21-N72-19-145	Thehari Pawbha Jagan	Pawbha T
146	MH-06-21-N72-19-146	Girase Kamlesh Ranjit	Kamlesh G
147	MH-06-21-N72-19-147	Patil Krushna Arvind	Krushna P
148	MH-06-21-N72-19-148	Patil Manoj Rajendra	M.R. Patil
149	MH-06-21-N72-19-149	Patil Sachin Sunil	S.S. Patil
150	MH-06-21-N72-19-150	Patil Lalit Prabhakar	L.P. Patil
151	MH-06-21-N72-19-151	Musale Vivek Rakesh	V. Musale
152	MH-06-21-N72-19-152	Patil Bhushan Ashok	B. Patil
153	MH-06-21-N72-19-153	Girase Chetan Bhagwansing	Chetan G
154	MH-06-21-N72-19-154	Patil Gaurav Sanjay	Gaurav P
155	MH-06-21-N72-19-155	Sonawane Ravindra Purushottam	Ravindra S
156	MH-06-21-N72-19-156	Patil Rajesh Motilal	R.M. Patil
157	MH-06-21-N72-19-157	Vendait Jayesh Jibhau	Jayesh V
158	MH-06-21-N72-19-158	Pawar Pramod Dilip	Pawar P
159	MH-06-21-N72-19-159	Marathe Sujit Dilip	Sujit M
160	MH-06-21-N72-19-160	Patil Sanjay Rahul	Sanjay P
161	MH-06-21-N72-19-161	Patil Samadhan Gorakh	P. Samadhan
162	MH-06-21-N72-19-162	Patil Chandrakant Sanjay	P.C.S
163	MH-06-21-N72-19-163	Shelar Rohit Tukaram	Rohit S
164	MH-06-21-N72-19-164	Girase Nitesh Bhushan	Nitesh G
165	MH-06-21-N72-19-165	Girase Jaypal Komalsing	J.P. Girase
166	MH-06-21-N72-19-166	Patel Pranay Ganeshbhai	Pranay P
167	MH-06-21-N72-19-167	Savale Rhushikesh Sadashiv	Rhushikesh S
168	MH-06-21-N72-19-168	Savale Kunal Satish	Kunal S
169	MH-06-21-N72-19-169	Girase Kiran Devising	Kiran G
170	MH-06-21-N72-19-170	Patil Dinesh Brijlal	Dinesh P
171	MH-06-21-N72-19-171	Patil Kiran Shantilal	Kiran P
172	MH-06-21-N72-19-172	Jagtap Ajay Dattatray	Ajay J
173	MH-06-21-N72-19-173	Patel Keyur Satishbhai	Keyur P
174	MH-06-21-N72-19-174	Girase Dnyaneshwar Bharatsing	Dnyaneshwar G
175	MH-06-21-N72-19-175	Girase Sandip Dnyaneshwar	Sandip G
176	MH-06-21-N72-19-176	Pawar Bhupendra Sanjay	Bhupendra P
177	MH-06-21-N72-19-177	Patil Kailas Aasaram	Kailash P



178	MH-06-21-N72-19-178	Sonawane Kalpesh Yada	K. Sonawane
179	MH-06-21-N72-19-179	Kuwar Jayesh Bhaskar	B. Kuwar
180	MH-06-21-N72-19-180	Patil Rohit Dinesh	राहित उर्फ
181	MH-06-21-N72-19-181	Bagul Hemant Ravindra	H. Bagul
182	MH-06-21-N72-19-182	Pawar Kuldeep Amrut	Pawar
183	MH-06-21-N72-19-183	Patil Kalpesh Santosh	राहित उर्फ
184	MH-06-21-N72-19-184	Patil Chetan Anil	H. Bagul
185	MH-06-21-N72-19-185	Patil Girdhar Sudam	P. G. Patil
186	MH-06-21-N72-19-186	Soni Jayesh Suresh	J. Soni
187	MH-06-21-N72-19-187	Chavan Dhananjay Kanhilal	D. Chavan
188	MH-06-21-N72-19-188	Patil Akash Bhimrao	A. B. Patil
189	MH-06-21-N72-19-189	Rajput Pruthaviraj Pradipsing	Rajput
190	MH-06-21-N72-19-190	Rajput Narendra Ujjainsing	N. V. Rajput
191	MH-06-21-N72-19-191	Pawar Dnyaneshwar Gokul	Pawar
192	MH-06-21-N72-19-192	Raghuwanshi Om Mahendra	O. M. Raghuwanshi
193	MH-06-21-N72-19-193	Patil Avinash Gulabrao	A. G. Patil
194	MH-06-21-N72-19-194	Patil Sagar Samadhan	S. Patil
195	MH-06-21-N72-19-195	Pawar Mayuri Sunil	M. S. P.
196	MH-06-21-N72-19-196	Khairnar Gayatri Babu	B. Khairnar
197	MH-06-21-N72-19-197	Shinde Trupti Khandu	T. K. Shinde
198	MH-06-21-N72-19-198	Mandalik Manasi Dhanraj	M. Mandalik
199	MH-06-21-N72-19-199	Pawar Bhatnagar Hansraj	B. Pawar
200	MH-06-21-N72-19-200	Rajput Varsha Himmatsing	V. H. Rajput
201	MH-06-21-N72-19-201	Rajput Harshada Lotansing	H. Rajput
202	MH-06-21-N72-19-202	Pawar Snehal Muralidhar	S. M. Pawar
203	MH-06-21-N72-19-203	Pingale Sonali Santosh	S. Pingale
204	MH-06-21-N72-19-204	Patel Heena Vasant	H. V. Patel
205	MH-06-21-N72-19-205	Borse Priti Arjun	P. A. Borse
206	MH-06-21-N72-19-206	Vendait Shraddha Sanjay	S. Vendait
207	MH-06-21-N72-19-207	Patil Pratiksha mahendra	P. Patil
208	MH-06-21-N72-19-208	Sonawane Nikita Rajendra	N. Sonawane
209	MH-06-21-N72-19-209	Pawar Pratibha Daulat	Pawar
210	MH-06-21-N72-19-210	Dhangar Bhagyashri Eknath	B. K. Dhangar
211	MH-06-21-N72-19-211	Gaikwad Swati Chandrasing	S. C. Gaikwad
212	MH-06-21-N72-19-212	Chaure Rohini Raju	R. Chaure
213	MH-06-21-N72-19-213	Sonawane Puja Suresh	P. Sonawane
214	MH-06-21-N72-19-214	Marathe Namrata Vinayak	Marathe
215	MH-06-21-N72-19-215	Thakare Harshada Sahebrav	Thakare
216	MH-06-21-N72-19-216	Valavi Yogita Vishnu	V. V. Valavi
217	MH-06-21-N72-19-217	Dhangar Dipika Sudam	D. Dhangar
218	MH-06-21-N72-19-218	Sangat Gauri Ramlal	G. R. Sangat
219	MH-06-21-N72-19-219	More Karina Natthu	M. More
220	MH-06-21-N72-19-220	Suryawanshi Roshani Mahar	R. M. Suryawanshi
221	MH-06-21-N72-19-221	Shinde Gayatri Sanjay	S. Shinde
222	MH-06-21-N72-19-222	Shinde Gayatri Bausaheb	G. B. Shinde
223	MH-06-21-N72-19-223	Bhadane Sangita Vishwas	S. V. Bhadane

224	MH-06-21-N72-19-224	Patil Nayana Dipak	<i>Patil</i>
225	MH-06-21-N72-19-225	Mali Bhavana Mahendra	<i>Mali</i>
226	MH-06-21-N72-19-226	Padvi Gita Sanjay	<i>Padvi</i>
227	MH-06-21-N72-19-227	Valvi Ashlesha Ashok	<i>Valvi</i>
228	MH-06-21-N72-19-228	Patil Harshada Arun	<i>Patil</i>
229	MH-06-21-N72-19-229	Marathe Rohini Devidas	<i>Marathe</i>
230	MH-06-21-N72-19-230	Chaudhari Bagyashri Suresh	<i>Chaudhari</i>
231	MH-06-21-N72-19-231	Patel Leena Ganshyam	<i>Patel</i>
232	MH-06-21-N72-19-232	Patil Harshada Kashinath	<i>Patil</i>
233	MH-06-21-N72-19-233	Patil Ragini Kishor	<i>Patil</i>
234	MH-06-21-N72-19-234	Rajput Jaqgruti Bhagawansing	<i>Rajput</i>
235	MH-06-21-N72-19-235	Rajput Puja Ransing	<i>Rajput</i>
236	MH-06-21-N72-19-236	Pawar Priyanka Kishor	<i>Pawar</i>
237	MH-06-21-N72-19-237	Patil Swati Ramrao	<i>Patil</i>
238	MH-06-21-N72-19-238	Baisane Mamata Sharad	<i>Baisane</i>
239	MH-06-21-N72-19-239	Sonar Shrusti Milesh	<i>Sonar</i>
240	MH-06-21-N72-19-240	Gawali Pravin Ganapat	<i>Gawali</i>
241	MH-06-21-N72-19-241	More Jayesh Machchhindra	<i>More</i>
242	MH-06-21-N72-19-242	Jadhav Bhushan Ravindra	<i>Jadhav</i>
243	MH-06-21-N72-19-243	Padvi Nandu Chandusing	<i>Padvi</i>
244	MH-06-21-N72-19-244	Hemade Ganesh Prakash	<i>Hemade</i>
245	MH-06-21-N72-19-245	Patil Yogesh Sunil	<i>Patil</i>
246	MH-06-21-N72-19-246	Kolape Arjun Somlala	<i>Kolape</i>
247	MH-06-21-N72-19-247	Patil Akash Bhagwan	<i>Patil</i>
248	MH-06-21-N72-19-248	Jambhale Rahul Narendra	<i>Jambhale</i>
249	MH-06-21-N72-19-249	Marathe Tulshiram Gulab	<i>Marathe</i>
250	MH-06-21-N72-19-250	Bendre Manoj Dhanaraj	<i>Bendre</i>

[Signature]
Program Officer
National Service Scheme
G.T.Patil College, Nandurbar



[Signature]
Shrivastava's

PRINCIPAL
G.T.Patil College
Nandurbar



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412
NAAC ACCREDITED 'A' GRADE



Dr. A. R. Bhuyar
NSS Program Officer

National Service Scheme

Prof. V.S. Shrivastava
Principal

- 1. Title of Event:** Gandhi Jayanti Cleaning Campaign and Fit India Run **Date:** 02/10/2019
- 2. Introduction of the event:** On the occasion of Gandhi Jayanti, the department of NSS celebrated the event by organizing cleaning campaign and Fit India Run. NSS volunteers cleaned college campus and KBC North Maharashtra University's Eklavya Kendra. Students collected garbage and plastic. Fit India Run rally helped to make students aware of physical health. NTVS's Vice President Hon. Shri. Manojbhaiyya Raghuwanshi was the chief guest for the program.
- 3. Duration:** One day.
- 4. Place:** Nandurbar City, College Campus and KBC North Maharashtra University's Eklavya Kendra
- 5. Inaugurator/Chief Guest:** Hon. Shri. Manojbhaiyya Raghuwanshi and College Administrator
- 6. Attendees:** 250.
- 7. Particular activity:** Cleaning and Fir Run Rally.
- 8. Social inclusion/alliance:** The host college, NSS Department and Staff of KBC North Maharashtra University's Eklavya Kendra.
- 9. Message to Society:** Volunteers passed the message about the importance of cleaning. Somehow the event contributed to Clean India Campaign. Fit India Run Rally also proved the importance of being physically fit.
- 10. Concluding Remarks:** Both the events proved beneficial for society and volunteers. .


Program Officer
National Service Scheme
G.T.Patil College, Nandurbar




PRINCIPAL
G.T.Patil College
Nandurbar



N.T.V.S.'s

G. T.Patil Arts, Commerec and Science College, Nandurbar

NATIONAL SERVICE SCHEME (NSS)

List of Regular Students 2019-20

Gandhi Jayanti Cleaning Campaign and Fit India Run Date:
02/10/2019

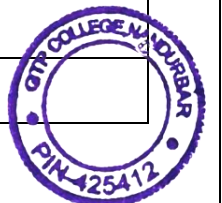
Sr. No.	Reg. Code No.	Name
1	MH-06-21-N72-19-001	Punde Gaurav Arjun
2	MH-06-21-N72-19-002	Pawara Rajya Shildar
3	MH-06-21-N72-19-003	Pawar Kanilal Sama
4	MH-06-21-N72-19-004	Kokani Krushna Ramsing
5	MH-06-21-N72-19-005	Kuwar Rohan Jagan
6	MH-06-21-N72-19-006	Gavit Sachin Saysing
7	MH-06-21-N72-19-007	Mali Vaibhav Sahebrao
8	MH-06-21-N72-19-008	Gavali Vilas Antaram
9	MH-06-21-N72-19-009	Valvi Ayush Anil
10	MH-06-21-N72-19-010	Vasave Anil Singu
11	MH-06-21-N72-19-011	Valvi Vijay Goma
12	MH-06-21-N72-19-012	Valvi Amarsing Jivan
13	MH-06-21-N72-19-013	Valvi Sukdeo Arun
14	MH-06-21-N72-19-014	Sonawane Umesh Vijaysa
15	MH-06-21-N72-19-015	Vasave Dilip Gama
16	MH-06-21-N72-19-016	Padvi Dhanashri Dharmendra
17	MH-06-21-N72-19-017	Desai Sangita Pandya
18	MH-06-21-N72-19-018	Gavit Poonam Vinod
19	MH-06-21-N72-19-019	Vasave Devila Dharma
20	MH-06-21-N72-19-020	Sonawane Sachin Babu
21	MH-06-21-N72-19-021	Girase Jayesh Ujansingh
22	MH-06-21-N72-19-022	Girase Vinod Gotusing



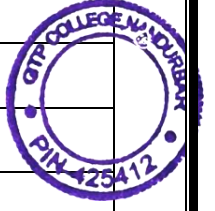
23	MH-06-21-N72-19-023	Sonawane Rahul Nanabhau
24	MH-06-21-N72-19-024	Mali Jayesh Dilip
25	MH-06-21-N72-19-025	Marathe Nikhil Shravan
26	MH-06-21-N72-19-026	Patil Umesh Suresh
27	MH-06-21-N72-19-027	Patil Arun Amrut
28	MH-06-21-N72-19-028	Tawar Sumit Sanjay
29	MH-06-21-N72-19-029	Bagul Mahesh Vedu
30	MH-06-21-N72-19-030	Mali Sujit Dattatry
31	MH-06-21-N72-19-031	Thakare Samadhan Devidas
32	MH-06-21-N72-19-032	Shewale Purushottam Sanjiv
33	MH-06-21-N72-19-033	Girase Akash Rajendrasing
34	MH-06-21-N72-19-034	Mali Dhanraj Ratilal
35	MH-06-21-N72-19-035	Mali Dhiraj Kantilal
36	MH-06-21-N72-19-036	Pawar Ujwal Kalidas
37	MH-06-21-N72-19-037	Thakur Nayan Nitin
38	MH-06-21-N72-19-038	Kokani Mayur Arvind
39	MH-06-21-N72-19-039	Nikumbh Bhushan Gurudas
40	MH-06-21-N72-19-040	Pawar Chetan Dilip
41	MH-06-21-N72-19-041	Salunkhe Krishna Sanjay
42	MH-06-21-N72-19-042	Rajput Prashant Ujjansing
43	MH-06-21-N72-19-043	Chavan Rahul Ambalal
44	MH-06-21-N72-19-044	Girase Akshay Jagatsing
45	MH-06-21-N72-19-045	Patil Kalpesh Bhoju
46	MH-06-21-N72-19-046	Desale Subham Hiranman
47	MH-06-21-N72-19-047	Girase Harshal Dashrathsing
48	MH-06-21-N72-19-048	Shinde Shubham Manohar
49	MH-06-21-N72-18-049	Bhavsar Darshan Chittaranjan
50	MH-06-21-N72-19-050	Patil Pradip Ravindra
51	MH-06-21-N72-19-051	Chavhan Dipali Kailas
52	MH-06-21-N72-19-052	Dhurkunde Harshada Vijay



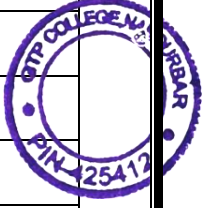
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54	MH-06-21-N72-19-054	Patil Rohini Bajirao
55	MH-06-21-N72-19-055	Padvi Megha Ranjit
56	MH-06-21-N72-19-056	Pawara Laxmi Ramesh
57	MH-06-21-N72-19-057	Chaure Neha Narayan
58	MH-06-21-N72-19-058	Bagul Kavita Madhukar
59	MH-06-21-N72-19-059	Padvi Pallavi Vishwas
60	MH-06-21-N72-19-060	Patil Nikita Pandharinath
61	MH-06-21-N72-19-061	Patil Komal Dilip
62	MH-06-21-N72-19-062	Vasave Sanjay Vasant
63	MH-06-21-N72-19-063	Padvi Ajay Shantilal
64	MH-06-21-N72-19-064	Thakare Karan Sanjay
65	MH-06-21-N72-19-065	Pawar Vitthal Deva
66	MH-06-21-N72-19-066	Chavan Nilesh Prakash
67	MH-06-21-N72-19-067	Yevale Usha Vaijnath
68	MH-06-21-N72-19-068	Pawar Aakansha Dilip
69	MH-06-21-N72-19-069	Pathan Rumana Bi Jamaluddin
70	MH-06-21-N72-19-070	Tadvi Ravindra Rayjya
71	MH-06-21-N72-19-071	Kadam Pratik Madhav
72	MH-06-21-N72-19-072	Gavit Nitesh Vasnt
73	MH-06-21-N72-19-073	Vasave Dajya Dharma
74	MH-06-21-N72-19-074	Rathod Jitendra Shivdas
75	MH-06-21-N72-19-075	Rathod Umesh Gulabsing
76	MH-06-21-N72-19-076	Gangurde Anand Dinesh
77	MH-06-21-N72-19-077	Sapkal Vinayak Ramesh
78	MH-06-21-N72-19-078	Padvi Umesh Akash
79	MH-06-21-N72-19-079	Pawar Sachin Bhaidas
80	MH-06-21-N72-19-080	Banjara Pawan Babya
81	MH-06-21-N72-19-081	Khairnar Manoj Arun
82	MH-06-21-N72-19-082	Tadvi Rajendra Saysing



83	MH-06-21-N72-19-083	Padvi shhikant Rohidas
84	MH-06-21-N72-19-084	Chitratathe Vilas Dagdu
85	MH-06-21-N72-19-085	Rathod Rahul Ranchod
86	MH-06-21-N72-19-086	Patle Ganesh Juma
87	MH-06-21-N72-19-087	Panpatil Rahul Dilip
88	MH-06-21-N72-19-088	Vasave Jitendra Ramesh
89	MH-06-21-N72-19-089	Paradke Raghav Aarshya
90	MH-06-21-N72-19-090	Valvi Dilwarsing Botya
91	MH-06-21-N72-19-091	Padvi Sagar Prakash
92	MH-06-21-N72-19-092	Salunkhe Prakash santosh
93	MH-06-21-N72-19-093	Vasave Vikram Bhimsing
94	MH-06-21-N72-19-094	Dhangar Sagar Ravan
95	MH-06-21-N72-19-095	Mali Vinod Vilas
96	MH-06-21-N72-19-096	Pawara Thikya Nayka
97	MH-06-21-N72-19-097	Bawa Sumit Aaba
98	MH-06-21-N72-19-098	Vasave Vinayak Kirta
99	MH-06-21-N72-19-099	Naik Dinesh Gimblya
100	MH-06-21-N72-19-100	Gawali Tufan Shivaji
101	MH-06-21-N72-19-101	Thakare Vijay Babhuta
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107	MH-06-21-N72-19-107	Bagal Sushil Manohar
108	MH-06-21-N72-19-108	Mali Umesh Sudam
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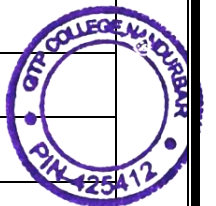
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117	MH-06-21-N72-19-117	More Deepak Suklal
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121	MH-06-21-N72-19-121	Patil Divya Babu
122	MH-06-21-N72-19-122	Pimpale Sunayana Santosh
123	MH-06-21-N72-19-123	Nikumbh Nisha Rajendra
124	MH-06-21-N72-19-124	Girase Bharati Chandrasing
125	MH-06-21-N72-19-125	Panpatil Aarti Babu
126	MH-06-21-N72-19-126	Marathe Gayatri Govind
127	MH-06-21-N72-19-127	Gavit Laxmi Kashinath
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136	MH-06-21-N72-19-136	Valvi Sarita Sanjay
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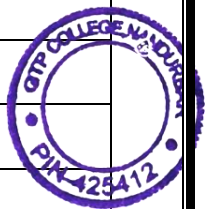
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147	MH-06-21-N72-19-147	Patil Krushna Arvind
148	MH-06-21-N72-19-148	Patil Manoj Rajendra
149	MH-06-21-N72-19-149	Patil Sachin Sunil
150	MH-06-21-N72-19-150	Patil Lalit Prabhakar
151	MH-06-21-N72-19-151	Musale Vivek Rakesh
152	MH-06-21-N72-19-152	Patil Bhushan Ashok
153	MH-06-21-N72-19-153	Girase Chetan Bhagwansing
154	MH-06-21-N72-19-154	Patil Gaurav Sanjay
155	MH-06-21-N72-19-155	Sonawane Ravindra Purushottam
156	MH-06-21-N72-19-156	Patil Rajesh Motilal
157	MH-06-21-N72-19-157	Vendait Jayesh Jibhau
158	MH-06-21-N72-19-158	Pawar Pramod Dilip
159	MH-06-21-N72-19-159	Marathe Sujit Dilip
160	MH-06-21-N72-19-160	Patil Sanjay Rahul
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162	MH-06-21-N72-19-162	Patil Chandrakant Sanjay
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166	MH-06-21-N72-19-166	Patel Pranay Ganeshbhai
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173	MH-06-21-N72-19-173	Patel Keyur Satishbhai
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197	MH-06-21-N72-19-197	Shinde Trupti Khandu
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203	MH-06-21-N72-19-203	Pingale Sonali Santosh
204	MH-06-21-N72-19-204	Patel Heena Vasant
205	MH-06-21-N72-19-205	Borse Priti Arjun
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230	MH-06-21-N72-19-230	Chaudhari Bagyashri Suresh
231	MH-06-21-N72-19-231	Patel Leena Ganshyam
232	MH-06-21-N72-19-232	Patil Harshada Kashinath



233	MH-06-21-N72-19-233	Patil Ragini Kishor
234	MH-06-21-N72-19-234	Rajput Jaqgruti Bhagawansing
235	MH-06-21-N72-19-235	Rajput Puja Ransing
236	MH-06-21-N72-19-236	Pawar Priyanka Kishor
237	MH-06-21-N72-19-237	Patil Swati Ramrao
238	MH-06-21-N72-19-238	Baisane Mamata Sharad
239	MH-06-21-N72-19-239	Sonar Shrusti Milesh
240	MH-06-21-N72-19-240	Gawali Pravin Ganapat
241	MH-06-21-N72-19-241	More Jayesh Machchindra
242	MH-06-21-N72-19-242	Jadhav Bhushan Ravindra
243	MH-06-21-N72-19-243	Padvi Nandu Chandusing
244	MH-06-21-N72-19-244	Hemade Ganesh Prakash
245	MH-06-21-N72-19-245	Patil Yogesh Sunil
246	MH-06-21-N72-19-246	Kolape Arjun Somlala
247	MH-06-21-N72-19-247	Patil Akash Bhagwan
248	MH-06-21-N72-19-248	Jambhale Rahul Narendra
249	MH-06-21-N72-19-249	Marathe Tulshiram Gulab
250	MH-06-21-N72-19-250	Bendre Manoj Dhanaraj


Program Officer
National Service Scheme
G.T.Patil College, Nandurbar




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Nandurbar



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412
NAAC ACCREDITED 'A' GRADE



Dr. A. R. Bhuyar
NSS Program Officer

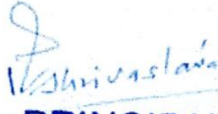
National Service Scheme

Prof. V.S. Shrivastava
Principal

- 1. Title of Event:** Tree Plantation week **Date:** 08/07/2020
- 2. Introduction of the event:** Due to the pandemic of CORONA, many NSS activities are implemented from the respective places of the students. Various active volunteers planted trees around their houses. Around 20 trees are planted. The volunteers Nikita Patil, Kalyani Kalkate, Harshada Dhurkunde, Gaurav Punde, Pratik Kadam, Umesh Mali, Bhagyashree Chaudhari, Hina Patel, Nitesh Padvi and Rahul Patil planted trees.
- 3. Duration:** Seven Day.
- 4. Place:** Respective Places of the volunteers.
- 5. Inaugurator/Chief Guest:**
- 6. Attendees:** 10.
- 7. Particular activity:** Tree Plantation.
- 8. Social inclusion/alliance:** The Host College and NSS Department.
- 9. Message to Society:** Importance of trees and even during the pandemic students participated in social activities.
- 10. Concluding Remarks:** Trees are planted and the active students responded to the virtual notices.


Program Officer
National Service Scheme
G.T.Patil College, Nandurbar




PRINCIPAL
G.T.Patil College
Nandurbar





08-Jul-2020 11:20:09 AM
 261° W
 Altitude: 232.0m
 Speed: 0.0km/h
 सत्यमेव जयते स्वयंसेवक-जी टी पाटील महाविद्यालय नंदुरबार प्राचीन कलेस



Nandurbar - Chandajcha Road, Nehru Nagar, Nandurbar, Maharashtra 425412, India
 Nandurbar
 Maharashtra
 India
 33°C
 91°F
 2020-07-08(Wed) 04:27(PM)







Nandurbar Taluka Vidhayak Samiti's
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NANDURBAR – 425412
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Dr. A. R. Bhuyar
NSS Program Officer


National Service Scheme

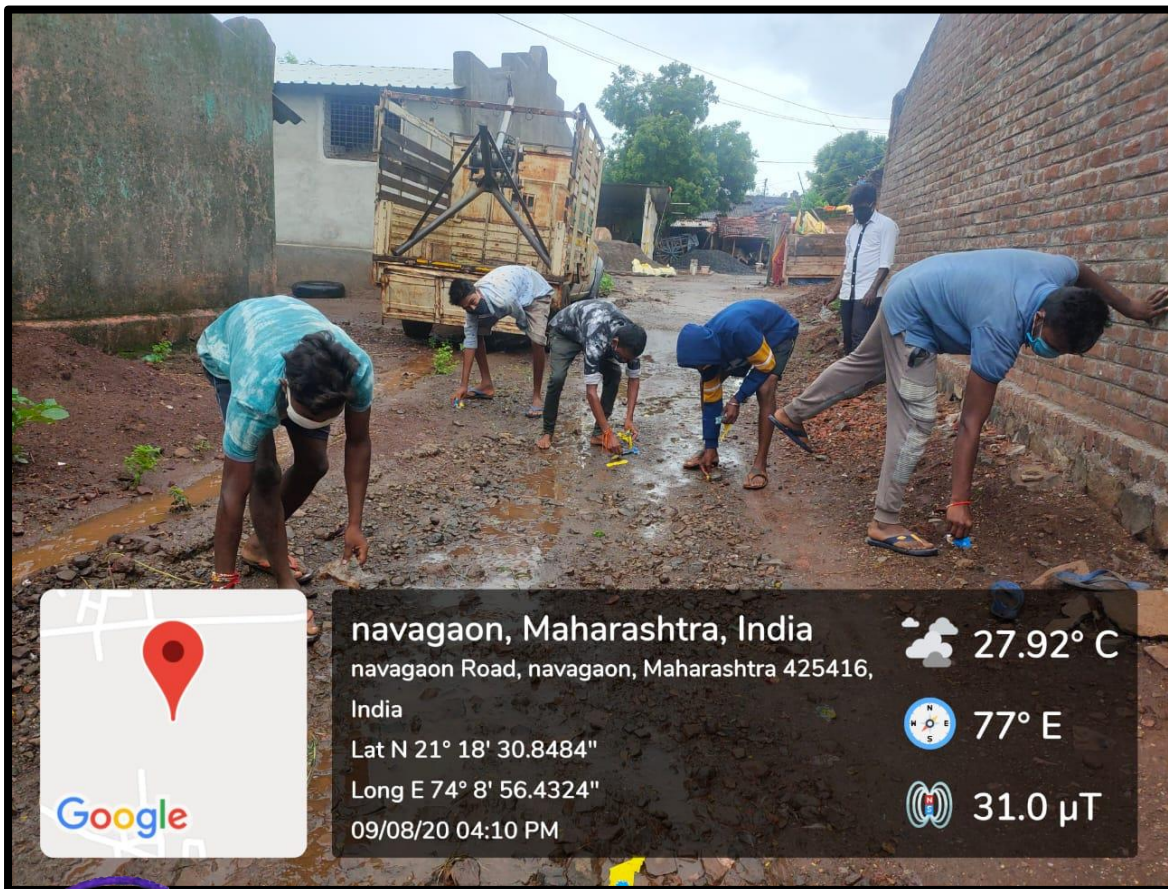
Prof. V.S. Shrivastava
Principal

- 1. Title of Event:** Cleaning Campaign Week **Date:** 16/07/2020
- 2. Introduction of the event:** The Department of NSS organised an important event titled 'Cleaning Campaign'. Under this event, the volunteers created awareness in the society regarding the importance of cleanliness. Volunteers gave an oath to the public of their respective villages to maintain hygiene atmosphere. Volunteers collected the garbage and disposed it.
- 3. Duration:** Seven Days.
- 4. Place:** Respective areas of the registered volunteers.
- 5. Inaugurator/Chief Guest:**
- 6. Attendees:** 13.
- 7. Particular activity:** Cleaning Campaign.
- 8. Social inclusion/alliance:** The host college, NSS Department and various villages of Nandurbar district.
- 9. Message to society:** It is a need for the hour to create awareness regarding the importance of cleaning among the villages. So, it is a crucial event organised by the NSS department.
- 10. Concluding Remarks:** Many villagers believed in the teachings that volunteers passed.


Program Officer
National Service Scheme
G. T. Patil College, Nandurbar



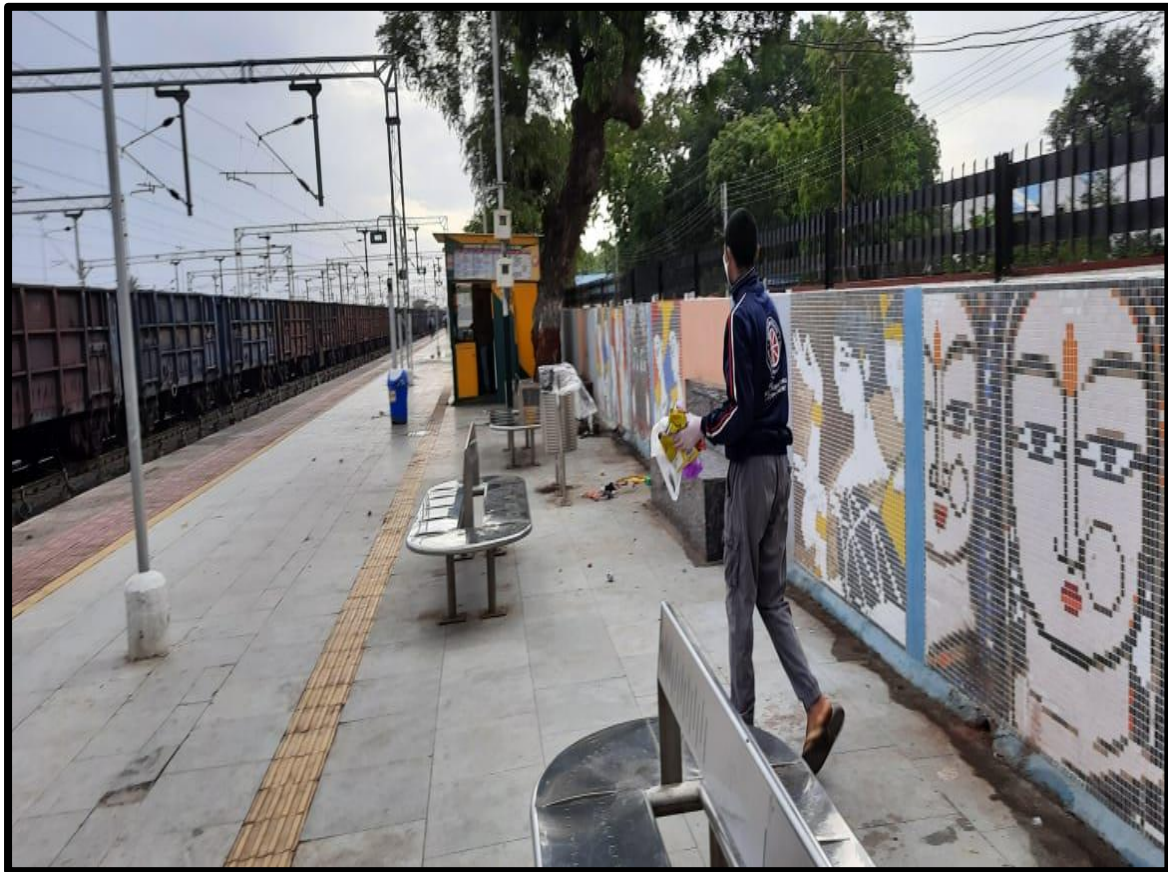

PRINCIPAL
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Nandurbar



navagaon, Maharashtra, India
navagaon Road, navagaon, Maharashtra 425416,
India
Lat N 21° 18' 30.8484"
Long E 74° 8' 56.4324"
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27.92° C
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Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412
NAAC ACCREDITED 'A' GRADE



Dr. A. R. Bhuyar
NSS Program Officer

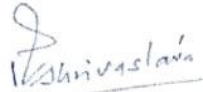
National Service Scheme

Prof. V.S. Shrivastava
Principal

- 1. Title of Event:** Tree Plantation Date: 13/08/2021
- 2. Introduction of the event:** The Department of NSS organised a program for tree plantation on the college campus. Around 40 trees of neem, mango, shishav, pipal and many others are planted by the auspicious hands Dr. M S Raghuwanshi in the presence of Principal Dr V S Shrivastava, Vice Principal Dr M J Raghuwanshi, and NSS Program Officer Dr A R Bhuyar were present for the program.
- 3. Duration:** One Day.
- 4. Place:** G. T. Patil Arts, Commerce and Science College Nandurbar.
- 5. Inaugurator/Chief Guest:** Dr. M S Raghuwanshi, Dr V S Shrivastava, Dr M J Raghuwanshi, Dr A R Bhuyar
- 6. Attendees:** 144
- 7. Particular activity:** Tree Plantation.
- 8. Social inclusion/alliance:** The host college and NSS Department.
- 9. Message to society:** NSS volunteers are made aware of the importance of trees and assigned responsibilities to take care of the planted trees.
- 10. Concluding Remarks:** Trees are planted and the water supply system is installed. The administrator praised the efforts of the volunteers and the initiative of the NSS department.


Program Officer
National Service Scheme
G.T.Patil College, Nandurbar




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G.T.Patil College
Nandurbar



Latitude: 21.367032
Longitude: 74.252825
Elevation: 231.26±7 m
Accuracy: 14.1 m
Time: 08-13-2021 10:58

Powered by NoteCam



2021/08/13 10:52

जीटीपी महाविद्यालयात वृक्षारोपण



महाविद्यालयाच्या राष्ट्रीय सेवा योजना एकक, विद्यार्थी विकास विभाग व एन सी सी मार्फत प्राचार्य डॉ. व्ही. एस. श्रीवास्तव, संस्थेचे समन्वयक डॉ. एम एस उपप्राचार्य, डॉ. एम जे

देशोन्नती वृत्तसंकलन...

मंदुरबार - कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ राष्ट्रीय सेवा योजना विभाग व महाविद्यालयातील राष्ट्रीय सेवा योजना विभाग, विद्यार्थी विकास विभाग आणि राष्ट्रीय छात्र सेना यांच्या वतीने महाविद्यालयाच्या परिसरात नुकतेच वृक्षारोपण करण्यात आले.

रघुवंशी, उपप्राचार्य एन जे सोमानी, राष्ट्रीय सेवा योजनेचे कार्यक्रम अधिकारी डॉ. अमोल भुयार, विद्यार्थी विकास अधिकारी डॉ. माधव कदम, राष्ट्रीय छात्र सेनेचे लेफ्टनंट डॉ. विजय चौधरी, सहाय्यक कार्यक्रम अधिकारी डॉ. दिनेश देवरे, उपेंद्र शगबगे, महिला कार्यक्रमाधिकारी संगीता पिंपरे, यांच्या हस्ते वृक्षारोपण करण्यात आले.



N.T.V.S.'s

G. T. Patil Arts, Commerce And Science College, Nandurbar

NATIONAL SERVICE SCHEME (NSS)

Tree Plantation Date :-13/08/2021

Sr.No.	Reg. Code No.	Name
1	MH-06-21-N72-21-001	Thakare Dattatraya Devising
2	MH-06-21-N72-21-002	Sonawane Samadhan Birjalal
3	MH-06-21-N72-21-003	Vasave Ravindra Goma
4	MH-06-21-N72-21-004	Pawara Ajit Lotya
5	MH-06-21-N72-21-005	Jadhav Nitish Dashrath
6	MH-06-21-N72-21-006	Vasave Jairam Nayaka
7	MH-06-21-N72-21-007	Padvi Ravlya Gavlya
8	MH-06-21-N72-21-008	Panpatil Raj Pundlik
9	MH-06-21-N72-21-009	Padvi Nitin Raju
10	MH-06-21-N72-21-010	Padvi Jayesh Dharma
11	MH-06-21-N72-21-011	Koli Abhishek Namdeo
12	MH-06-21-N72-21-012	Rathod Girdhari Santosh
13	MH-06-21-N72-21-013	Thakare Karan Shriram
14	MH-06-21-N72-21-014	Pawar Sardar Niksan
15	MH-06-21-N72-21-015	Bachhav Hiralal Narendra
16	MH-06-21-N72-21-016	Mali Hemraj Prakash
17	MH-06-21-N72-21-017	Vasave Sajan budhar
18	MH-06-21-N72-21-018	Pawara Mangilal Lasha
19	MH-06-21-N72-21-019	Marathe Gaurav Gopichand
20	MH-06-21-N72-21-020	Vasave Gulabsing Rajya
21	MH-06-21-N72-21-021	Kokani Ajay Krushna
22	MH-06-21-N72-21-022	Rathod Vivek Praladh
23	MH-06-21-N72-21-023	Padavi Rahul Anil
24	MH-06-21-N72-21-024	Sabale Bhatya Hanvad
25	MH-06-21-N72-21-025	Vasave Rahul Amshya
26	MH-06-21-N72-21-026	Valvi Bashir Ramesh
27	MH-06-21-N72-21-027	Pawara Pratap rama
28	MH-06-21-N72-21-028	Samudre Naredra Dashrath
29	MH-06-21-N72-21-029	Pawara Bharat Amarsing
30	MH-06-21-N72-21-030	Gavit Manesh Kantilal
31	MH-06-21-N72-21-031	Chaure Jitendra Ramdas
32	MH-06-21-N72-21-032	Vasave Arjun Ruma
33	MH-06-21-N72-21-033	Thakare Sachin Divasha
34	MH-06-21-N72-21-034	Jadhav samadhan Arun
35	MH-06-21-N72-21-035	Mali Dimpal Pandit
36	MH-06-21-N72-21-036	Pawar Navratna Chhotiram
37	MH-06-21-N72-21-037	Kulade Manisha Sakharam



38	MH-06-21-N72-21-038	Mali Bhavana Ravindra
39	MH-06-21-N72-21-039	Pawara Rakesh
40	MH-06-21-N72-21-040	Patil Laxmi Ananda
41	MH-06-21-N72-21-041	Girase Shivani Eshwarsing
42	MH-06-21-N72-21-042	Vasave Nandini Nitin
43	MH-06-21-N72-21-043	Girase Shivani Eshwarsing
44	MH-06-21-N72-21-044	Nikum Priti Tukaram
45	MH-06-21-N72-21-045	Valavi Kavita Birmya
46	MH-06-21-N72-21-046	Wagh Pranjali Dhudku
47	MH-06-21-N72-21-047	Chaure Kalyani Hasmukh
48	MH-06-21-N72-21-048	Banjara Sonal Ranjit
49	MH-06-21-N72-21-049	Kokani Radha Uttam
50	MH-06-21-N72-21-050	Gavit Sonali Rajesh
51	MH-06-21-N72-21-051	Vasave Kirti Jagan
52	MH-06-21-N72-21-052	Pawara Jamakhi Duvalya
53	MH-06-21-N72-21-053	Nasrin Shaikh Javid Shaikh
54	MH-06-21-N72-21-054	Kokani Archana Bhiwarlal
55	MH-06-21-N72-21-055	Patil Harshal Laxman
56	MH-06-21-N72-21-056	Thakare Vipul Sunil
57	MH-06-21-N72-21-057	Dhangar Prafulla Kailas
58	MH-06-21-N72-21-058	Pawar Vishal Bharat
59	MH-06-21-N72-21-059	Hodgar Sagar Kashinath
60	MH-06-21-N72-21-060	Patil Chetan Shivdas
61	MH-06-21-N72-21-061	Nikumbh Shubham Ashok
62	MH-06-21-N72-21-062	Borase Akshay Sanjay
63	MH-06-21-N72-21-063	Patil Yuvraj Hiranman
64	MH-06-21-N72-21-064	Pawar Jayesh Vijay
65	MH-06-21-N72-21-065	Sonawane Dadabhai Nanabhau
66	MH-06-21-N72-21-066	Chaudhari Dimpal Narendra
67	MH-06-21-N72-21-067	Shimpi Ashish Kanhaiya
68	MH-06-21-N72-21-068	Vadnere Rahul Balkrishna
69	MH-06-21-N72-21-069	Patil Manoj Daga
70	MH-06-21-N72-21-070	Khatik Samir Kamroddin
71	MH-06-21-N72-21-071	Pangare Darshan Lotan
72	MH-06-21-N72-21-072	Thakare Vinesh Anil
73	MH-06-21-N72-21-073	Mahale Devendra Sanjay
74	MH-06-21-N72-21-074	Vendait Kamlesh Sanjay
75	MH-06-21-N72-21-075	Girase Divansing Vijaysing
76	MH-06-21-N72-21-076	Patil Lokesh Rajendra
77	MH-06-21-N72-21-077	Bhamare Yashodip Amrutrao
78	MH-06-21-N72-21-078	Patil Harshvardhan Barku
79	MH-06-21-N72-21-079	Girase Harpal Gumansing
80	MH-06-21-N72-21-080	Patil Mayur Suresh
81	MH-06-21-N72-21-081	Patil Avinash Gulabarao
82	MH-06-21-N72-21-082	Jayesh Bhaskar Kuwar
83	MH-06-21-N72-21-083	Patil Kamlesh
84	MH-06-21-N72-21-084	Valvi Vishal Satya



85	MH-06-21-N72-21-085	Mali Lokesh Suresh
86	MH-06-21-N72-21-086	Khushavh Dipak Rajkumar
87	MH-06-21-N72-21-087	Rajput Kalpesh Gulabsing
88	MH-06-21-N72-21-088	Patil Nilesh Prakash
89	MH-06-21-N72-21-089	Patil Rupesh Babu
90	MH-06-21-N72-21-090	Patil Umesh Krishna
91	MH-06-21-N72-21-091	Vendait Chhotu
92	MH-06-21-N72-21-092	Pawar Dipali Suresh
93	MH-06-21-N72-21-093	Mohane Supriya Bharat
94	MH-06-21-N72-21-094	Girase Sakshi Devendrasing
95	MH-06-21-N72-21-095	Mahajan Dhanshree Shantilal
96	MH-06-21-N72-21-096	Patil Yogita Sanjay
97	MH-06-21-N72-21-097	Kadam Rama Chandrashekhar
98	MH-06-21-N72-21-098	Mahale Bhagyashri Navnath
99	MH-06-21-N72-21-099	Pawar Dipmala Dnyaneshwar
100	MH-06-21-N72-21-100	Pawar Dipali Suresh
101	MH-06-21-N72-21-101	Chaudhari Dimpal Narendra
102	MH-06-21-N72-21-102	Borse Savita Rajendra
103	MH-06-21-N72-21-103	Jadhav Gitanjali Pandharinath
104	MH-06-21-N72-21-104	Kadam Uma Chandrashekhar
105	MH-06-21-N72-21-105	Rajput Nandini Malsing
106	MH-06-21-N72-21-106	Bagul Neha Sanjay
107	MH-06-21-N72-21-107	Girase Priyanka Narayansing
108	MH-06-21-N72-21-108	More Roshani Vishwas
109	MH-06-21-N72-21-109	Naik Rinku Jamsu
110	MH-06-21-N72-21-110	More Bhagyashri Jayawant
111	MH-06-21-N72-21-111	Gurav Himakshi Vijay
112	MH-06-21-N72-21-112	Gaikwad Swati Chandrasing
113	MH-06-21-N72-21-113	Patil Jayshree Laxman
114	MH-06-21-N72-21-114	Patil Suvarna Santosh
115	MH-06-21-N72-21-115	Gavit Rashila Jaglal
116	MH-06-21-N72-21-116	Patil Bhagyashree Shivaji
117	MH-06-21-N72-21-117	Khalane Dipali Sudam
118	MH-06-21-N72-21-118	Pawar Rupali Anil
119	MH-06-21-N72-21-119	Wagh Pranav Anil
120	MH-06-21-N72-21-120	Kokani Chandrakant Bemthya
121	MH-06-21-N72-21-121	Jadhav Kiran Sunil
122	MH-06-21-N72-21-122	Hemade Ganesh Prakash
123	MH-06-21-N72-21-123	Vanjari Mayur Rajesh
124	MH-06-21-N72-21-124	Vasave Kailas Mogya
125	MH-06-21-N72-21-125	Bagul Pooja Arun
126	MH-06-21-N72-21-126	Pawara Pramila Resha
127	MH-06-21-N72-21-127	Patil Pushparaj Dattu
128	MH-06-21-N72-21-128	Pagare Shubham Vijay
129	MH-06-21-N72-21-129	Rahase Kapil Tety
130	MH-06-21-N72-21-130	Pawara Yogesh Ratilal
131	MH-06-21-N72-21-131	Pawar Sandip Murali



132	MH-06-21-N72-21-132	More Rupesh Balu
133	MH-06-21-N72-21-133	Thakare Ram Sudam
134	MH-06-21-N72-21-134	Patil Dinesh Sadashiv
135	MH-06-21-N72-21-135	Sathe Sagar Sadashiv
136	MH-06-21-N72-21-136	Wankhade Sani Mohan
137	MH-06-21-N72-21-137	More Narendra Suganchand
138	MH-06-21-N72-21-138	Patil prathamesh sanjay
139	MH-06-21-N72-21-139	Nitin Ishwar Marathe
140	MH-06-21-N72-21-140	Patil Tejas Shivaji
141	MH-06-21-N72-21-141	Mali Jayesh Santosh
142	MH-06-21-N72-21-142	Aaditya Sidhhartha Soundankar
143	MH-06-21-N72-21-143	Pawara Mangilal Loshya
144	MH-06-21-N72-21-144	Pawara Yogesh Ramdas


Program Officer
National Service Scheme
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G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412
NAAC ACCREDITED 'A' GRADE



Dr. A. R. Bhuyar
NSS Program Officer

National Service Scheme

Prof. V.S. Shrivastava
Principal

- 1. Title of Event:** Swachchhata Abhiyan **Date:** 24/09/2021
- 2. Introduction of the event:** The department of NSS organised a cleaning campaign in the campus on the occasion of NSS day. Students cleaned the campus, library area, canteen, and, main building area. Student collected plastic and disposed in a proper manner. Waste garbage collected and handed over to the municipality.
- 3. Duration:** One day.
- 4. Place:** G T Patil Arts Commerce and Science College.
- 5. Inaugurator/Chief Guest:**
- 6. Attendees:** 250.
- 7. Particular activity:** Cleaning Campaign.
- 8. Social inclusion/alliance:** NSS Department
- 9. Message to society:** It is necessary to have a proper clean campus for the learning process. The students also showed that the cleaning is necessary everywhere. The volunteers also set an example for other students to keep the campus clean.
- 10. Concluding Remarks:** NSS volunteers are ready to work on the line of social service. Volunteers considered the campus as a vital place and it should be neat and clean always.


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राष्ट्रीय सेवा योजना दिनानिमित्त परिसर स्वच्छता

जीटीपी महाविद्यालयात उपक्रम

नंदुरबार: येथील जी.टी.पाटील महाविद्यालयातील राष्ट्रीय सेवा योजना व राष्ट्रीय छात्र सेना एककाडून राष्ट्रीय सेवा योजना दिवस परिसर स्वच्छ करून साजरा करण्यात आला.

राष्ट्रीय स्वयंसेवकांनी महाविद्यालयाचा परिसर स्वच्छ करून स्वच्छ भारताचा संदेश दिला. परिसर स्वच्छ राहिला तर आरोग्य निरोगी राहते यामुळे स्वच्छतेवर आधारित उपक्रम राबविण्यात आला. रासेयो दिनाचे

औचित्य साधून भारत सरकारतर्फे घेण्यात आलेल्या कलाउत्सव स्पर्धेत राष्ट्रीय स्तरावर शिल्प या कलाप्रकारात राज्यात प्रथम प्रथम येऊन उल्लेखनीय कामगिरी केल्याबद्दल आदर्श रामेश्वर संगपाळ या स्वयंसेवकांचा मान्यवरांच्या हस्ते सत्कार करण्यात आला.

कार्यक्रमास महाविद्यालयाचे प्राचार्य डॉ.व्ही.एस.श्रीवास्तव, संस्थेचे समन्वयक डॉ.एम. एस.रघुवंशी, उपप्राचार्य डॉ.



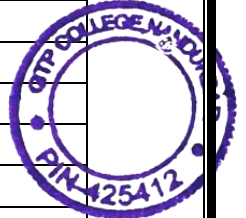
एम.जे.रघुवंशी, उपप्राचार्य एन.जे.सोमाणी, रासेयो जिल्हा समन्वयक प्रा.डॉ.माधव कदम यांची प्रमुख उपस्थिती लाभली. कार्यक्रमाचे संयोजन आयोजन

कार्यक्रम अधिकारी डॉ.मनोज शेवाळे, प्रा.डॉ.व्ही.झेड.चौधरी यांनी केले. यशस्वीतेसाठी प्रा. डॉ.ए.आर.भुयार, प्रा.डॉ.डी.बी. देवरे यांचे सहकार्य लाभले.

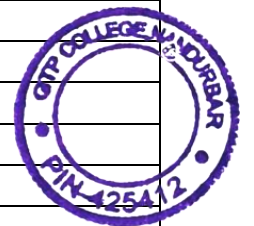


N.T.V.S.'s**G. T. Patil Arts, Commerce And Science College,
Nandurbar****NATIONAL SERVICE SCHEME (NSS)****Swchata Abhiyan Date :-24/09/2021**

Sr.No.	Reg. Code No.	Name
1	MH-06-21-N72-21-001	Thakare Dattatraya Devising
2	MH-06-21-N72-21-002	Sonawane Samadhan Birjalal
3	MH-06-21-N72-21-003	Vasave Ravindra Goma
4	MH-06-21-N72-21-004	Pawara Ajit Lotya
5	MH-06-21-N72-21-005	Jadhav Nitish Dashrath
6	MH-06-21-N72-21-006	Vasave Jairam Nayaka
7	MH-06-21-N72-21-007	Padvi Ravlya Gavlya
8	MH-06-21-N72-21-008	Panpatil Raj Pundlik
9	MH-06-21-N72-21-009	Padvi Nitin Raju
10	MH-06-21-N72-21-010	Padvi Jayesh Dharma
11	MH-06-21-N72-21-011	Koli Abhishek Namdeo
12	MH-06-21-N72-21-012	Rathod Girdhari Santosh
13	MH-06-21-N72-21-013	Thakare Karan Shriram
14	MH-06-21-N72-21-014	Pawar Sardar Niksan
15	MH-06-21-N72-21-015	Bachhav Hiralal Narendra
16	MH-06-21-N72-21-016	Mali Hemraj Prakash
17	MH-06-21-N72-21-017	Vasave Sajan budhar
18	MH-06-21-N72-21-018	Pawara Mangilal Lasha
19	MH-06-21-N72-21-019	Marathe Gaurav Gopichand
20	MH-06-21-N72-21-020	Vasave Gulabsing Rajya
21	MH-06-21-N72-21-021	Kokani Ajay Krushna
22	MH-06-21-N72-21-022	Rathod Vivek Praladh
23	MH-06-21-N72-21-023	Padavi Rahul Anil
24	MH-06-21-N72-21-024	Sabale Bhatya Hanvad
25	MH-06-21-N72-21-025	Vasave Rahul Amshya
26	MH-06-21-N72-21-026	Valvi Bashir Ramesh
27	MH-06-21-N72-21-027	Pawara Pratap rama
28	MH-06-21-N72-21-028	Samudre Naredra Dashrath
29	MH-06-21-N72-21-029	Pawara Bharat Amarsing
30	MH-06-21-N72-21-030	Gavit Manesh Kantilal
31	MH-06-21-N72-21-031	Chaure Jitendra Ramdas
32	MH-06-21-N72-21-032	Vasave Arjun Ruma
33	MH-06-21-N72-21-033	Thakare Sachin Divasha
34	MH-06-21-N72-21-034	Jadhav samadhan Arun
35	MH-06-21-N72-21-035	Mali Dimpal Pandit
36	MH-06-21-N72-21-036	Pawar Navratna Chhotiram



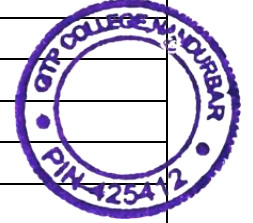
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38	MH-06-21-N72-21-038	Mali Bhavana Ravindra
39	MH-06-21-N72-21-039	Pawara Rakesh
40	MH-06-21-N72-21-040	Patil Laxmi Ananda
41	MH-06-21-N72-21-041	Girase Shivani Eshwarsing
42	MH-06-21-N72-21-042	Vasave Nandini Nitin
43	MH-06-21-N72-21-043	Girase Shivani Eshwarsing
44	MH-06-21-N72-21-044	Nikum Priti Tukaram
45	MH-06-21-N72-21-045	Valavi Kavita Birmya
46	MH-06-21-N72-21-046	Wagh Pranjali Dhudku
47	MH-06-21-N72-21-047	Chaure Kalyani Hasmukh
48	MH-06-21-N72-21-048	Banjara Sonal Ranjit
49	MH-06-21-N72-21-049	Kokani Radha Uttam
50	MH-06-21-N72-21-050	Gavit Sonali Rajesh
51	MH-06-21-N72-21-051	Vasave Kirti Jagan
52	MH-06-21-N72-21-052	Pawara Jamakhi Duvalya
53	MH-06-21-N72-21-053	Nasrin Shaikh Javid Shaikh
54	MH-06-21-N72-21-054	Kokani Archana Bhiwarlal
55	MH-06-21-N72-21-055	Patil Harshal Laxman
56	MH-06-21-N72-21-056	Thakare Vipul Sunil
57	MH-06-21-N72-21-057	Dhangar Prafulla Kailas
58	MH-06-21-N72-21-058	Pawar Vishal Bharat
59	MH-06-21-N72-21-059	Hodgar Sagar Kashinath
60	MH-06-21-N72-21-060	Patil Chetan Shivdas
61	MH-06-21-N72-21-061	Nikumbh Shubham Ashok
62	MH-06-21-N72-21-062	Borase Akshay Sanjay
63	MH-06-21-N72-21-063	Patil Yuvraj Hiraman
64	MH-06-21-N72-21-064	Pawar Jayesh Vijay
65	MH-06-21-N72-21-065	Sonawane Dadabhai Nanabhau
66	MH-06-21-N72-21-066	Chaudhari Dimpal Narendra
67	MH-06-21-N72-21-067	Shimpi Ashish Kanhaiya
68	MH-06-21-N72-21-068	Vadnere Rahul Balkrishna
69	MH-06-21-N72-21-069	Patil Manoj Daga
70	MH-06-21-N72-21-070	Khatik Samir Kamroddin
71	MH-06-21-N72-21-071	Pangare Darshan Lotan
72	MH-06-21-N72-21-072	Thakare Vinesh Anil
73	MH-06-21-N72-21-073	Mahale Devendra Sanjay
74	MH-06-21-N72-21-074	Vendait Kamlesh Sanjay
75	MH-06-21-N72-21-075	Girase Divansing Vijaysing
76	MH-06-21-N72-21-076	Patil Lokesh Rajendra
77	MH-06-21-N72-21-077	Bhamare Yashodip Amrutrao
78	MH-06-21-N72-21-078	Patil Harshvardhan Barku
79	MH-06-21-N72-21-079	Girase Harpal Gumansing
80	MH-06-21-N72-21-080	Patil Mayur Suresh
81	MH-06-21-N72-21-081	Patil Avinash Gulabarao
82	MH-06-21-N72-21-082	Jayesh Bhaskar Kuwar



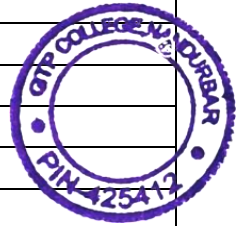
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97	MH-06-21-N72-21-097	Kadam Rama Chandrashekhar
98	MH-06-21-N72-21-098	Mahale Bhagyashri Navnath
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128	MH-06-21-N72-21-128	Pagare Shubham Vijay



129	MH-06-21-N72-21-129	Rahase Kapil Tety
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222	MH-06-21-N72-21-222	Wagh Aswini Vasant
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235	MH-06-21-N72-21-235	Dhangar Gayatri Shantilal
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241	MH-06-21-N72-21-241	Valavi Ankita Vijay
242	MH-06-21-N72-21-242	Bagal Priya Satish
243	MH-06-21-N72-21-243	Patil Durgeshwari Yuvraj
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248	MH-06-21-N72-21-248	Thakare Bhavesh Eknath
249	MH-06-21-N72-21-249	Tamboli Swapnil Dilip
250	MH-06-21-N72-21-250	Patel Srushti Mohan


Program Officer
 National Service Scheme
 G.T.Patil College, Nandurbar




PRINCIPAL
 G.T.Patil College
 Nandurbar



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412

NAAC ACCREDITED 'A' GRADE
(Affiliated to KBC North Maharashtra University, Jalgaon)

Prof. V. S. Shrivastava
Principal

YUVATI SABHA

REPORT

1. Title of Event: INAURATION OF YUVATI SABHA

Date: 12/09/2017

2. Introduction of the event: Our Nandurbar Taluka Vidhayak Samiti's G.T.Patil Art's, Commerce and Science College organizes girls personality development programme in every academic year. In this academic year 2017-18 the Yuvati Sabha's inaugural function held on 12th September 2018. A guest lecture was organized for the overall development of girls students. The topic of guest lecture was " Contribution of youth in public works " delivered by **Mrs. Ratna C. Raghuwanshi** (Mayor, Nandurbar Municipal Corporation). In her speech she guided to girls students. She said that there is a dire need of the Contribution of youth in public works . Girls should know herself, they must have positive attitudes. She also said that the women is the backbone of the society. Without girls we cannot imagine of the today's world. Education is one of the most powerful weapon with the help of it girls can progress herself she added in her speech. She interacted with girls students and gave answered to all questions raised by participants in the programme.

Hon. Principal Dr. V. S. Shrivastava , Vice-Principal Dr. R. R. Kasar, Vice-Principal Dr. M. J. Raghuwanshi, Junior College Vice-Principal Mr. A. K. Shevale, Programme Coordinator Dr. Shakila Sharif , Mrs. S. B. Pimpare are present for this programmed.

3. Duration: one day.

4. Place: Seminar Hall GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: Mrs. Ratna C. Raghuwanshi
(Mayor, Nandurbar Municipal Corporation).

6. Attendees: 110.



(Prof. Dr. V. S. Shrivastava)

PRINCIPAL
G.T.Patil College
Nandurbar



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412
NAAC ACCREDITED 'A' GRADE
(Affiliated to KBC North Maharashtra University, Jalgaon)

Prof. V. S. Shrivastava
Principal

YUVATI SABHA

Photos





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Prof. V. S. Shrivastava
Principal

YUVATI SABHA

REPORT

1. Title of Event: INAURATION OF YUVATI SABHA

Date: 29/08/2018

2. Introduction of the event: Our Nandurbar Taluka Vidhayak Samiti's G.T.Patil Art's, Commerce and Science College organizes girls personality development programme in every academic year. In this academic year 2018-19 the Yuvati Sabha's inaugural function held on 29th August 2018. A guest lecture was organized for the overall development of girls students. The topic of guest lecture was "Personality Development of Women" delivered by **Adv. Monika Meena (Mrs. Beauty India World Wide Contestant)**. In her speech she guided to girls students. She said that there is a dire need of the personality development of the girls to overcome the challenges of the life. Girls should know herself, they must have positive attitudes. She also said that the women is the backbone of the society. Without girls we cannot imagine of the today's world. Education is one of the most powerful weapon with the help of it girls can progress herself she added in her speech. She interacted with girls students and gave answered to all questions raised by participants in the programme. Also Dr. N. D. Chaudhari, Principal, NTVS's Law College Nandurbar guide the students.

Hon. Principal Dr. V. S. Shrivastava , Vice-Principal Dr. R. R. Kasar, Vice-Principal Dr. M. J. Raghuwanshi, Junior College Programme co-ordinator Mrs. S. B. Pimpare are present for the programmed

3. Duration: one day.

4. Place: Seminar Hall GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: Adv. Monika Meena

(Mrs. Beauty India World Wide Contestant)

6. Attendees: 77.



(Prof. Dr. V. S. Shrivastava)

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YUVATI SABHA

Photos



नंदुरबार : येथील जी.टी.पाटील महाविद्यालयात युवती सभेच्या उद्घाटनाप्रसंगी मार्गदर्शन करतांना मोनिका मीरा, प्राचार्य डॉ.पी.एस.श्रीवास्तव डॉ.आर.आर.कासार, डॉ.महेंद्र रघुवंशी, प्रा.पिंपरे, प्रा.ए.के. शेवाळे.





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YUVATI SABHA

युवती सभा

शैक्षणिक वर्ष २०१८-१९ च्या युवती सभेचे उद्घाटन दि. २९.०८.२०१८ रोजी करण्यात आले. युवती सभा व स्त्रियांचे लैंगिक छळ प्रतिबंध व तक्रार निवारण समिती यांच्या संयुक्त विद्यमाने उद्घाटनाचा कार्यक्रम घेण्यात आला. या कार्यक्रमाप्रसंगी प्रमुख वक्त्या म्हणून श्रीमती अॅड. मोनिका मीना व विधी महाविद्यालयाचे प्राचार्य डॉ. एन.डी. चौधरी उपस्थित होते. कार्यक्रमाचे अध्यक्षस्थान डॉ. व्ही. एस. श्रीवास्तव यांनी भूषविले. कार्यक्रमास उपप्राचार्य डॉ. आर.आर. कासार, उपप्राचार्य डॉ. एम.जे. रघुवंशी, उपप्राचार्य ए.के. शेवाळे उपस्थित होते. कार्यक्रमाचे सूत्रसंचालन डॉ. समिरा अहमद यांनी केले. कार्यक्रमाचे प्रास्ताविक युवती सभा अध्यक्ष प्रा. संगिता पिंपरे यांनी केले. तसेच प्रा. डब्ल्यू.एस. चित्ते यांनी उद्घाटक अॅड. मोनिका मीना

यांचा परिचय करून दिला.

युवती सभा अंतर्गत महाविद्यालयीन विद्यार्थीनींना व्यक्तिमत्व विकास व आत्मविश्वास वाढ व संवर्धन याविषयी प्रा. संगिता पिंपरे व डॉ. समिरा अहमद या वेळोवेळी व नियमित मार्गदर्शन करत असतात.

तसेच युवती सभेअंतर्गत महाविद्यालयातील विद्यार्थीनींना स्वयंसिद्धा अभियानांतर्गत योगासन, कराटे व स्त्री सौंदर्य यांची व्याप्ती समजावून सांगितली व त्यासाठी महाविद्यालय घेत असलेल्या उपक्रमाची माहिती दिली.

प्रा. संगिता पिंपरे
युवती सभा अध्यक्ष

९६ | प्रेरणा | २०१८-१९





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Prof. V. S. Shrivastava
Principal

YUVATI SABHA

REPORT

1. Title of Event: INAURATION OF YUVATI SABHA

Date: 11/03/2019

2. Introduction of the event: Our Nandurbar Taluka Vidhayak Samiti's G.T.Patil Art's, Commerce and Science College, Neharu Study Centre organizes an essay competition on "My Contribution in Clean Campaign " and debate competition on "Women Empowerment" for girls personality development n this academic year. The coordinator Vice-Principal Dr. M. J. Raghuwanshi was addresses the students about competition and benefits of this competition in their life skills. Many students participates and they share their views about women safety. Also students explain many interesting working model about cleanness. Total 35 students are present for debate competition and 20 students participate in essay competition. Rohini Patil secured first rank, Nikita Patil secured second rank and Kalyani Kalkate secured third rank in Essay Competition. Komal Chaudhair secured First rank, Vrushali Patil secured second rank and Kalyani Kalkate secured third rank in Debate Competition. Dr. Vijaya Patil and Mrs. Shubhangi Devkar both worked as referee for both event.

Hon. Principal Dr. V. S. Shrivastava was chief Guest for this program, Dr. S. A. Ahemad , Mrs. S. B. Pimpare are all other member present for this programmed.

3. Duration: one day.

4. Place: VLC Hall GTP College, Tal-Dist- Nandurbar.

**5. Inaugurator/Chief Guest: Principal Dr. V. S. Shrivastava and
Dr. M. J. Raghuwanshi**

6. Attendees: 103.



(Prof. Dr. V. S. Shrivastava)

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YUVATI SABHA

Photos



लेकमत 11-3-19



जीटीपी महाविद्यालयात वक्तृत्व स्पर्धा

नंदुरबार, ता. ११ : नेहरू युवा केंद्र व नेहरू स्टडी सेंटरतर्फे येथील जी. टी. पाटील महाविद्यालयात स्वच्छता अभियानांतर्गत 'स्वच्छता अभियानात माझे योगदान' या विषयावर निबंध व 'महिला सबलीकरण' या विषयावर वक्तृत्व स्पर्धा घेण्यात आली.

सेंटरचे संचालक उपप्राचार्य डॉ. महेंद्र रघुवंशी अध्यक्षस्थानी होते. निबंध स्पर्धेत ३५ तर वक्तृत्व स्पर्धेत २० स्पर्धकांनी स्पर्धकांनी भाग घेतला. निबंध स्पर्धेत रोहिणी पाटील प्रथम, निकिता पाटील द्वितीय, कल्याण कळकटे तृतीय आली. वक्तृत्व स्पर्धेत कोमल चौधरी प्रथम, वृषाली पाटील द्वितीय, कल्याणी कळकटे तृतीय आली. विजयी स्पर्धकांना मान्यवरांच्या हस्ते स्मृतीचिन्ह व प्रमाणपत्र देण्यात



नंदुरबार : नेहरू युवा केंद्रातर्फे झालेल्या स्पर्धेतील विजेत्यांना बक्षीस देताना प्रा. शुभांगी देवकर. शेजारी उपप्राचार्य डॉ. महेंद्र रघुवंशी.

आले. प्रा. डॉ. विजया पाटील व प्रा. शुभांगी देवकर यांनी परिक्षण केले. महिला दिनानिमित्त महाविद्यालयात प्रा. डॉ. विजया पाटील, प्रा. शुभांगी देवकर, प्रा. एस. आर. पाटील, प्रा. के. बी. दवे यांचा सत्कार करण्यात आला. प्रा. डॉ.

विजय चौधरी, प्रा. डी. बी. देवरे, प्रा. ए. ए. अहिरे, प्रा. उपेंद्र धगधगे, प्रा. धनंजय पाटील उपस्थित होते. नेहरू स्टडी सेंटरचे सहाय्यक संचालक प्रा. डॉ. माधव कदम यांनी सूत्रसंचालन केले. प्रा. डॉ. मनोज शेवाळे यांनी आभार मानले.

२५-५-१९ १२-३-१९

शुक्रवार १२-३-१९



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Prof. V. S. Shrivastava
Principal

YUVATI SABHA

REPORT

1. Title of Event: INAURATION OF YUVATI SABHA

Date: 02/02/2020

2. Introduction of the event: Our Nandurbar Taluka Vidhayak Samiti's G.T.Patil Art's, Commerce and Science College organizes girls personality development programme in every academic year. In this academic year 2019-20 the Yuvati Sabha's inaugural function held on 02nd Feb. 2020 by **Mrs. Ratna C. Raghuwanshi** (Mayor, Nandurbar Municipal Corporation) and **Mrs. Kavita Manoji Raghuwanshi**. A guest lecture was organized for the overall development of girls students. The guest lecture was delivered by Deputy Collector Nandurbar **Shrimati Vasumana Pant** In her speech she guided to girls students. She said that there is a dire need of the personality development of the girls to overcome the challenges of the life. Girls should know herself, they must have positive attitudes. She also said that the women is the backbone of the society. Without girls we cannot imagine of the today's world. Education is one of the most powerful weapon with the help of it girls can progress herself she added in her speech. She interacted with girls students and gave answered to all questions raised by participants in the programme.

Hon. Principal Dr. V. S. Shrivastava , Vice-Principal Dr. M. J. Raghuwanshi, Programme Coordinator Dr. S. A. Ahemad , Mrs. S. B. Pimpare are all other member present for this programmed.

3. Duration: one day.

4. Place: VLC Hall GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: **Mrs. Ratna C. Raghuwanshi** and
Mrs. Kavita Manoji Raghuwanshi

6. Attendees: 95.



(Prof. Dr. V. S. Shrivastava)

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Principal

YUVATI SABHA

Photos

युवती सभा

शैक्षणिक वर्ष २०१९-२० च्या युवती सभेचे उद्घाटन सौ. रत्नाताई चंद्रकांत रघुवंशी व कविताताई मनोजभैर्या रघुवंशी यांच्या हस्ते दि. ०६.०८.२०१९ रोजी झाले. युवती सभा मार्फत दि. ०६.०२.२०२० रोजी उपजिल्हाधिकारी श्रीमती वसुमना पंत यांच्या प्रमुख उपस्थितीत विद्यार्थ्यांसाठी मार्गदर्शन कार्यक्रम आयोजित करण्यात आला होता. यावेळी युवती सभा प्रमुख डॉ. समीरा अहमद यांनी प्रास्ताविक केले. प्रा. संगीता पिंपरे यांनी सूत्रसंचलन केले. डॉ. विजया पाटील यांनी अध्यक्षीय समारोप केला. प्रा. संगीता पिंपरे यांनी सूत्रसंचालन केले. डॉ.

विजया पाटील यांनी अध्यक्षीय समारोप केला. प्रा. जयश्री नायका यांनी आभार मानले. प्रा. शुभांगी दुर्तोडे यांनी कार्यक्रम यशस्वी करण्यासाठी साहाय्य केले. प्रा. दवे, ममता पाटील, मीना पाटील उपस्थित होत्या. महाविद्यालयाचे प्राचार्य डॉ. व्ही.एम. श्रीवास्तव, उपप्राचार्य डॉ. महेंद्र रघुवंशी, प्रा. शेवाळे सर यांनी कार्यक्रमाला शुभेच्छा दिल्या.

डॉ. समीरा ए. अहमद

युवती सभा अध्यक्षा





Nandurbar Taluka Vidhayak Samiti's
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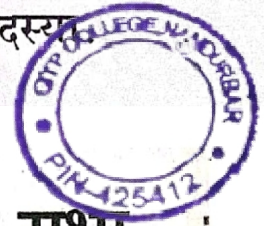
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YUVATI SABHA



युवती सभेत मार्गदर्शन करतांना सहाय्यक जिल्हाधिकारी
श्रीमती वसुमती पंत व युवती सभा समिती सदस्य



जी.टी.पाटील महाविद्यालयात युवती सभा



नंदुरबार । दि.१६। प्रतिनिधी

येथील जी.टी.पाटील महाविद्यालयात युवती सभाअंतर्गत कार्यक्रमाचे आयोजन करण्यात आले होते. उपजिल्हाधिकारी श्रीमती वसुमती पंत यांच्या उपस्थितीत कार्यक्रम झाला.

यावेळी विद्यार्थिनींना मार्गदर्शन करताना त्यांनी आत्मविश्वास, जिद्द, चिकाटी, सुसंवाद साधण्याची कला, महिलांचे सामर्थ्य यांच्या साहाय्याने आपले ध्येय कसे पूर्ण करता येते ते स्वानुभवातून विद्यार्थिनींना सुमधुरतेने पटवून दिले. यावेळी युवती सभा प्रमुख डॉ.समीरा अहमद यांनी प्रास्ताविक केले. प्रा.संगीता पिंपरे यांनी सूत्रसंचालन केले. डॉ. विजया पाटील यांनी अध्यक्षीय समारोप केला. प्रा.जयश्री नायका यांनी आभार मानले. प्रा. शुभांगी दुर्तोडे यांनी कार्यक्रम यशस्वी करण्यासाठी साहाय्य केले.



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Principal

YUVATI SABHA

REPORT

In this academic year 2020-2021 due to COVID-19 Pandemic, College was completely shut down. Only teachers are allowed time to time as per guideline issued by higher authorities. No students are allowed in campus.

So no any programmed was conducted in this year. All members guided girl's students time to time by telephonic communication or video calls etc.



V. S. Shrivastava
PRINCIPAL
G. T. Patil College
Nandurbar

REPORT



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Prof. V. S. Shrivastava
Principal

YUVATI SABHA

1. Title of Event: INAURATION OF YUVATI SABHA

Date: 03/01/2022

2. Introduction of the event: Our Nandurbar Taluka Vidhayak Samiti's G.T.Patil Art's, Commerce and Science College celebrated Krantijyoti Savitribai Phule punyatithi on 03rd January 2022, she was a prominent social reformer, educator, and poet who dedicated her life to the upliftment of women and oppressed classes in India. The day is a reminder of the courage, resilience, and commitment of one of India's most remarkable women and serves as an inspiration for future generations to carry forward her vision of an equitable and just society. On this occasion Hon. Prin. M. J. Raghuwanshi was present and he share the importance of girls education. Yuvati Sabha and Women Cell both are actively participate in this event.

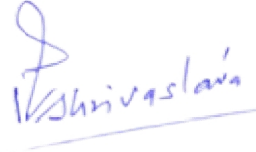
3. Duration: one day.

4. Place: GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: Hon. Prin. M. J. Raghuwanshi

6. Attendees: 35




(Prof. Dr. V. S. Shrivastava)
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Principal

YUVATI SABHA



क्रांतीज्योती सावित्रीबाई फुले यांच्या जयंतीनिमित्त अभिवादन
करतांना उपप्राचार्य डॉ. एम.जे. रघुवंशी व प्राध्यापक वृंद.



नंदुरबार : जी. टी. पाटील महाविद्यालयात सावित्रीबाई फुले यांच्या प्रतिमेचे पूजन करून
अभिवादन करतांना उपप्राचार्य डॉ. महेंद्र रघुवंशी, प्रा. ए. के. शेवाळे, प्रा. सविता पटेल आदी.

स्तकांक 4-1-19

REPORT



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Principal

YUVATI SABHA

1. Title of Event: INAURATION OF YUVATI SABHA

Date: 08/03/2019

2. Introduction of the event: Our Nandurbar Taluka Vidhayak Samiti's G.T.Patil Art's, Commerce and Science College celebrated International Women's Day on 08th March 2019 to recognize the achievements and contributions of women in various fields and to promote gender equality. The day is observed globally, and different organizations and communities organize events to celebrate women's achievements and address gender-related issues. The celebration of International Women's Day serves as a reminder of the progress made towards gender equality and the challenges that still exist. It also provides an opportunity to reaffirm the commitment to promoting women's rights and empowerment and working towards a more equitable and just society. On this occasion Hon. Prin. M. J. Raghuwanshi was present and he share the importance of girls education. Yuvati Sabha and Women Cell both are actively participate in this event.

3. Duration: one day.

4. Place: GTP College, Tal-Dist- Nandurbar.

5. Inaugurator/Chief Guest: Hon. Prin. M. J. Raghuwanshi

6. Attendees: 42



(Prof. Dr. V. S. Shrivastava)

PRINCIPAL
G.T.Patil College
Nandurbar

Photos



Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR - 425412

NAAC ACCREDITED 'A' GRADE
(Affiliated to KBC North Maharashtra University, Jalgaon)

Prof. V. S. Shrivastava
Principal

YUVATI SABHA



जागतिक महिलादिनी महिला गौरव समारंभ प्रसंगी महाविद्यालयाचे
प्राचार्य डॉ. व्ही.एस. श्रीवास्तव, उपप्राचार्य डॉ. एम.जे. रघुवंशी,
कनिष्ठ महाविद्यालयाचे उपप्राचार्य प्रा. एन.जे. सोमाणी व प्राध्यापिका.

Blood Donation Camp (Activity)





Nandurbar Taluka Vidhayak Samiti's
G. T. PATIL ARTS COMMERCE AND SCIENCE COLLEGE,
NANDURBAR – 425412
NAAC ACCREDITED 'A' GRADE



Dr. A. R. Bhuyar
NSS Program Officer

National Service Scheme

Prof. V.S. Shrivastava
Principal

1. **Title of Event:** Blood Donation Camp

Date: 19/12/2020

2. **Introduction of the event:** The NSS department organised one day Blood Donation Camp at the Gymnasium Hall. The camp was inaugurated by the district collector Dr. Rajendra Bharud and the vice chairman of NTVS Hon. Shri Chandrakantji Raghuvanshi on the occasion of Late Dadasaheb Batesingh Raghuvanshi death anniversary. The collected blood bags were 200 in total and handed over to the Civil Hospital, Nandurbar. Hon. Shri Rajendra Raghuvanshi director of NTVS, Dr V S Shrivastava Principal G T Patil College, Dr M J Raghuvanshi Vice Principal were present for the event.

3. **Duration:** One day.

4. **Place:** Gymnasium Hall, G T Patil College Nandurbar

5. **Inaugurator/Chief Guest:** Dr. Rajendra Bharud, Hon. Shri Chandrakantji Raghuvanshi

6. **Attendees:** 200

7. **Particular activity:** Blood donation

8. **Social inclusion/alliance:** The host college, NSS Department.

9. **Message to society:** It is necessary to donate blood as there is always scarcity of blood. This is a practice that students can participate and they can perform social contribution.

10. **Concluding Remarks:** It is a fruitful event that a good number of bags are handed over to the Civil Hospital.


Program Officer
National Service Scheme
G.T.Patil College, Nandurbar




PRINCIPAL
G.T.Patil College
Nandurbar



REDMI NOTE 9 PRO
SORT BY UMESH MALI

2020/12/19 12:27

लोकनेते दादासाहेब बटेशिंह रघुवंशी स्मृतिदिनानिमित्त विविध कार्यक्रम संपन्न २०० जणांचे रक्तदान

जीटीपी महाविद्यालयात मोफत स्पर्धा परीक्षा मार्गदर्शन केंद्राचे उद्घाटन

■ नंदुरबार । दि.१९। प्रतिनिधी

येथील माजी आमदार कै.बटेशिंहभैर्या रघुवंशी यांच्या स्मृतिप्रीत्यर्थं नंदुरबार या दुर्गम व आदिवासी भागातील विद्यार्थ्यांना शासकीय सेवेमध्ये समान संधी उपलब्ध

व्हावी या हेतूने नंदुरबार तालुका विधायक समितीचे गजमल तुळशीराम पाटील महाविद्यालयात मोफत स्पर्धा परीक्षा मार्गदर्शन केंद्राचे उद्घाटन जिल्हाधिकारी डॉ.राजेंद्र भारूड यांच्या हस्ते करण्यात आले.

कार्यक्रमाच्या अध्यक्षस्थानी माजी आ.चंद्रकांत रघुवंशी होते. कै. बटेशिंहभैर्या रघुवंशी यांनी आपल्या आयुष्यात अनेक सामाजिक उपक्रम राबविले. त्यांच्या स्मृतिदिनी सामाजिक उपक्रम म्हणून नंदुरबार जिल्हातील विद्यार्थ्यांना प्रोत्साहित करण्यासाठी स्पर्धा परीक्षेची प्रथम चाचणी परीक्षा घेण्यात आली. त्यात प्रथम तीन विद्यार्थ्यांना स्मृतिचिन्ह व रोख बक्षीस देऊन सन्मानित करण्यात आले. यावेळी डॉ.राजेंद्र भारूड यांनी

स्पर्धा परीक्षेमध्ये यश मिळवण्यासाठी आवश्यक असलेल्या बाबींवर प्रकाश टाकला. त्यांनी अनेक उदाहरणे दिली ज्यामुळे विद्यार्थ्यांना स्पर्धा परीक्षेची तयारी करण्यासाठी प्रोत्साहन मिळाले. विद्यार्थ्यांना प्रश्नोत्तराच्या माध्यमातून विद्यार्थ्यांच्या शंकाही

शिबिरात संस्थेचे संचालक माजी आमदार चंद्रकांत रघुवंशी यांच्या आवाहनाला प्रतिसाद देऊन विविध संस्थांचे कार्यकर्ते यांनीही रक्तदान केले. तर संस्थेच्या वतीने विविध शाखांच्या शिक्षक-शिक्षकेतर कर्मचारी, विद्यार्थी वर्ग यांनी स्वच्छेने

रक्तदान केले. यावेळी २०० जणांनी रक्तदान केले. सोबतच जी.टी.पाटील महाविद्यालयातील राष्ट्रीय छात्र सेना, राष्ट्रीय सेवा योजना, विद्यार्थी कल्याण व क्रीडा विभागाच्या विद्यार्थी स्वयंसेवकांनी रक्तदान शिबिरात आपला सहभाग नोंदविला. संस्थेचे चेअरमन मनोज रघुवंशी, सरचिटणीस यशवंत पाटील, नगराध्यक्ष रत्नाताई रघुवंशी, झेंदिरा महिला सहकारी बँकेच्या अध्यक्षा कविताताई रघुवंशी, जिल्हा परिषदेचे उपाध्यक्ष अॅड.राम रघुवंशी, नगरसेवक किरण रघुवंशी, यशवर्धन रघुवंशी,

प्राचार्य, संस्थेचे समन्वयक, माजी प्राचार्य डॉ. एम.एस.रघुवंशी, प्राचार्य डॉ.व्ही.एस.श्रीवास्त्व, उपप्राचार्य डॉ.आर.कासार, उपप्राचार्य डॉ. एम.जे.रघुवंशी, जिपी महाविद्यालयाचे प्राचार्य डॉ.एन.डी.चौधरी, शिक्षणशास्त्र महाविद्यालयाचे

प्राचार्य डॉ.मुकेश रघुवंशी, प्राचार्य पुष्पेन्द्र रघुवंशी, उपप्राचार्य प्रा.एन. जे. सोमानी यांच्यासह राष्ट्रीय छात्रसेनाअधिकारी डॉ.विजय चौधरी, राष्ट्रीय सेवा योजनेचे जिल्हा समन्वयक डॉ.माधव कदम, राष्ट्रीय सेवा योजना

कार्यक्रम अधिकारी डॉ.अमोल भुयार, सहाय्यक कार्यक्रम अधिकारी डॉ.दिनेश देवने, विद्यार्थी कल्याण अधिकारी डॉ.माधव वाघमारे, क्रीडा संचालक डॉ.तारक दास, विविध शाखांचे प्राचार्य, मुख्याध्यापक शिक्षक व शिक्षकेतर कर्मचारी यावेळी मोठ्या संख्येने उपस्थित होते. याप्रसंगी महाविद्यालयातील विविध समितींचे प्रमुख डॉ.विजया पाटील, डॉ.शामराव वायसे, डॉ.सतीश सूर्य, डॉ.सुलतान पवार, डॉ. विनोद सोमकुवर व सहकाऱ्यांनी परिश्रम घेतले.







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Prof. V. S. Shrivastava
Principal

Email: gtpcollege@rediffmail.com
Ph: 2564-222293
Website: ntvsgtpcollege.org

Policy on Environment and Energy Usage

BACKGROUND:

It is indispensable to provide a protection to our environment from the pollution caused by the foolish power consumption. As a part of environmental strategy, the NTVS's G. T. P. Arts, Science and Commerce College, Nandurbar is dedicated toward sensible energy uses and shall practice energy efficiency throughout all the College utilities, premises, library, Gymnasium, health club, fitness center, Hostels, departments, and laboratories etc. by improving the cost effectiveness, adeptness and working conditions in the College.

OBJECTIVES:

NTVS's G. T. P. Arts, Science and Commerce College, Nandurbar have long term objectives to reduce the fossil fuel driven power consumption and enhance the use of renewable powered appliances; to migrate on the renewable powers to control the pollution and restrain the climate change effects. College is aiming to significant cut-down its energy consumption up to 2030. To achieve this goal the work has been progressed in order to advance the use of more energy efficient accessories at the common utilities.

PROPOSED ACTIONS ON ENERGY CONSERVATION:

- **Energy Audit:**

The consistent energy audit will be accomplished in the various establishments of the College, in order to have an accurate data regarding to the power consumption. In addition to that, auditor will identify the power leakage points, and as per auditors' suggestions appropriate measures will be introduced for energy conservation.





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• **Replacement of electrical appliances:**

There is quite a large number of high power consuming electrical appliances have been installed in the College premises. All these appliances like ceiling fans, tube lights and cooling systems etc. will replaced by high rating energy efficient appliances in time bound program.

- To gain control over energy consumption by reviewing and improving the day-to-day practices.
- Regular energy audit is required.
- Replacement of all the ceiling fans by BLDC motor fans.
- Replacement of power consuming tube lights with LED tubes/bulbs.
- Power efficient cooling systems (five-star rating air conditioners, water coolers etc).
- Efficient utilization of roof tops of the College buildings to generate maximum solar power.

RESPONSIBILITIES:

- Constitution of committee responsible for ensuring efficient power savings.

ENVIRONMENTAL CONSERVATION:

- Operative solid and liquid waste management generated in various utilities of the College.
- Accompanying environmental awareness programs in the nearby area of College.
- Advancement of ecofriendly performs viz. paperless office, rainwater harvesting, no vehicle day etc. for environmental protection.
- Active participation of NSS volunteers in water conservation and environmental protection activities.
- Celebration of World Environmental Day/World Water Day/Earth Day to inculcate the awareness among the students to become environmental conscious citizen of India.
- Vermi-composting of garden waste generated on the College campus.




(Prof. Dr. V. S. Shrivastava)
Principal
PRINCIPAL
G.T. Patil Arts, Commerce &
Science College
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Ph: 2564-222293
Website: ntvsgtpcollege.org

“Environmental Policy”

“The Earth has enough resources for our need but not for our greed.”
Mahatma Gandhi

Everything in the nature is as such created by the vital force that we called God and is dynamic by instinct. To our delight, it has an exceptional abilities of self-purification and it is the very essence of its ability to sustain life. It has also been noted that the term culture, it is the only manmade part of nature. Our ancestor has significant efforts to set culture and nature are in dynamic equilibrium with each other. Today, the modern materialistic civilization is highly technology based. These technological developments have had their own impacts on the health of the environment, and the excessive exploration of the environmental resources are responsible for the deterioration of our environment. In addition to that, lack of sustainability is the darker aspects of technological development. The NTVS's G. T. Patil college has recognized the importance of environmental protection and sustainability and has left no stone unturned in implementing these aspects in the campus life as well as making the students and staff aware and trained in these aspects. The institute has a meticulously designed robust environmental policy. The policy aims to conserve natural environment, develop sustainable solutions, innovations and start-ups, promote rural technologies and control energy consumption in order. The ultimate purpose is to provide a green and eco - friendly ambience to the students and teachers which is conducive for academic transactions and leaves minimal foot prints of pollution.

The policy statement can be inscribed as follows:

- To build awareness among students about conservation of natural resources and development of sustainable environment for national prosperity.
- To facilitate development of technologies in rural India for inclusive growth
- To adopt fair ethical and environmentally friendly approach in every action.
- To help build up a society that has conservation-oriented attitude and exists in harmony with the nature.





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The objectives of the Environmental policy are summarized as follows:

- 1 To create awareness amongst students and staff about environmentally consistent technology as well as life style.
2. To adopt greener energy sources.
3. To harvest rain water and recharge the ground water.
4. Minimal pollution foot prints.
5. Maintaining greenery in premises to ensure teaching - learning friendly ambience.




(Prof. Dr. V. S. Shrivastava)
Principal
PRINCIPAL
G.T.Patil Arts, Commerce &
Science College
NANDURBAR - 425 412 (M.S.)



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Principal

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GENDER POLICY

NTVS's G. T. P. Arts, Science and Commerce College, Nandurbar committed for gender equality and equity. Institute believes that there should be no discrimination at all its services. This Gender policy has been framed to ensure that there is no gender-based discrimination in the institution. This also ensures gender equality and equity both at organizational as well as program level. The foundation for integrating a gender perspective in the activities of the college lies in the mandate of constitution of our country.

Scope

- A gender perspective incorporates the specific needs of individuals, vulnerabilities and capacities are recognised and issues are addressed at proper forums.

Objectives

- Reflecting the organisational commitment towards gender,
- Provide a framework for integrating gender concerns into the organisational agenda and policy domain,
- Creating equal opportunities and friendly atmosphere for all genders,
- Promoting equal representation of all genders,
- The gender policy is an integral part of the organisation in order to build a harmonious culture in the institute that understands the issues and policies which respect gender related concerns and diversity, and the gender issues are addressed at two levels :
 - Organisational level
 - Program level





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ORGANISATIONAL LEVEL

Prevention of sexual harassment:

An internal complaint committee is formed as per UGC guidelines which are in conformity with the verdict of Hon'ble Supreme court of India on Vishaka V State of Rajasthan and the special legislation on sexual harassment titled sexual harassment of women at workplace (Prevention, Prohibition, and redressal) Act, 2013. The committee shall function as provided in the guidelines of University Grants Commission (Prevention, Prohibition, and redressal of sexual harassment of women employees and students in higher educational institutions Regulation-2015), notification dated 2 May 2016.

Maternity and Paternity Benefit

Female staff members are entitled for 120 days paid maternity leave. Paternity leave (15 days) is paid leave given to male employee when a child is born.

Gender sensitive infrastructure

- Our institution makes all possible effort to have a gender sensitive infrastructure for all genders. There are separate washrooms for men and women. Separate girl's common room. College has installed sanitary napkin vending machines in girl's common room. CCTV surveillance for safety and security. Girls common room in the ground floor next to the staff room for safety.
- Equal opportunity for all to participate in all activities both intra and inter collegiate viz. co-curricular, extracurricular, sports etc.,
- Capacity building special measures shall be undertaken to facilitate staff capacity building processes and trainings to enhance clarity on gender issues, and
- Counselling Centre available over the first floor of the Administrative building with full time counsellor for personal counselling.





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PROGRAMME LEVEL

Academic program will address issues of gender in a responsible manner, and All Programmes of the organisation shall integrate the efforts for ensuring that all voices are heard at various forums.

Activities

The College conducts orientation programs, seminars, and workshops for gender sensitisation,

The gender equity cell conducts programs and identifies a student as a gender champion every year,

The college women development cell will conduct programs to address issues related to gender, like menstrual hygiene, premarital counselling, and legal rights of women. They will also organise programs to commemorate special days like Smt. Savitri bai Phule birth anniversary, international women's day,

The students as a part of extension activity will conduct street play to promote gender equity, Beti Padhao, Beti Bahao Abhiyan, No Dowry,

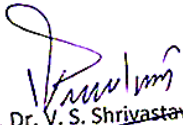
The college will associate with NGOS for gender sensitisation programs, and

Programs organised by counsellor on stress related issues, anger management, mental health.

Gender Audit

- The college will conduct gender audit to achieve the following objectives
- To find out areas where gender imbalance exists and factors behind it,
- To establish a robust gender balance in decision making processes in all areas of the college activities,
- Suggest corrective measures for bridging the gender gap,
- To foster gender equality in college campus, and
- To prevent sexual harassment in the premises.
- Empowered committees for proper implementation of gender policy
- Internal Complaint Committee (ICC),
- College women development cell,
- Vigilance squad, and
- Grievance redressal committees




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Prof. M. J. Raghuvanshi
M.A. Ph.D.
Principal

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Website: ntvsgtpcollege.org

Green Campus Policy

All the Teaching, Non-teaching staff and students are required to adhere to the green initiatives of our college:

- 1. Park your vehicles as per space allotted in the campus,**
- 2. Restricted entry of vehicles-vehicles of outsiders are not allowed,**
- 3. Observe every Thursday as “NO Vehicle Day”,**
- 4. Do not use plastic bags-use cloth or paper bags instead,**
- 5. Keep the lawns clean,**
- 6. Every Year plant trees within the campus as well as in the nearby communities, and**
- 7. Save energy in whatever way possible-switch off lights and fans of rooms while going out of the rooms.**



North Maharashtra University, Jalgaon

(NACC Re-accredited 'A' Grade University)

FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 301 Management Accounting

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the paper – Financial Analysis and Interpretation

Learning Objectives

This course aims at enabling students to –

1. understand the nature, mechanics and tools of management accounting and their managerial implications.
2. understand the philosophy and rationale of the financial analysis
3. understand the techniques of analysis and interpretation of financial statements
4. develop an appreciation about the utility of techniques of financial analysis for management information and decision making process.
5. evaluate the implications of cash flow and fund flow on financial position of an industrial organisation.

Required qualification

B.Com or other equivalent having previous knowledge of Accounting

Medium of Instructions

English

Instructions as to study and examinations

- a) This subject shall be studied in English medium.
- b) The question paper shall be set in English, and the students shall answer the paper in English medium only.
- c) Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Level of Knowledge

Working knowledge with application skill

Course Outcomes

By the end of the course the students will be better able to -

1. get the insight of the philosophy and framework of financial analysis.
2. know the important inter-linkages among the items in the financial statements
3. get equipped with the tools used in analysis, interpretation, and evaluation of performance, profitability and efficiency of the business entities
4. make an in-depth analysis of the financial performance and financial position of business entities, and get hands-on experience in financial analysis
5. equip themselves with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation.
6. pursue their career in the arena of accounting information system

Utilities

The management accountant will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to assist the management to get an in-depth insight of the financial performance and financial position of business so as to exercise effective control over the operations of business.

Course contents

UNIT 1 Introduction to Management Accountancy **Lectures 10**

- 1.1 Meaning, Nature, Scope and Significance of Accounting.
- 1.2 Merits and Demerits of Management Accounting
- 1.3 Financial Accounting, Cost Accounting and Management Accounting and their inter-relationship
- 1.4 Role / Functions of Management Accounting.
- 1.5 Tools and technique of Management Accounting
- 1.6 Management Accountant- His Functions/duties, Essential qualities he should possess

UNIT 2 Analysis and interpretation of financial statements (Conceptual framework) **Lectures 08**

- 2.1 Introduction, significance, advantages and limitation of financial statements.
- 2.2 Introduction to the Tools and techniques of financial analysis - Comparative financial Statement, Common-size Statements and Statements showing trend-analysis
- 2.4 Inter-firm comparison – requirements, advantages and limitation.
- 2.5 **Reporting to Management-** Objectives of reporting, reporting-needs at different managerial levels; Types of reports, modes of reporting, reporting at different levels of management. (Theory and practical problems with analysis and interpretation)

UNIT 3 Analysis and interpretation of Financial Statements I **Lectures 10**

- 3.1 Detailed study using the techniques of Comparative Financial Statements, Common-size Financial Statements, and Statements showing trend-analysis
- 3.2 Preparation of Comparative Financial Statements (Solving practical problems)
- 3.3 Preparation of Common-size Financial Statements, (Solving practical problems)
- 3.4 Preparation of Statements showing Trend (Solving practical problems)
[Advanced practical problems to be solved on these above topics, including their analysis and interpretation.]

UNIT 4 Analysis and interpretation of Financial Statements II **Lectures 12**

- 4.1 Ratio – Nature, interpretation, classification of ratios. (Detailed study using the techniques of Ratio analysis)
- 4.2 Advantages, role and limitations of Ratio analysis, Du-Pont Analysis
- 4.3 Computation of Ratios for study of Liquidity, Profitability, Activity / Turnover, Solvency of a company
- 4.4 Solving practical problems on preparation of Financial Statements of an organisation, from the given ratios and available information after finding out the missing figures.
[Advanced practical problems to be set on preparation of financial statements based on the given information about ratios and other details]

UNIT 5 Analysis and interpretation of Financial Statements III **Lectures 08**

- 5.1 Detailed study using the techniques of **Fund Flow analysis**
- 5.2. Concept and Meaning of Fund Flow Statement (FFS) or Statement of sources and application of funds
- 5.3 Significance, uses and limitations of Fund Flow Statement
- 5.4 Preparation of Fund Flow Statement – procedure for preparing FFS
- 5.5 Solving Practical Problems.
[Advanced practical problems to be set on preparation of Fund Flow statement, Schedule of changes in working capital, and related statements, based on the given information]

UNIT 6 Analysis of Financial Statements IV **Lectures 12**

- 6.1 Detailed study using the techniques of **Cash Flow analysis**
- 6.2. Concept and Meaning of Cash Flow Statement (CFS)
- 6.3 Significance and uses of Cash Flow Statement; Limitations of Cash Flow Statement
- 6.4 Difference between Cash Flow Analysis and Funds Flow Analysis
- 6.5 Preparation of Cash Flow Statement – procedure for preparing CFS as per the requirements of the Accounting Standard “AS-3 (Revised) - Cash Flow Statement” issued by the Institute of Chartered Accountants of India.

6.6 Solving Practical Problems using Direct method and Indirect Method

[Advanced practical problems to be set on preparation of Cash Flow statement using Direct method and Indirect Method as per the requirements of the Accounting Standard “AS-3 (Revised) - Cash Flow Statement”]

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1. Principles of Management Account – By S. N. Maheshwari, Sultan Chand and Sons
2. Management Account and Financial Control – By S. N. Maheshwari, Sultan Chand and Sons.
3. Advanced Cost And Management Accounting – By V. K. Saxena and C. D. Vashist, Sultan Chand and Sons.
4. Cost Accounting and Financial Management – By Ravi M. Kishore, Taxmann Pub. Pvt. Ltd.
5. Financial Management – By Dr R. M. Srivastava, Pragati Prakashan Meerut.
6. Financial Management Principles and Practice – By G. Sudarsana Reddy, Himalaya Publishing House
7. Financial Management – By P. V. Kulkarni, Himalaya Publishing House.
8. Cost and Management Accounting – By M. E. Thukaram Rao, New Age International (P) Ltd.
9. Management Accounting - M.Y. Khan & P.K. Jain – TMH

Additional References

- 1.- Anthony, Robert : Management Accounting, Tarapore wala, Mumbai
- 2.- Barfield, Jessie, Ceily A. Raiborn and Micheal R. Kenny : Cost Accounting, Traditions and Innovations, South Western College Publishing, Cincinnati, Ohio
- 3.- Decoster, Don T. and Elden L. Schater : Management Accounting, a decision emphasis, John Wiley and Sons Inc, New York
- 4.- Garrison, Ray.H and Eric W Noreen : Management Accounting, Richard D Erwin, Chicago
- 5.- Hansen, Don R and Maryanne M Morren : Management Accounting South Western College Publishing, Cincinnati, Ohio
- 6.- Homgran, C.T.Gary L.Sundem and William O Stratton: Introduction to Management Accounting, Prentice Hall, Delhi
- 7.- Homgren, Charles T George Foster and Srikant M Daliar: Cost Accounting, a managerial emphasis, Prentice Hall, Delhi
- 8.- Lall, B.M and I.C Jain: Cost Accounting: Principles and Practice, Prentice Hall, Delhi
- 9.- Pandey, I.M : Management Accounting, Vani Publication, Delhi
- 10.-Welsch Glenn A, Ronald W Hilton and Paul N Gorden: Budgeting, Profit Planning and Control, Prentice Hall, Delhi



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 302 Entrepreneurship & Project Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper - Entrepreneurship & Project Management

Learning Objectives

This course aims at enabling students to –

1. encourage and inspire the students to become an Entrepreneur.
2. acquaint the students with the challenges to start a new venture.
3. provide theoretical foundation for executing various projects.
4. highlight the support system for Entrepreneurship Development.

Required qualification

B.Com or other equivalent having previous knowledge of Commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

1. get the insight of the entrepreneurial motivation
2. know the important the challenges to start a new venture
3. get equipped with the tools used in making appraisal of the business projects to be started as an entrepreneur
4. equip themselves with the knowledge of regulatory role of government and the supporting institutions.
5. pursue their career as entrepreneurs

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to get the insight of the process of entrepreneurial development and to start their own business ventures.

Course contents

- 01. Introduction to Entrepreneurship & Entrepreneur** **Lectures 10**
- a) Entrepreneurship: a) Meaning, Concept and Definition – Nature
 - b) Entrepreneur: Concept and Definition – Functions - Pros and cons of being entrepreneur- Entrepreneurial competencies Objectives of a modern entrepreneur;
 - c) Entrepreneur’s risks- Entrepreneurial Motivation
- 02 Entrepreneurship Development** **Lectures 12**
- a) External Influences on Entrepreneurship Development- Socio-Cultural, Political, Economical and Personal - Corporate Entrepreneurship
 - b) Entrepreneurial Success and Failure: Reasons and Remedies.
 - c) Entrepreneurial ethics: Factors influencing Entrepreneurial Ethics
 - d) Entrepreneurial culture: Elements –Maintaining Entrepreneurial culture
- 03 Project Formulation and Project Implementation** **Lectures 10**
- a) Project: Meaning- Definition- Classification; Criteria for selecting a particular Project
 - b) Project formulation and Implementation: Meaning - Importance - Stages involved in project formulation and Implementation
- 04 Project Appraisal and Project Report** **Lectures 06**
- a) Project Appraisal: Meaning – Definition - Steps involved in project appraisal
 - b) Project Report: Meaning – Scope - Contents
- 05 Location of an Enterprise** **Lectures 10**
- a) Introduction, Need and Importance
 - b) Factors influencing Location Decision
 - c) Steps involved in enterprise location
 - d) Factors influencing the choice of a suitable form of Organization
- 06 Support system for entrepreneurship development** **Lectures 12**
- a) Role of Government : Regulatory role - Promotional role - Entrepreneurial role-Planning role
 - b) Role of Financial Institutions: IDBI, SIDBI, SFC, IFCI, Venture capital fund, Mutual fund
 - c) Role of other Supportive Institutions : EDII, SISI, NIESBUD, IIE, NI-MSME

References

1. G R Basotia; K K Sharma - Handbook of entrepreneurship development - Mangal Deep Publications, Jaipur.
2. . Gupta and Srinivasan - Entrepreneurial Development - New Delhi, Sultan Chand, 1992.
3. Bholanath Dutta, Entrepreneurship Management - Excel Books, New Delhi.
4. Vasant Desai, Entrepreneurial Development, Himalaya Publishing House, Mumbai
5. Vasant Desai- Dynamics of Entrepreneurial Development and Management- Himalaya Publications, New Delhi
6. Dr. C. B. Gupta & Dr. N. P. Srinivasan- Entrepreneurship Developments in India- Sultan Chand
7. Kuratko, D.F. & Hodgetts, R.M. (2009). Entrepreneurship: Theory, Process and Practice. Thomson Press
8. Charantimath, P. (2009). Entrepreneurship Development: Small Business Enterprises. Pearson References Books



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 303 Organisational Behaviour

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Study of Individual behaviour and group dynamics

Learning Objectives

This course aims at enabling students to –

1. get an overview of organizational behaviour and the challenges and opportunities
2. understand the concept of behaviour – individual and organizational Behaviour
3. know about perception, learning, attitude, values and emotions
4. gain knowledge of Motivation and Leadership and its various theories
5. acquire basic knowledge of organisational change and development

Required qualification

B.Com or other equivalent having previous knowledge of business management

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

1. analyze individual and group behaviour, and understand the implications of organizational behaviour on the process of management.
2. identify different motivational theories and evaluate motivational strategies used in a variety of organizational settings.
3. evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations.
4. describe and assess the basic design elements of organizational structure and evaluate their impact on employees.
5. explain how organizational change and culture affect working relationships within organizations.

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to judge the behaviour of employees as individual and as a group member in the business organisation, and will be able to understand interaction and relations between organisation and individual behaviour, so as to build motivating climate in the organisation.

Course contents

UNIT 1. Organisational Behaviour: An Overview

Lectures: 12

- 1.1 Concept and Definition of OB
- 1.2 Features, Scope and importance of O.B.
- 1.3 Approaches and Models of OB (Different models of OB i.e. autocratic, custodial, supportive, collegial and SOBC)
- 1.4 Historical Development of O.B.
- 1.5 Disciplines contributing to the field of OB
- 1.6 Organisational Design –Types – formal and informal structure; Bureaucratic structure; Boundary Less organisation; Flat and Tall structures; etc.
- 1.7 Organisational Culture and Organisational Climate – Concept, Types, Impact
- 1.8 Challenges and opportunities of OB

UNIT 2. Individual Behaviour

Lectures: 12

- 2.1 Meaning of IB
- 2.2 Factors influencing Individual Behavior
- 2.3 Determinants of Individual Behaviour
- 2.4 Personality: Determinates, Traits and Methods, nature
- 2.5 Perception: Concept, Perceptual Process, Factors influencing Perception– Internal & External and Causes of Perception Fail
- 2.6 Learning: Meaning and Definition, Principles, Theories
- 2.7 Attitude: Meaning & Definition, Types of Attitude, work related attitude, barriers to attitudinal change, attitude formation and attitude Change, measure to attitudinal change
- 2.8 Values: Meaning, Types
- 2.9 Emotions

UNIT 3. Group Dynamics and Group Behaviour

Lectures: 08

- 3.1 Group: Meaning and Definition and its importance
- 3.2 Importance and Advantages of group
- 3.3 Group Dynamics – Stages and Types
- 3.4 Factor Influencing Group Behaviour and Team Effectiveness

UNIT 4. Motivation and Leadership

Lectures: 10

- 4.1 Motivation – Meaning and Definition
- 4.2 Theories of Motivation – Maslow's Need Hierarchy, Herzberg's Two factor theory; Contemporary theories of motivation (ERG, Cognitive evaluation, goal setting, equity, Intrinsic Motivation Theory by Ken Thomas), expectancy model; Motivational Processes - Content Theories (Maslow, Herzberg, McClelland) – Process Theories (Adam, Victor, Vroom and Lawler and Porter) – Learning and Reinforcement Theory.
- 4.3 Application of Concept of Motivation – Motivational Practices and Job Satisfaction
- 4.4 Leadership – Meaning and Definition
- 4.5 Leadership Theories and Approaches (Traits) –Behavioural approach(Managerial Grid), Situational approach, – Contingency (Feilder, Path goal, Tri-dimensional – Inspirational approaches
- 4.6 Leadership Styles

UNIT 5. Power, Politics and Conflict

Lectures: 10

- 5.1 Power – Meaning and Definition
- 5.2 Characteristics of Power; Individual Versus Organisational Power
- 5.3 Sources (bases) of Power and Power tactics
- 5.4 Politics: Meaning and Definition
- 5.5 Types of organizational politics
- 5.6 Factors Influencing/contributing to Political Behaviour
- 5.7 Conflict: Meaning and Definition
- 5.8 Causes (sources) and Types
- 5.9 Conflict Management – Strategies for resolving destructive conflict

UNIT 6. Organizational Change and Organizational Development (OD)

Lectures: 08

- 6.1 Meaning of Change
- 6.2 Need for Change
- 6.3 Process of Change
- 6.4 Strategies to overcome resistance
- 6.4 Meaning and definition of Organizational Development
- 6.5 Phases of Organizational Development
- 6.6 Approaches to Organizational Development

References:

1. Bodhankar and Kanetkar: Organization Behavior, Sainath Prakashan
2. Fred Luthans: Organizational Behaviour, McGraw-Hill, New Delhi
3. K. Aswathappa: Organizational Behavior, Himalaya Publisher, New Delhi
4. K. Singh: Organizational Behaviour: Text and Cases, Pearson
5. Nelson & Quick: Organization Behavior, Cenage Learning
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7. Sharma VVS: OrganisationalBehaviour, Jaico Publication, Chennai
8. Shashi Gupta & Rosy: OrganisationBehaviour—Kalyani Publications, New Delhi
9. S.S. Khanka: Organization Behavior, S. Chand& Sons, New Delhi
10. Suja R. Nair: Organization Behavior, Himalaya Publications
11. Uma Sekaran: OrganisationalBehaviour: Text and Cases, Tata McGraw-Hill Publishing Co. Ltd., New Delhi
12. U. Pareek and S. Khanna: Understanding Organizational Behaviour, Oxford University Press



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 304 (A) Advanced Accounting

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper - Advanced functional aspects of auditing

Learning Objectives

This course aims at enabling students to –

1. understand the advanced aspect of auditing
2. understand the functional aspects of auditing
3. understand the Standards on Auditing on related topics
4. get conversant with the audit of computerised information system
5. prepare and draft the audit report

Required qualification

B.Com or other equivalent having previous knowledge of Auditing

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Working knowledge with application skill

Course Outcomes

By the end of the course the students will be better able to -

1. get the insight of the advanced aspect of auditing and skills required for various functional areas in the business field.
2. get the knowledge of the functional aspects of auditing requirements of business entities and non-business entities
3. know the framework of the Standards on Auditing on various related topics governing the auditing function
4. make an in-depth examination of the financial statements of business entities, using computerised accounting system
5. equip themselves with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation.
6. pursue their career in the profession of auditing

Utilities

The auditor will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to get the the insight of the advanced aspect of auditing and skills required for various functional areas in the business field within the regulatory framework.

Course contents

UNIT 1 Tax Audit

Lectures: 12

1. Concept of Tax Audit under section 44AB of the Income-tax Act, 1961; Features of Tax audit; Objectives of Tax audit;
2. Provisions, in brief relating to applicability of Tax Audit under Section 44AB of the Income-tax Act, 1961 for the Assessment year under study, alongwith other related sections of the Act and of the Income-tax Rules, 1962.
3. Reporting requirements of Tax audit – Form No 3CA, 3CB, 3CD – (Study of the clauses of these forms),and other related matter as may be prescribed under the Act
4. Income Computation and Disclosure Standards – Features of ICDS; Disclosure requirements of ICDS – (As applicable to the Assessment year under study) – Elementary study of –
 - ICDS - I relating to Accounting Policies;
 - ICDS - II relating to valuation of inventories;
 - ICDS - IV relating to revenue recognition;
 - ICDS - V relating to tangible fixed assets;
 - ICDS IX relating to borrowing costs;
 - ICDS - X relating to provisions, contingent liabilities and contingent assets

(For the purpose of study of provisions pertaining to Tax audit, the Academic Year of the examinations shall be the Assessment Year under Income tax Act, 1961)

UNIT 2 Standards on Auditing (SA)

Lectures: 12

1. Introduction to Auditing Standards; Need for Auditing Standards;
2. Standards setting process in India; Concepts of Engagement Standards and Quality Control standards; Nature and Scope of Standards on Auditing –
3. Elementary study of –
 - SQC1 - Quality control for Firms that perform audits and reviews of historical financial information and other assurance and related services engagement
 - SA 200 - Basic Principles Governing an Audit
 - SA 200A -Objectives and Scope of the Audit of Financial Statements
 - SA 250 (Revised) - Consideration of Laws and Regulations in an Audit of Financial Statements
 - SA 300 (Revised) - Planning an Audit of Financial Statements
 - SA 315 - Identifying and Assessing the Risk of Material Misstatement Through Understanding the Entity and its Environment
 - SA 520 - Analytical Procedures
 - SA 560 (Revised) - Subsequent Events

UNIT 3 Audit Committee and Corporate Governance under the Companies Act, 2013

Lectures: 06

1. Concept of Corporate Governance;
2. Verification of compliance of Corporate Governance.
3. Audit Committee: Its constitution; Powers of Audit Committee; CEO/CFO Certification to Board; Report on Corporate Governance.

UNIT 4 Information System Auditing (IS Auditing) -

Lectures: 10

1. Concept of Information System Auditing;
2. Objectives of Information System Auditing;
3. Need for Audit of Information Systems
4. Plan of Information System Audit
5. Information System Audit Process - Evaluation of adequacy of controls - Management Controls, Operational Controls, Organizational Controls, Application Controls
6. Steps involved in conducting IS Audit

UNIT 5 Management Audit**Lectures: 10**

1. Meaning, nature, objective, scope & importance
2. Merits and Limitation of management Audit
3. Difference between Management Audit and Statutory audit
4. Qualification, duties and role of the management auditor.
5. Drafting reports for managerial effectiveness.

UNIT 6 Audit report of Limited Companies –**Lectures: 10**

1. Nature of audit report, Importance of audit report
2. Contents of audit report –
 - Contents as required by the Companies Act, 2013 -
 - Contents as required by the Companies (Audit and Auditors) Rules, 2014
 - Contents as required by the CARO 2016 –
3. Nature of opinion expressed by the auditor in his audit report,
4. Notes on accounts / Notes to accounts, Requirements of the IAS-1 'Presentation of Financial Statements' as regards the Notes to Accounts
5. Distinction between notes and qualification
6. Elementary study of
 - SA 700 - The Auditor's Report on Financial Statements
 - SA 800 - Special Considerations- Audits of Financial Statements prepared in accordance with special purpose framework

References

1. Taxmann – Students' guide to Standards on Auditing by D. S. Rawat.
2. The Institute of Chartered Accountants of India: Standards on Auditing
3. George Koshi : Tax Audit Manual (Taxmann, New Delhi)
4. The Institute of Chartered Accountants of India "Guidance note on Tax Audit U/s 44 AB of the Income Tax Act"
5. T. V. Rao: HRD Audit, Sage Publications, New Delhi.
6. Dinkar Pagare: Principles and Practice of Auditing. Sultan chand and Sons, Educational Publishers New Delhi.
7. R. G. Saxena: Principles and Practice of Auditing. Himalaya Publishing House. New Delhi.
8. CA Final Study Module of Auditing published by the ICAI, New Delhi
9. Gordon Davis : Management Information System, TMH, New Delhi.
10. P. Mohar : Management Information System, HPH, New Delhi.
11. Elies Award : System Analysis & Design, Galgotia Publishers, New Delhi.
12. Uma G. Gupta : Management Information System, Galgotia Publ. New Delhi.
13. C.S.V. Murthy : Management Information System, HPH, New Delhi.
14. Taxmann's "Law & Practice Relating to Income Computation & Disclosure Standards", written by B.D. Chatterjee and Chintan N Patel
15. Taxmann's "Guide To Income Computation & Disclosures Standards" written by Srinivasan Anand
16. Income Computation and Disclosure Standards 2nd Edition - Ready Reckoner in Q & A format (English, Paperback), by CA (Dr) N. Suresh, publisher Bloomsbury India
17. E-Book on Income Computation and Disclosure Standards (ICDS) at: https://www.caclubindia.com/share_files/e-book-on-income-computation-and-disclosure-standards-icds--73148.asp
18. Standards on Auditing for CA Students by [Anshul Mittal](#), publisher Arya Publishing Company
19. Kamal Gupta : Contemporary Auditing, TMH – New Delhi.
20. Stettler Howord – Auditing Principles, PHI – New Delhi.
21. Saxena & Saravaravel – Practical Auditing – Himalaya Publishing House, Mumbai.
22. Saxena & Reddy – Essentials of Auditing - Himalaya Publishing House, Mumbai
23. B.N. Tondon: A Handbook of Practical Auditing
24. Stettler Howord – Auditing Principles, PHI – New Delhi.
25. L. K. Shukla – Auditing – Principles & Practice – Taxmann law's New Delhi.
26. Auditing by Vinod Kumar Agrawal & Abhishek Porwal – A. S. Foundation, Pune.



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 304 (B) Advanced Cost Accountancy

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Methods of Costing

Learning Objectives

This course aims at enabling students to –

1. understand the various methods of determining costs of goods produced and services rendered by different organizations.
2. prepare the costs accounts of various goods and services having regard to the nature their manufacturing processes.
3. compare the performance of a firm under traditional method and activity based costing method

Required qualification

B.Com. or other equivalent having previous knowledge of Accounting and Costing

Medium of Instructions

English

Instructions as to study and examinations

- a) This subject shall be studied in English medium.
- b) The question paper shall be set in English, and the students shall answer the paper in English medium only.
- c) Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Level of Knowledge

Working knowledge with application skill

Course Outcomes

By the end of the course the students will be better able to -

1. find out the cost of manufacturing goods by the manufacturing organisations and of providing services by the service organisations.
2. know the nature of process costing and the role of spoilage/scrap and rework and apply these concepts in practice
3. compare and apply cost allocation methods

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to find out the cost of manufacturing goods by the manufacturing organisations and of providing services by the service organisations, and to exercise effective control over the manufacturing operations of business.

Course contents

Unit 1. Single or Output Costing, Job Costing, and Batch Costing **Lectures 10**

- 1.1 Single or Output Costing and Job Costing – Meaning and features, Methodology used,
- 1.2 Advantages, Limitations of these methods of Costing,
- 1.3 Batch Costing – Meaning and features of Batch Costing, Economic Batch Quantity (EBQ)
- 1.4 Preparing Cost Sheets and Price Quotations for Jobs/ Batches, Computing Economic Batch Quantity
[Advanced practical problems on preparation of cost sheet and quotations using Single Costing, Job Costing and Batch Costing, EBQ]

Unit 2. Contract Costing **Lectures 12**

- 2.1 Contract Costing - Meaning and features of Contract costing, Methodology used in Contract Costing – Comparison of Job Costing and Contract Costing.
- 2.2 Special aspects of Contract Account: Work certified, Work uncertified, Treatment of Profit on incomplete Contract, Special Points in Contract : Cost Plus Contracts, Target-price contracts, Escalation Clause, Materials lost or destroyed
- 2.3 Advantages and Limitations of Contract Costing,
- 2.4 Refer AS-7 on Construction Contracts for issues of Accounting treatment - Percentage of Completion method, Completed contract method, provision for foreseeable losses, principles to be followed while taking credit for profit of incomplete contracts.
- 2.5 Preparing Contract Accounts with the important aspects including Work certified, Work uncertified, Treatment of Profit on incomplete Contract, Cost Plus Contracts, Target-price contracts, Escalation Clause, Materials lost or destroyed.
[Advanced practical problems on preparation of Contract Account and other related accounts]

Unit 3. Process Costing-I **Lectures 10**

- 3.1 Meaning and Features of Process Costing, Methodology used in Process Costing – Comparison of Job Costing and Process Costing
- 3.2 Advantages and Limitations of Process Costing
- 3.3 Special aspects of Process Costing: Normal Process Loss, Abnormal Process Loss, Abnormal Process Gain, Inter-Process Profits.

Unit 4. Process Costing-II **Lectures 10**

- 4.1 Concept of Equivalent Production - Methods of pricing used for valuing the equivalent units - First In First Out Method [FIFO]: Average Method: Weighted Average Method:
- 4.2 Preparing Process Cost Accounts with the important aspects including Normal Process Loss, Abnormal Process Loss, Abnormal Process Gain, Inter-Process Profits, Equivalent Production.
[Advanced practical problems on preparation of Process Cost Accounts, and other related statements and accounts]

Unit 5. Operating Costing / Service Costing **Lectures 12**

- 5.1 Meaning and Features of Operating costing - Methodology used in Operating Costing
- 5.2 Special aspects of Process Costing - Determination of Unit of Cost, Collection of costing data, cost Classification – Fixed Charges, Maintenance Charges, Running Charges –
- 5.3 Practical problems on preparation of Operating cost statement for Transport Service, Boiler house and Power-house services, Canteen Service, and Hospital Service
[Advanced practical problems on preparation of Operating Cost Sheet/ Statement, arriving at rate to be charged]

Unit 6. Cost Control, Cost Reduction & Productivity **Lectures 6**

- 6.1 Cost Control and Cost Reduction - Meaning, areas covered by cost reduction, tools essential for successful cost control, distinction between cost control and cost reduction.
- 6.2 Meaning of productivity, measurement of productivity, improving productivity
[Theory questions only]

References

1. Basics of Cost Accounting by V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
2. Cost Accounting – Problems and Solutions - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
3. Fundamentals of Cost Accounting by S N Maheshwari – Sultan Chand & Sons, New Delhi
4. Principles and Practice of Cost Accounting by N K Prasad
5. Cost Accounting by Jawaharlal – Tata McGraw Hill Publishing company Limited New Delhi
6. Practical Costing (Self-Tutor) by Gauri Shankar - Himalaya Publishing House, Mumbai
7. Cost & Management Accounting [For CS Inter] - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
8. Cost & Management Accounting [For Stage II of ICWA Inter] - V. K. Saxena and C. D. Vashist – Sultan Chand & Sons, New Delhi
9. Cost and Management Accounting (Theory Problems and Solutions) by M N Arora – Himalaya Publishing House, Mumbai
10. Cost Accounting by Ravi M Kishore - Taxmann Allied Services Pvt Ltd
11. A Text Book (with in-built Compiler) on Cost Accounting by S. K. Aggarwal, Abha Aggarwal – Reliance Publications Ltd, Gurgaon



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 304 (C) Human Resource Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Industrial relations, discipline and grievances

Learning Objectives

This course aims at enabling students to –

1. understand the value and importance of human resources in an organization.
2. become innovative in managing human resource aspects & Industrial Relations.
3. make the students aware about mechanisms of Industrial Dispute and friendly interventions to deal with employee-employer problems.
4. impart the students with the knowledge of laws & how law affects the industry & labour

Required qualification

B.Com or other equivalent having previous knowledge of business management.

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to –

- contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes.
- administer and contribute to the design and evaluation of the performance management program.
- develop, implement, and evaluate employee orientation, training, and development programs.
- facilitate and support effective employee and labour relations in both non-union and union environments.
- research and support the development and communication of the organization's total compensation plan.
- collaborate with others, in the development, implementation, and evaluation of organizational and health and safety policies and practices.
- research and analyze information needs and apply current and emerging information technologies to support the human resources function.

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to get the insight of industrial relations, statutory requirements relating to grievance settlement mechanism, and will be able to maintain the human resource related records.

Course contents

Unit 1. Introduction to Industrial Relations

Lectures- 10

- a) Meaning, Scope, Importance of Industrial Relations
- b) Approaches and Parties to Industrial Relations
- c) Causes for Poor Industrial Relations
- d) Developing Sound Industrial Relations
- e) Pattern and Policies Adopted in Industrial Relations in India
- f) International Labour Organization & Industrial Relations

Unit 2. Industrial Health and Safety Aspects

Lectures- 10

- a) Meaning and Importance of Health
- b) Occupational hazards and diseases, protection against hazards
- c) Statutory provisions concerning health in India
- d) Types and causes of accidents
- e) Meaning and importance of safety
- f) Safety measures / programmes
- g) Statutory provisions for industrial safety in India

Unit 3. Industrial Discipline and Grievances

Lectures- 10

- a) Meaning, Objectives and Types of Discipline
- b) Causes of indiscipline
- c) Guidelines of a disciplinary action
- d) Procedure of disciplinary action, Types of punishment
- e) Grievances- Meaning, Nature, Causes
- f) Grievance Procedure, Steps in grievance settlement

Unit 4. Settlement Machinery

Lectures- 10

- a) Mediation- Meaning, Types and Essentials of Mediation
- b) Conciliation- Meaning, Types, Preliminary steps towards Conciliation
- c) Conciliation Officer- Qualities and Role
- d) Conciliation procedure
- e) Arbitration- Meaning, Types and Procedure
- f) Adjudication- Meaning, Three tier system of adjudication

Unit 5. Human Resource Records, Audit and Research

Lectures- 10

- a) Human Resource Records- Meaning, Types, Importance
- b) Human Resource Audit- Meaning, Scope, Objectives and Process
- c) Human Resource Research- Meaning, Approaches and Process
- d) Human Resource Information system- Need, Uses, Designing, Limitations
- e) E-HR records, E-HR information, E-HR audit

Unit 6. International Human Resource Management

Lectures- 10

- a) Global recruitment, Global selection approach
- b) Types of International business, International adjustment, Cross cultural training
- c) Perspective of International HRM
- d) Practices in International HRM
- e) Women in International HRM
- f) Domestic HRM and International HRM- Compared

References

- 1) Human Resource Management by K. Aswathappa- Tata-McGraw Hill Publishing Co.Ltd.
- 2) Human Resource Management- text and cases by Dr. S.S. Khanka- S.Chand CompanyLtd.
- 3) Personnel and Human Resource Management by P. SubbaRao- Himalaya PublishingHouse
- 4) Essentials of Human Resource Management and Industrial relations by P.SubbaRao-Himalaya Publishing House
- 5) Human Resource Management by Anjali Ghanekar, Everest Publishing House

6) Human Resource Management by Dr. P.C. Pardeshi, NiraliPrakashan

7) Human Resource Management by R. Wayne Mondy, Robert M., Noe Publication



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 304 (D) Marketing Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Internet based Retailing

Learning Objectives

This course aims at enabling students to –

1. understand various concepts and theoretical aspect of internet marketing
2. know the mechanism of internet marketing
3. study the strategies of internet advertising

Required qualification

B.Com or other equivalent having previous knowledge of commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

1. get the insight of the philosophy and framework of internet marketing
2. know the important strategies of internet marketing and advertising
3. get equipped with the electronics tools used in promoting internet-based retailing

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to apply the strategies of internet marketing and advertising in practical life.

Course contents

Unit 1 Introduction

1. Concepts and Difference between: world wide web, Intranet, Extranet, Internet
2. Internet: Benefits, Limitations
3. Virtual Marketing: Concept, Importance

Lectures 08

Unit 2 E-Commerce	Lectures 10
<ol style="list-style-type: none"> 1. Concept, Definition, Development & Future of E-Commerce 2. Different Commercial Models: Vanity, Billboard, Advertising, Subscriptions, Storefront-sites 3. Diverse Roles of Websites 	
Unit 3 Factors Affecting Internet Consumer Behaviour	Lectures 08
<ol style="list-style-type: none"> 1. Internet Consumer Behaviour 2. Internet Branding: Internet and Relationships; 3. Internet and Brand Loyalty 4. Internet Communities 	
Unit 4. Internet Retailing:	Lectures 10
<ol style="list-style-type: none"> 1. Merchandising Process for e-retailers: Assortment, Planning, Pricing 2. The Product: Procedure for Payment, Physical Delivery 3. Online Shopping: Concept, Precautions in online shopping 	
Unit 5 Internet Strategy and Promotion:	Lectures 14
<ol style="list-style-type: none"> 1. Virtual Value Chain: Concept, Meaning, Definition, History 2. Intermediation; Concept, Elimination of Intermediaries 3. Transaction Cost Theory (TCT) 4. Internet Promotion: Classifications, Forms of Paid Advertising 5. Affiliation Marketing: Concept, Benefits, Methods, CPM & CPA 6. Model Pay per Click Publishers and distributors 	
Unit 6. Emerging issue & Development In International Marketing	Lectures 10
<ol style="list-style-type: none"> 1. Ethical and Social issues 2. International Marketing of Services 3. Information Technology and International Marketing, 4. Impact of Globalization and World Trade Organization. 	

References

- 1) Research for Marketing Decisions – Paul Green, Donald Tull, Gerald Albaurn
- 2) Marketing Research –Aakar, Kumar, Day
- 3) Marketing Research – Thomas C. Kinnear
- 4) Marketing Research – Nargundkar
- 5) Marketing Research – Measurement & Methods – Donald S. Tull, Del I. Hawkins
- 6) Marketing Research – Beri
- 7) Business Research Methods – Cooper
- 8) Marketing Research – Burns and Bush- Pearson
- 9) Marketing Research – Luck and Rubin – Prentice Hall Publications
- 10) Marketing Reserch – Rajendra Nargundkar – Tata McGraw Hill
- 11) Marketing Research by S.L. Gupta – Excel Books
- 12) Marketing Research – Suja Nair – Himalaya
- 13) Marketing Reserch by Ramanuj Majumdar- New age International
- 14) Marketing Research by D.M. Sarawte – Everest



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER III

Paper: 304 (E) Supply Chain Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Supply Chain design and management

Learning Objectives

This course aims at enabling students to –

- 1 understand the concept and role of SCM
- 2 understand the relationship of Network design in Supply Chain
- 3 know how to Demand Forecasting works in SCM.
- 4 describe Aggregate Planning in Supply Chain.
- 5 review Planning and Demand in Supply Chain

Required qualification

B.Com or other equivalent having previous knowledge of Commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

- identify how technology will redefine supply chain optimization
- examine best practices for supplier relationships
- discover how strengthened SCM drives improved inventory management and equipment reliability
- explore methods to capture data, processes and people
- build and sustain all stakeholder relationships
- review practical methods on making contracting more transparent
- leverage data analytics using business intelligence tools like Tableau, Cognos, etc
- transform your supply chain by leveraging the shift towards renewable energies
- apply a framework to your succession planning strategy to future fill your talent pipeline

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to analyze the manufacturing and selling operations of a firm, and to apply logistics and purchasing concepts to improve supply chain operations.

Course contents

- Unit 1. Designing Distribution Networks and Applications** **Lectures: 10**
- 1.1 The Role of Distribution in the Supply Chain
 - 1.2 Factors Influencing Distribution Network Design
 - 1.3 Design Options for a Distribution Network
 - 1.4 E-Business and the Distribution Network
 - 1.5 Distribution Networks in Practice
- Unit 2. Network Design in the Supply Chain** **Lectures: 10**
- 2.1 The Role of Network Design in the Supply Chain
 - 2.2 Factors Influencing Network Design Decisions
 - 2.3 Framework for Network Design Decisions
 - 2.4 Models for Facility Location and Capacity Allocation
 - 2.5 The Role of IT in Network Design
 - 2.6 Making Network Design Decisions in Practice
- Unit 3. Network Design in an Uncertain Environment** **Lectures: 10**
- 3.1 The Impact of Uncertainty on Network Design
 - 3.2 Discounted Cash Flow Analysis
 - 3.3 Representations of Uncertainty
 - 3.4 Evaluating Network Design Decisions Using Decision Trees
 - 3.5 AM Tires: Evaluation of Supply Chain Design Decisions Under Uncertainty
 - 3.6 Risk Management and Network Design
 - 3.7 Making Supply Chain Decisions Under Uncertainty in Practice
- Unit 4. Demand Forecasting in a Supply Chain** **Lectures: 10**
- 4.1 The Role of Forecasting in a Supply Chain
 - 4.2 Characteristics of Forecasts
 - 4.3 Components of a Forecast and Forecasting Methods
 - 4.4 Basic Approach to Demand Forecasting
 - 4.5 Time-Series Forecasting Methods
 - 4.6 Measures of Forecast Error
 - 4.7 Forecasting Demand at Tahoe Salt
 - 4.8 The Role of IT in Forecasting
 - 4.9 Risk Management in Forecasting
 - 4.10 Forecasting in Practice
- Unit 5. Aggregate Planning in a Supply Chain** **Lectures: 10**
- 5.1 The Role of Aggregate Planning in a Supply Chain
 - 5.2 The Aggregate Planning Problem
 - 5.3 Aggregate Planning Strategies
 - 5.4 Aggregate Planning Using Linear Programming
 - 5.5 Aggregate Planning in Excel
 - 5.6 The Role of IT in Aggregate Planning
 - 5.7 Implementing Aggregate Planning in Practice
- Unit 6. Planning Supply and Demand in a Supply Chain** **Lectures: 10**
- 6.1 Managing Predictable Variability
 - 6.2 Responding to Predictable Variability in a Supply Chain
 - 6.3 Managing Supply
 - 6.4 Managing Demand
 - 6.5 Implementing Solutions to Predictable Variability in Practice

References

- 1) Supply Chain Management- K Shridhar Bhatt- Himalaya Publishing House
- 2) Supply Chain Management- Sunil Chopra, Peter Mendl- Prentice Hall of India
- 3) Supply Chain and Logistics Management- Donal Bowersox, David Closs- Tata Macgraw Hill
- 4) Exploring the Supply Chain- Upendra Kachru, Excel Books
- 5) Supply Chain Management- D K Agrawal, Macmillan Publishers
- 6) Logistics Management- V. V Sople, Pearson Education
- 7) Supply Chain Management- Concept and Cases, Rahul V Altekar- Prentice Hall of India
- 8) Supply Chain Management- Janat Shah, Pearson Education



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 401 Management Accounting

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper - Financial Control and Decision making

Objectives

This course aims at enabling students to –

1. understand the concept and techniques of financial control used in management accounting
2. imbibe knowledge about the control techniques namely budgetary control and standard costing.
3. develop the skill to analyse the cost-variance for effective cost control.
4. familiarise with the concept, role, and utility of marginal costing, and its implications and utility for managerial decision making process.
5. acquaint themselves with the concept and significance of working capital and its implications in managing the funds.
6. familiarise with the concept, role, and utility of marginal costing, and its implications in decision making
7. provide necessary inputs in form of concepts, theories and appraisal techniques related to capital expenditure decisions, and develop an integrated approach to capital-expenditure decision-making process.

Required qualification

B.Com or other equivalent having previous knowledge of Accounting

Medium of Instructions

English

Instructions as to study and examinations

- a) This subject shall be studied in English medium.
- b) The question paper shall be set in English, and the students shall answer the paper in English medium only.
- c) Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Level of Knowledge

Working knowledge with application skill

Course Outcomes

By the end of the course the students will be better able to -

1. get the insight of the philosophy and techniques of cost control and decision making.
2. get equipped with the techniques of budgetary control and standard costing, and to familiarize with the macro as well as micro level techniques of cost control.
3. make an in-depth analysis of causes of variation in actual cost from the standard cost, and to decide on the necessary action so as to increase the efficacy of the business entities
4. get equipped with the ability to make managerial decision by applying the principles of marginal costing.
5. know the important inter-linkages among the components of working capital essential for smooth running of a business organization.
6. get the insight of an integrated approach to capital expenditure decision process and to apply their skills and knowledge effectively in future while dealing with the issues relating to capital expenditure.

7. prepare themselves with the ability to face intricacies in real life and to apply their skills and knowledge while dealing with real life business situation using the techniques of management accounting.
8. pursue their career in the field of managerial decision making and control.

Utilities

The management accountant will be equipped with the techniques of budgetary control, standard costing, marginal costing, and will be able to decide on capital expenditure projects, which will enable him to apply skills and knowledge effectively in dealing with real life business situation, and to assist the management to plan, control, execute the same for effective operation of business.

Course contents

UNIT 1 Budget & Budgetary control

Lectures 12

- 1.1 Meaning, definition of Budget and Budgetary Control.
- 1.2 Objective, advantages, limitations of Budgetary Control
- 1.3 Requirement of a sound budgetary control system
- 1.4 Types of budget –
 - 1.4.1 - According to time – (i) Long term budget (ii) Short-term Budget
 - 1.4.2 - According to function - (i) Sales Budget, (ii) Production Budget, (iii) Cost of Production Budget (iv) Purchase Budget, (v) Personnel Budget, (vi) Research Budget, (vii) Cash Budget (viii) Capital Budget, (ix) Master Budget
 - 1.4.3 - According to flexibility - (i) Flexible Budget (ii) Fixed Budget.
- 1.4 Solving practical problems on preparation of various types of budget from the given information
[Advanced practical problems to be solved on the above topics]

UNIT 2 Standard costing and variance analysis I

Lectures 08

- 1.1 Meaning of standard cost and standard costing
- 1.2 Objectives, Significance, Advantages, Limitation of standard costing
- 1.3 Types of standards, and setting of standards for elements of costs, Establishment of standard costing system
- 1.4 Difference between standard costing and budgetary control.
- 1.5 Computation and analysis of the following variances [Practical problems]
 - 5.5.1 Material Variances
 - 5.5.2 Labour Variances
 [Advanced practical problems to be solved on these above topics]

UNIT 3 Standard costing and variance analysis II

Lectures 08

- 1.1 Computation and analysis of the following variances [Practical problems]
 - 1.1.1 Variable Overheads Variances and Fixed Overheads Variances
 - 1.1.2 Sales Variances
- 1.2 Accounting for variances
[Advanced practical problems to be solved on these above topics]

UNIT 4 Marginal Costing (Theory & Practical Problems)

Lectures 10

- 1.1 Concept of Marginal Cost, Marginal Costing, Contribution, Variable Cost, Fixed Cost, Semi-Variable Cost, Margin of Safety, PV Ratio,
- 1.2 Features, Assumptions, Significance, and Limitations of Marginal Costing
- 1.3 Marginal costing and absorption costing
- 1.4 Break-even Analysis or Cost-Volume-Profit Analysis [CVP analysis], and applications of Marginal Costing – BEP, Break-even Chart, Angle of incidence, Key factor
- 1.5 Decision Making using marginal costing – Computation of BEP and Sales planning; Profitable Sales-mix; Exploring new markets; Introducing a new product; Alternative use of production facilities; Make or buy; Continue or Shut down; Pricing decision etc.
[Advanced practical problems to be solved on these above topics]

UNIT 5 Management of Working Capital

Lectures 10

- 1.1- Concept and definition of working capital; Types of working capital;
 - 1.2 - Significance of working capital; Factors determining working capital requirement; Sources of working capital
 - 1.3 - Components of working capital; Assessment of working capital needs - Calculating operating cycle period and estimation of working capital requirements
 - 1.4 - Financing of working capital and Maximum permissible bank finance as per the norms of bank finance – Tandon Committee recommendations
- [Advanced practical problems to be solved on management of working capital]

UNIT 6 Capital Budgeting decision

Lectures 12

- 1.1 Meaning and nature of capital budgeting, Importance of capital budgeting,
- 1.2 Study of nature, merits and demerits of methods of appraisal of Capital expenditures – Pay Back Period and its variants; Accounting rate of return; Discounted Cash Flow methods; Net Present Value, Internal Rate of Return; Profitability Index (Solving Practical Problems on these methods)
- 1.3 Capital Rationing

References

1. Principles of Management Account – By S. N. Maheshwari, Sultan Chand and Sons
2. Management Account and Financial Control – By S. N. Maheshwari, Sultan Chand and Sons.
3. Advanced Cost And Management Accounting – By V. K. Saxena and C. D. Vashist, Sultan Chand and Sons.
4. Cost Accounting and Financial Management – By Ravi M. Kishore, Taxmann Pub. Pvt. Ltd.
5. Financial Management – By Dr R. M. Srivastava, Pragati Prakashan Meerut.
6. Financial Management Principles and Practice – By G. Sudarsana Reddy, Himalaya Publishing House
7. Financial Management – By P. V. Kulkarni, Himalaya Publishing House.
8. Cost and Management Accounting – By M. E. Thukaram Rao, New Age International (P) Ltd.
9. Management Accounting - M.Y. Khan & P.K. Jain – TMH
10. Principal of Management accounting – Manmohan and Goyal
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Additional References

- 1.- Anthony, Robert : Management Accounting, Tarapore wala, Mumbai
- 2.- Barfield, Jessie, Ceily A. Raiborn and Micheal R. Kenny : Cost Accounting, Traditions and Innovations, South Western College Publishing, Cincinnati, Ohio
- 3.- Decoster, Don T. and Elden L. Schater : Management Accounting, a decision emphasis, John Wiley and Sons Inc, New York
- 4.- Garrison, Ray.H and Eric W Noreen : Management Accounting, Richard D Erwin, Chicago
- 5.- Hansen, Don R and Maryanne M Morren : Management Accounting South Western College Publishing, Cincinnati, Ohio
- 6.- Homgran, C.T.Gary L.Sundem and William O Stratton: Introduction to Management Accounting, Prentice Hall, Delhi
- 7.- Homgren, Charles T George Foster and Srikant M Daliar: Cost Accounting, a managerial emphasis, Prentice Hall, Delhi
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- 9.- Pandey, I.M : Management Accounting, Vani Publication, Delhi
- 10.-Welsch Glenn A, Ronald W Hilton and Paul N Gorden: Budgeting, Profit Planning and Control, Prentice Hall, Delhi



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 402 Modern Retail Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Management of modern retail stores

Learning Objectives

This course aims at enabling students to –

- 1) acquaint the students with the various concepts and theoretical aspect of retail management
- 2) introduce the most modern techniques and practices of retailing for employment opportunity
- 3) understand dynamics of modern organised retail trade

Required qualification

B.Com or other equivalent having previous knowledge of Commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

- get the insight of the theoretical aspect of retail management
- know the modern techniques and practices of retailing in India
- design the strategies and understand dynamics of modern organised retail trade

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to use his knowledge in the management of modern retailing organisations.

Course contents

Unit 1. Introduction to Retail Management

Lectures-8

- 1.1 Concept of Retailing and organized Retail
- 1.2 Scope and Importance of Retailing
- 1.3 Retail Management
- 1.4 Retail as a career in various sectors
- 1.5 Theory of Retail development
- 1.6 Recent Trends in Retailing: Modern Retail format, Mall System, etc
- 1.7 Consumerism and ethics in retailing

Unit 2. Retail in India**Lectures-8**

- 2.1 Development of Retailing in India
- 2.2 Rural Retailing and the size of retail in different sector in India
- 2.3 Importance of retailing in the Economy
- 2.4 Factors attracting global Retailers to India
- 2.5 FDI in Retailing in Indian Context
- 2.6 Challenges to retail development in India

Unit 3. Retail Management Strategy**Lectures-12****3.1 Retail Strategies**

- 3.1.1 Promotional Strategies
- 3.1.2 Retail Planning Process
- 3.1.3 Retail Market Segmentation

3.2 Relationship Marketing Strategies

- 3.2.1 CRM in Retailing
- 3.2.2 Retail Value Chain
- 3.2.3 Retail Life Cycle

3.3 Consumer Strategies

- 3.3.1 Consumer Behaviour in Retail Context
- 3.3.2 Buying Process
- 3.3.3 Customer Service as a part of Retail Strategy

Unit 4. Store location and store design**Lectures-10**

- 4.1 Store location
 - 4.1.1 Importance
 - 4.1.2 Types of Retail location
 - 4.1.3 Step involved in choosing a Retail location
- 4.2 Store design
 - 4.2.1 Concept & Elements of store design
 - 4.2.2 Steps involved in of store design
 - 4.2.3 Importance of store layout

Unit 5. Merchandise Management**Lectures-12**

- 5.1 Merchandise Planning
 - 5.1.1 The concept of merchandise planning
 - 5.1.2 Merchandise Planning Process
 - 5.1.3 Retail Branding, Merchandise Buying, Visual Merchandise
- 5.2 Category Management
 - 5.2.1 Concept of category management
 - 5.2.2 Reason for the Emergence of category management
 - 5.2.3 Process of category management
- 5.3 Retail Pricing
 - 5.3.1 Concept and Importance of Retail pricing
 - 5.3.2 Factors affecting the pricing decision
 - 5.3.3 Ethical issue in pricing

Unit 6. Application of Information Technology in Retail**Lectures-10**

- 6.1 Technologies: Application, Importance and Data Based Management System
- 6.2 E-Retailing: Format, Challenges, Green Retailing-Concept and Importance
- 6.3 Retail as a Career: Career options in retail, Responsibilities of Store Manager and Functions of Merchandise Manager

References

1. Retailing Management by Arif sheikh, kaneez Fatima- Himalaya publishing house
2. Fundamental of Retailing by Tata MC.Graw hill education pvt.Ltd.
3. Retailing Management by swapnapradhan Tata MC.Graw hill education pvt.Ltd
4. Retailing Environment and operation by Thomson learning
5. Retail Management Suja Nair-Himalaya publishing House
6. Gibson-G.Vedamni Third Edition (2008)



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FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 403 (A) Information System for Business

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Management of Information System for business

Learning Objectives

This course aims at enabling students to –

- develop conceptual understanding about latest developments in the field of Information Technology and the impact of I.T. in Managing a Business.
- learn to use Information Technology to gain competitive advantage in business
- develop students as Cyber Security experts, Information System Auditors.

Required qualification

B.Com or other equivalent having previous knowledge of computer and data processing

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to –

- analyze and model the flow of information through business processes.
- formulate plans and architectures for the capture, storage and retrieval of data.
- develop computer programs to support or automate business processes.
- apply networking concepts and technologies to support business needs.
- align information systems and services with business strategy and formulate plans for the retrieval and analysis of supporting data.
- document, monitor and assess the effectiveness of IT controls.

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to design and implement computerised information system for business with the required security measures.

Course contents

Unit 1. Introduction To Information Systems-I

Lectures 8

Introduction to Organization – Decision levels – Managerial roles – Information needs of Management Information System – Definition – Features – System concepts – Framework for Information Systems Strategic uses of Management Information Systems – Future of IS in an Organization – Business Process Reengineering.

Unit 2. Introduction To Information Systems-Ii

Lectures 10

Hardware – Input and Output devices – Computer Memory (Primary, Secondary & Cache) – Memory Access Time – File Structures – Network Components. Software – Operating System software – Application software – Groupware – Multiprogramming – Multi tasking.
Database – Definition -Data Capture – Data Integrity – Components of Database Management Systems.

Unit 3. Information Technology Infrastructure: Information Systems Architecture Lectures 9

Mainframe, Client Server, Web Based, Distributed, Grid, Cloud – requirements of Hardware and Software, Storage and Networking Devices – Networks Types - Topologies of Networks, Components of Cloud Computing Infrastructure

Unit 4. Management Of Information Systems

Lectures 8

Information Systems Security – Risks – Threats – Protection of Information Systems. Roles & Responsibilities of IS Professionals – Ethical issues, Management Issues in MIS: Information Security and Control - Quality Assurance -Ethical and Social Dimensions - Intellectual Property Rights as related to IT Services / IT Products

Unit 5. Digital Firm Perspective

Lectures 10

MIS Model for a digital firm, Organization structure for digital firm – e-Business Models and Applications – Mobile computing, Call Centres, BPO, Benefits of Digital firm, key features of a digital firm

Unit 6. Cyber Security For Business And Application Of Information Systems In Business Areas

Lectures 15

Cyber security for business- Introduction to Cyber Security-Concept, Impact of cyber attack on your business- Economic cost of cyber attack, Reputational damage, Cyber Crime and its effects on Business; Application of Information Systems at the Operational, Tactical & Strategic Levels in the areas of Accounting & Finance, Marketing, Human Resources and Production.

References:

1. Management Information Systems – The Manager’s View, Robert Schulthesis, Mary Summer. Tata Mc Graw Hill Publications
2. Management Information Systems – Gerald V Post David, L Anderson, Tata McGraw Hill.
3. Management Information Systems – Jaiswal S
4. Management Information Systems – O Brien, Tata Mc Graw Hill.
5. IT The Breaking Wave –Denis P Curtin.

6. MIS, - Managing the digital firm – Landon & Gendom, Pearson Prentice Hall.
7. O Brien, Introduction to IS, TMH. 8. Management Information System – Jaiswal & Mittal , Oxford University Press
8. Management Information Systems by Jaiswal and Mittal, Oxford University Press Decision Support Systems and Intelligent Systems by Turban and Aronson, Pearson Education Asia
9. Cloud Computing: Concepts, Technology & Architecture - Thomas Erl Hardcover
10. Cloud – G Sadmin



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FACULTY OF COMMERCE AND MANAGEMENT
M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 403 (B) Foreign Trade

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Management of Foreign Trade

Learning Objectives

This course aims at enabling students to –

1. understand the concept and Foreign Trade
2. know the international business environment.
3. study the India's Foreign Trade Policy.
4. know the concept of Foreign Collaboration and Joint Venture.
5. understand the International Strategic Alliances.
6. study the role of institutions towards foreign trade.

Required qualification

B.Com or other equivalent having previous knowledge of Commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to –

1. understand the concepts related to foreign trade transactions.
2. understands the importance of factors forming part of the export transactions.
3. make an analysis of the foreign trade policies of the country so as to exploit the opportunities of exporting goods to foreign countries.
4. equip themselves with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation.
5. get the insight of the International Strategic Alliances and the organisations supporting foreign trade.

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to exploit the possibilities of exporting goods to different countries within the framework of the foreign policies of the country.

Course contents

Unit 1. International Trade

Lectures: 10

- 1.1 Need and Importance of International Trade
- 1.2 Nature and Scope of International Business
- 1.3 Divers of International Business
- 1.4 Benefits of International Business
- 1.5 Globalization and International Trade

Unit 2. International Business Environment

Lectures: 10

- 2.1 Introduction and Concept
- 2.2 Internal and External Environment
- 2.3 Tools for Environment Analysis - PEST
- 2.4 Legal Environment for International Trade
- 2.5 Legal Frame work for Foreign Trade in India

Unit 3. India's Foreign Trade Policy

Lectures: 10

- 3.1 Foreign Trade Policy 2009-14
- 3.2 New Initiatives and Export Promotion
- 3.3 Import Policy and Control
- 3.4 Foreign Investment Policy
- 3.5 Policy Framework for FDI in India

Unit 4. Foreign Collaboration and Joint Venture

Lectures: 10

- 4.1 Foreign Collaboration
- 4.2 Examples of Foreign Collaboration
- 4.3 Features and Objectives of Foreign Collaboration
- 4.4 Foreign Collaboration in India
- 4.5 Reason for Forming a Joint Venture
- 4.6 Basic Elements of Joint Venture
- 4.7 Structure and Advantages of Joint Venture
- 4.8 Joint Venture Agreements

Unit 5. International Strategic Alliances

Lectures: 10

- 5.1 Nature and Scope of International Strategic Alliances
- 5.2 Alliance Development Process
- 5.3 Making Alliance Work
- 5.4 Economic Consideration for Strategic Alliances
- 5.5 ASEAN, SAARC, SAPTA, SAFTA

Unit 6. Institutional Support

Lectures: 10

- 6.1 United Nations and World Bank
- 6.2 International Monetary Fund
- 6.3 International Labour Organization
- 6.4 WTO- Functions, Objectives, Structure and Principals
- 6.5 UNCTAD, WIPO, UNIDO

References

- 9) International Business- K Aswathappa - Tata Macgraw Hill
- 10) International Business- Sonia Gupta - McGraw Hill Education Pvt.Ltd.
- 11) Basics of International Business- Neelankavil and Anoop Rai
- 12) International Business: Text and Cases- Francis Cherunilam, PHI Learning Pvt.Ltd.
- 13) International Business- Frank McDonald and Fred Burton, Thomson
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M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 403 (C) Corporate Social Responsibility

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper - Corporate Social Responsibility

Learning Objectives

This course aims at enabling students to –

1. understand the concept, philosophy and mechanics of Corporate Social Responsibility
2. know the provisions of the Companies Act, 2013 relating to the Corporate Social Responsibilities of companies in India.
3. know the concept of business ethics in relation to CSR.
4. study the relationships of stability and equality with stakeholders related to the company, mainly: shareholders, employees, providers, distributors, clients and society.
5. understand as to how the CSR aims at ensuring the companies conduct their business in an ethical way.

Required qualification

B.Com or other equivalent having previous knowledge of Management

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to –

- get the understanding of the philosophy and framework of Corporate Social Responsibility
- know the inter-linkages between the Society, the business houses and their corporate social responsibilities
- equip themselves with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation.

Utilities

The students will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to apply their knowledge in managing the business organisations within the framework of the CSR and the related guidelines, so as to improve the public image of the organisation.

Course contents

UNIT 1. CSR I	Lectures 12
1.1 Meaning, Concept, Definition, scope, 1.2 What is stakeholder Advantages to stakeholders (customers, Community, Employees, Shareholders, Vendors, Entrepreneurs, Managers, NGO, Govt officers, Bank) 1.3 Performance of above stakeholders toward CSR, stakeholder Theory. 1.4 Government's Special contribution to boost CSR	
UNIT 2. CSR and Companies Act 2013	Lectures 08
2.1 Provisions for CSR in companies Act 2013 2.2 Significance of CSR to sustainability of business, 2.3 Development of CSR in India CSR in foreign countries,	
UNIT 3. CSR and Governance	Lectures 12
3.1 Definition, Evaluation Need of CSR, 3.2 Theoretical perspectives, corporate citizenship, Business practices, 3.3 Evaluation of Governance, , It's practices and regulations structure and development of boards, 3.4 Role of Capital market and govt. Governance ratings, future of governance.	
UNIT 4. CSR II	Lectures 06
4.1 Various aspects of CSR- Responsibility, Accountability, of sustainability and social contract, 4.2 problems of CSR , Recent guidelines in CSR,	
UNIT 5. Triple bottom line in CSR- Corrol Model- CSR and Business environment-	Lectures 08
5.1 Legal, economical, philanthropical and environmental, 5.2 CSR and social entrepreneurship- meaning of S.E , characteristics, Role of S.E in CSR. 5.3 CSR and activities. – environmental performance Index. 5.4 Importance of environmental CSR initiative	
UNIT 6. Business Ethics in CSR. –	Lectures 07
6.1 Business ethics, meaning, Dep ⁿ , Government's special, contribution 6.2 Importance Of Business ethics in CSR, to boost CSR, corporate social entrepreneurship,	
UNIT 7. Green Industries –	Lectures 07
7.1 CSR and small micro and medium industries various CSR activities of corporate sector. 7.2 Business ethics- Meaning, Def ⁿ principles, Characteristics, 7.3 Importance of B.E. in CSR, 7.4 Corporate social entrepreneurship CSR and small, micro, medium industries.	

References:

1. A.C.Fernando (2006), Corporate Governance Principles, policies and practices, Pearson Education, Delhi.
2. Ahmad Ashfaq and Amna Khatoon (2013), Prevention of Environmental Degradation by Means of Solid Waste Management. Journal of Industrial Pollution Control, 29(1) (2013) pp1-6. EM INTERNATIONAL.
3. C.R. Kothari (2004), Research Methodology Methods and Techniques, New Age
4. International Publishers, New Delhi
5. Dr. Ankita Neeru (2011) Social Entrepreneurship and Corporate Social Responsibility, Signature Books International, Delhi.
6. Dr. Avirupa Dutta Chatterjee (2013), a Ph.D. Thesis on "A Study Of The Concept Of Sustainable Development & Its Implications On Corporate Social Responsibility: With Special Reference To Constitutional Mandate And Safeguarding Of Existing Environmental Resources"

7. Dr. Neeru Vasishth and Dr. Namita Rajput, Business Ethics and Values with Case Studies, Taxmann's Publications.
8. Dr. Sushma S. Patil and Prof. Nitin S. Kharche (March 2013) research paper of
9. "An Empirical Study of Small and Medium Scale Industrial Units towards Corporate Social Responsible Activities, with special reference to Jalgaon MIDC."
10. NIIR BOARD, Modern Technology of Waste Management: Pollution Control, Recycling, Treatment & Utilization, Asia Pacific Business Press Inc. Delhi.
11. R.K. Khitoliya (2004), Environmental Pollution Management & Control for Sustainable Development, S. CHAND & COMPANY, New Delhi.



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M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 404 (A) Advanced Accounting

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper –

Audit of various business organisations and non-profit organisations

Learning Objectives -

This course aims at enabling students to –

1. know audit skills required for audit of various forms of business organizations and non-profit organizations
2. understand the legal framework governing the audit of various forms of business entities and non-business entities
3. understand the proper way of making examination of the financial statements of various business entities, and form opinion thereon

Required qualification

B.Com or other equivalent having previous knowledge of Auditing

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Working knowledge with application skill

Course Outcomes

By the end of the course the students will be better able to:

1. get the insight of the various types of audit skills required for various forms of business organizations and non-profit organizations
2. get the knowledge of legal framework governing the auditing requirements of various forms of business entities and non-business entities
3. make an in-depth examination of the financial statements of various forms and types of business entities, and form opinion thereon
4. equip themselves with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation.
5. pursue their career in the profession of auditing

Utilities

The auditor will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to get the insight of the audit skills required for various forms of business organizations and non-profit organizations and the legal framework governing the auditing requirements of these various entities.

Course contents

UNIT 1 Audit of Banks

Lectures 12

1. Salient features of enactments affecting Banks – Provisions of the Banking Regulation Act, 1949, which are relevant for the purpose of audit,
2. Bank Audit; its approach - Concept of Balance Sheet Audit
3. Steps in Bank Audit
4. Audit of the Assets and Liabilities of a bank – Verification of –
 - a. Cash in hand and with the RBI and other banks; Money at call and short notice; and Investments;
 - b. Loans and Advances given to the borrowers; their types, documentations, sanction, and performance; Concept of Non-Performing Assets (NPAs); their definition; provisions required for NPAs;
 - c. Fixed assets and other non-banking assets;
 - d. Share Capital and Reserves and Surplus
 - e. Deposits, Unclaimed deposit of depositors;
 - f. Other Liabilities and provisions; Contingent liabilities
5. Audit of the items debited and credited to the Profit & Loss Account of a bank –
 - a. Interest income and other incomes;
 - b. Recognition of Income on NPAs;
 - c. Transfer of profit to Reserve Fund;
 - d. Appropriations and Payment of dividend;
6. Audit Report of Banks,

UNIT 2 Audit of Co-operative Societies

Lectures 06

1. Special features of Audit of Co-operative Societies;
2. Provisions pertaining to audit of co-operative societies under the Maharashtra State Co-operative Societies Act, 1960
3. Audit Report of Co-operative Societies.

UNIT 3 Audit of Non-governmental Organisations (NGOs)

Lectures 12

1. Concept of an NGO; NGOs in Maharashtra registered as Societies, Public Trusts, and Non-Profit Companies.
2. Provisions of Maharashtra Public Trust Act 1950 pertaining to audit of Public Trusts,
3. Audit procedure for audit of a public trust/charitable institution; special considerations in the audit of a public trust/charitable institution –
4. Steps involved in audit of a charitable institution; an educational institution, a sports club
5. Audit report under the provisions of the Maharashtra Public Trust Act 1950.

UNIT 4 Audit of an insurance companies carrying on general insurance business –

Lectures 12

1. Introduction of legal back ground of audit of an insurance company – Books and registers to be maintained; Reports and Returns are regulated U/s 18 of the Insurance Act 1938
2. Statutory provisions relating to some important items under the Insurance Act, 1938 - Minimum Paid-up Capital; Deposit with the RBI; Separation of Accounts and Funds; Accounts and Balance Sheet; and Audit
3. Requirements of Schedule B to the IRDA Regulations, 2002 –
 - (a) Financial Statements of Indian Insurance companies carrying on general insurance business - Revenue Account, Profit and Loss Account, Balance Sheet, and Auditor's Report of Insurance Companies prescribed by the IRDA.
 - (b) Important items to be audited from the Profit & Loss Account and the balance sheet of general insurance companies –

- i) Verification of Premium; Claims; Commission; Operating expenses; Interest, Dividend and Rent (earned)
 - ii) Verification of Investments; Cash and bank balances; Outstanding premium and agents' balance; Provision for Taxation; Unexpired Risks Reserve; Re-Insurance Inward; Re-Insurance Outward; Co-insurance
- (c) Disclosure requirements in respect of contingent liabilities

4. Schedule C - Auditor's Report of insurance companies

UNIT 5 Audit of Specialized Units

Lectures 06

1. Audit procedure for the audit of a Hospital
2. Audit procedure for the audit of a Hotel
3. Audit procedure for the audit of a Cinema Hall
4. Audit procedure for the audit of a Hire-purchase and Leasing company

UNIT 6 Government Audit

Lectures 12

1. Legal framework and the CAG
2. Consolidated fund and Public Account, Nature, Aims and Objectives of Government Audit,
3. Comptroller and Auditor General of India - The provision as to appointment, remuneration, duties and Power CAG, Role of Controller and Auditor General of India
4. Audit of receipts, expenditure, Sanctions,
5. Public Accounts Committee-
6. Audit of departmental commercial undertaking-
7. Audit of Local bodies.

References:

1. Stettler Howord – Auditing Principles, PHI – New Delhi.
2. L. K. Shukla – Auditing – Principles & Practice – Taxmann law's New Delhi.
3. Auditing by Vinod Kumar Agrawal & Abhishek Porwal – A. S. Foundation, Pune.
4. Kamal Gupta : Contemporary Auditing, TMH – New Delhi.
5. Stettler Howord – Auditing Principles, PHI – New Delhi.
6. Saxena & Saravavel – Practical Auditing – Himalaya Publishing House, Mumbai.
7. Saxena & Reddy – Essentials of Auditing - Himalaya Publishing House, Mumbai.
8. Taxmann – Students' guide to Standards on Auditing by D. S. Rawat.
6. B.N. Tondon: A Handbook of Practical Auditing
7. The Institute of Chartered Accountants of India: Standards on Auditing
8. George Koshi : Tax Audit Manual (Taxmann, New Delhi)
9. The Institute of Chartered Accountants of India : Guidance note on Tax Audit U/s 44 AB of the Income Tax Act
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12. R. G. Saxena: Principles and Practice of Auditing. Himalaya Publishing House. New Delhi.
13. Gordon Davis : Management Information System, TMH, New Delhi.
14. P. Mohar : Management Information System, HPH, New Delhi.
15. Elies Award : System Analysis & Design, Galgotia Publishers, New Delhi.
16. Uma G. Gupta : Management Information System, Galgotia Publ. New Delhi.
17. C.S.V. Murthy : Management Information System, HPH, New Delhi.
18. CA Final Study Module of Auditing published by the ICAI, New Delhi
19. Taxmann's "Law & Practice Relating to Income Computation & Disclosure Standards", written by B.D. Chatterjee and Chintan N Patel
20. Taxmann's "Guide To Income Computation & Disclosures Standards" written by Srinivasan Anand
21. Income Computation and Disclosure Standards 2nd Edition - Ready Reckoner in Q & A format (English, Paperback), by CA (Dr) N. Suresh, publisher Bloomsbury India
22. E-Book on Income Computation and Disclosure Standards (ICDS) at: https://www.caclubindia.com/share_files/e-book-on-income-computation-and-disclosure-standards-icds--73148.asp
23. Standards on Auditing for CA Students by [Anshul Mittal](#), publisher Arya Publishing Company



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FACULTY OF COMMERCE AND MANAGEMENT

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SEMESTER IV

Paper: 404 (B) Advanced Cost Accountancy

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Techniques of Costing

Learning Objectives

This course aims at enabling students to –

1. understand the cost control techniques, and cost budgeting
2. understand the modern techniques of costing and pricing used by different organizations.
3. understand the process of decision making amidst the scenario of cost differences, and to make proper short-term decisions by distinguishing between fixed cost and variable costs
4. understand the process of decision making related to the Capital investment proposal on the basis of different project evaluation techniques

Required qualification

B.Com. or other equivalent having previous knowledge of Accounting and Costing

Medium of Instructions

English

Instructions as to study and examinations

- a) This subject shall be studied in English medium.
- b) The question paper shall be set in English, and the students shall answer the paper in English medium only.
- c) Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Level of Knowledge

Working knowledge with application skill

Course Outcomes

By the end of the course the students will be better able to -

1. prepare budgets for various functional areas of the business activities of the manufacturing organisations.
2. exercise control over the various elements of cost at macro level and micro level with the help of the techniques of budgetary control and standard costing
3. project the required level of business activities to be achieved for earning the desired level of profits.

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to exercise control over the cost of operations of manufacturing organisations and to project the sales to be achieved for the planned profits.

Course contents

Unit 1. Budget and Budgetary Control

Lectures 12

- 1.1 Concept of Budget, Budgeting & Budgetary Control, Steps involved in the process of preparation of a budget, Budget Manual,
- 1.2 Objectives, Advantages, Limitations of Budgetary Control, Organisation for Budgetary Control, Principal Budgeting Factor,

- 1.3 Classification of Budgets : Long-term budget, Short-term budget, Flexible budget, Fixed budget, Master Budget
- 1.4 Functional Budgets: Sales Budget, Production Budget, Purchase Budget, Capital Expenditure Budget, Cash Budget
- 1.5 Zero-Base Budgeting, Nature, procedure, Advantages and Limitations of ZBB
[Advanced practical problems on preparation of budgets including Sales Budget, Production Budget, Purchase Budget, Capital Expenditure Budget, Cash Budget, Flexible budget, Fixed budget, Master Budget]

Unit 2. Standard Costing & Variance Analysis

Lectures 12

- 2.1 Standard Cost and Standard Costing - Meaning, uses of Standard cost, Standard Cost Vs Historical Cost. Types of standards – Standard setting procedure, Standard Costing procedure, Preliminary steps prior to the installation of a Standard Costing system.
- 2.2 Advantages and Limitations of Standard Costing. Variances Analysis – Variances – Concept and Classification of Variances,
- 2.3 Material Variances : Materials Cost Variance , Materials Price Variance, Materials Usage Variance, Materials Mix Variance, Materials Revised Usage Variance, Materials Yield Variance.
- 2.4 Labour Variances : Labour Cost Variance, Labour Rate Variance, Labour Idle Time Variance, Labour Efficiency Variance, Labour Gang-composition Variance, Labour Revised Efficiency Variance, Labour Yield Variance
- 2.5 Overhead Variances – Variable Overhead Variance, Fixed Overhead Variance –
 - 2.5.1 Variable Overhead Variances - Variable Overhead Cost Variance, Variable Overhead Expenditure Variance, Variable Overhead Efficiency Variance -,
 - 2.5.2 Fixed Overhead Variances - Fixed Overhead Cost Variance, Fixed Overhead Expenditure Variance, Fixed Overhead Volume Variance, Fixed Overhead Capacity, Variance, Fixed Overhead Efficiency Variance, Fixed Overhead Calendar Variance
 [Practical problems on computation of variances for different elements of costs stated above including variances related to Materials, Labour and Overheads]

Unit 3. Marginal Costing-I

Lectures 05

- 3.1 Concepts of Marginal Cost and Marginal Costing, Advantages and Limitations of Marginal Costing,
- 3.2 Classification of costs, Fixed, Variable, Semi-variable- Break-up of Semi-Variable Expenses, Role of Contribution, Basic Equation of Marginal Costing,
- 3.3 Marginal Costing Vs Absorption costing, Practical applications of Marginal Costing

Unit 4. Break Even Analysis

Lectures 10

- 4.1 Meaning of Break-even point, Break-even Chart, Profit-Volume Ratio, Margin of Safety, Key- Factor,
- 4.2 Cost-Volume Profit analysis, Point of Indifference, Computation and application of Break-Even Analysis.
[Practical problems on computation of Break-Even Point, Profit under different levels of activity, Desired level of activity - decisions on Make or Buy, accepting special order; problems on Key-factor related decisions, drawing of Break-Even Chart etc]

Unit 5. Capital Budgeting Decision

Lectures 09

- 5.1 Meaning, Importance of Capital budgeting decision
- 5.2 Various types of capital investment decisions (i) replacement and modernization decisions, (ii) Expansion decision, (iii) Diversification decisions (iv) Accept-Reject decisions

Unit 6. Capital Budgeting

Lectures 12

- 6.1 Various projects evaluation techniques / Methods -
 - 6.1.1 Simple Cash Flow techniques like
 - (1) Pay-back method , (2) Payback Reciprocal, (3) Accounting Rate of Return
 - 6.1.2 Discounted Cash Flow Techniques like
 - (1) Net Present Value (NPV), (2) Internal Rate of Return (IRR), (3) Profitability Index (PI) (or) Benefit cost Ratio (4) Discounted Pay Back (or) Time adjusted BEP
 [Advanced practical problems on evaluation of capital budgeting proposal using the above stated techniques / methods of evaluation]

References:

1. Basics of Cost Accounting by V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
2. Cost Accounting – Problems and Solutions - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
3. Fundamentals of Cost Accounting by S N Maheshwari – Sultan Chand & Sons, New Delhi
4. Principles and Practice of Cost Accounting by N K Prasad
5. Cost Accounting by Jawaharlal – Tata McGraw Hill Publishing company Limited New Delhi
6. Cost Accounting Principles & Practice by Nigam & Sharma
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8. Cost Accounting Principles & Practice by P K Ghosh
9. Cost Accounting Principles & Practice by B S Khanna
10. Practical Costing (Self-Tutor) by Gauri Shankar - Himalaya Publishing House, Mumbai
11. Cost Accounting by Jain & Narang
12. Practical Costing by Ahuja , Khanna & Pandey
13. Cost Accounting by B K Bhar
14. Cost & Management Accounting [For CS Inter] - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons
15. Cost & Management Accounting [For Stage II of ICWA Inter] - V. K. Saxena and C. D. Vashist – Sultan Chand & Sons, New Delhi
16. Cost and Management Accounting (Theory Problems and Solutions) by M N Arora – Himalaya Publishing House, Mumbai
17. Cost Accounting by Ravi M Kishore - Taxmann Allied Services Pvt Ltd
18. A Text Book (with in-built Compiler) on Cost Accounting by S. K. Aggarwal, Abha Aggarwal – Reliance Publications Ltd, Gurgaon



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SEMESTER IV

Paper: 404 (C) Human Resource Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Industrial relations and legal framework

Learning Objectives

This course aims at enabling students to –

1. know the legal framework governing the industrial behaviour and relationship at the workplace.
2. understand the basic provisions of the Acts relating to Labour, Industrial disputes, Wages and other benefits available to the workers.
3. make the students aware about mechanisms of settlement of industrial disputes
4. impart the students knowledge of laws, and the how the law affects the industry and labour

Required qualification

B.Com or other equivalent having previous knowledge of business management.

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to –

- get the insight of the laws regulating industrial relations, disputes, and their settlement
- develop, implement, and evaluate employee related policies of the business house within the framework of legal environment in the country.
- decide upon the benefits to be given to the women employees

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to get the insight of managing the industrial relations within the framework of the industrial and labour laws

Course contents

Unit 1. Trade Union Act 1926	Lectures- 10
a. Objects, Definitions, Registration of Trade Union b. Rights and Liabilities of Registered Trade Union c. Trade Union Movement in India d. Problems of Trade Union in India e. Measures for strengthening Trade Union f. Procedure and Penalties g. Meaning, Importance & Process of Collective Bargaining h. Conditions of effective Collective Bargaining	
Unit 2. The Industrial Disputes and Industrial Disputes Act, 1947	Lectures- 10
a. Concept, Meaning and Causes of Industrial Disputes b. Forms of Industrial disputes, Prevention of Industrial disputes c. Authorities under the Industrial Disputes act d. Powers and duties of Authorities, Strike and Lockout, Lay-off, Retrenchments e. Reference of Disputes to boards	
Unit 3. The Factories Act, 1948	Lectures- 10
a. Object & Definitions b. The Inspecting Staff c. Provisions regarding safety and health d. Provisions regarding leave and wages e. Provisions regarding working hours of adults f. Employment of young persons	
Unit 4. The Payment of Wages Act, 1936	Lectures- 10
a. Object and Definitions b. Responsibility for the Payment of Wages c. Authorities under the act d. Authorized deductions e. Penalties for Offences under the Act, f. Claims and Appeal	
Unit 5. The Minimum Wages Act, 1948	Lectures- 10
a. Aims, Object, Scope, Definitions b. Fixation and Revision of Minimum Rates of Wages c. Fixation of Working hours and Determination of wages d. Authorities under the Act e. Offences and Penalties f. Obligations of Employers	
Unit 6. A. The Maternity Benefit Act, 1961	Lectures- 6
a. Applications and Non-Applications of the Act b. Right to Maternity Benefit c. Restrictions on employment, d. Forfeiture of Maternity benefit e. Penalty for contravention of Act by Employer f. Highlight of the maternity benefit (Amendment) Bill-2016 & Bill-2017. g. Features of the Act, Advantages and Disadvantages of the Act.	
B The Child Labour (Prohibition and Regulation) Act, 1986	Lectures-4
a. Object, Scope and Definition b. Prohibition of child labour c. Regulation of conditions of child labour	

- d. Obligations of Employers
- e. Offences and Penalties
- f. Highlight of the Child Labour Act, 1986 (Amendment) Bill-2016.

References

1. Dynamics of Industrial Relation--- Dr. C.B. Mamoria, Dr. S. Mamoria, S.V. Gankar-Himalaya Publishing House
2. Labour Laws—B.D.Sing
3. Industrial Jurisprudence and Labour Legislation—By A.M.Sarm, Himalaya Publication
4. Industrial Relations ByArunMonappa.
5. Labour and Industrial Law in India ByS.K.Mishra, Allahabad law Agency
6. Industrial and Labour Law ByP.L.Malik
7. Commentaries on Payment of wages Act, 1998 by K.D. Shrivastava, Eastern BookCo.
8. Law and Practice on Minimum Wages, 1999 by S.B. Rao
9. Labour and Industrial Laws by S.K. Puri
10. Labour Laws – Bare Acts
11. Amendment to be Maternity Benefit Act – 1961, Press Information Bureau, Union Cabinet August – 2016, March-2017
12. Amendment of the Child Labour (Prohibition and Regulation) Amendment Bill-2016.



North Maharashtra University, Jalgaon

(NACC Re-accredited 'A' Grade University)

FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 404 (D) Marketing Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Marketing Research

Learning Objectives

This course aims at enabling students to –

- understand various concepts and theoretical aspect of marketing research
- know the sources of marketing information and the mechanism of collecting and processing the market information for making intelligent decisions.
- study the ways in which the marketing research can be applied in business

Required qualification

B.Com or other equivalent having previous knowledge of commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

1. get the insight of the philosophy and framework of marketing research
2. know the important aspects to be studied in marketing research
3. get equipped with the ability to apply the marketing research techniques to solve the marketing related problems of a business organisation

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to apply the marketing research techniques to solve the marketing related problems in real life situation.

Course contents

Unit 1. Introduction

Lectures 06

- a. Marketing Research - Concept- Definition- Scope and obstacles in acceptance
- b. Impact of marketing research on marketing mix
- c. Limitations of marketing research
- d. Ethics in marketing research.

Unit 2. Market Information

Lectures 08

- a. Quality and quantity of Market Information – value of information – types of market information.
- b. Various sources of market Information – Methods of collecting Market Information - Secondary data sources, problems of fit and accuracy.
- c. Decision tree and Bayesian analysis concept, Shop and retail audits
- d. Readership surveys and viewer ship surveys, Experience surveys, Focus Groups

Unit 3. Marketing Research Process

Lectures 08

- a. Research process – problem formulation
- b. Hypothesis statement – characteristics of a good hypothesis, preparing research proposal.
- c. Research designs – Types

Unit 4. Marketing Intelligence

Lectures 10

- a. Marketing intelligence – Marketing Decision Support System components
- b. Scope and Significance of Marketing Intelligence in decision making
- c. Market potential analysis, methods. Sales analysis – by territory, by product, by customer and by size order.
- d. Sales forecasting – objective and subjective methods, Test marketing, Industrial vs consumer marketing research.

Unit 5. Application of Marketing Research

Lectures 10

- a. Applications of Marketing Research: Cluster analysis for identifying market segments, Conjoint analysis for Product research, Multi-dimensional scaling,
- b. Discriminate analysis and perceptual mapping for Brand positioning research,
- c. Advertising research

Unit 6. I.T. Enabled Marketing

Lectures 06

- a. Web based marketing research - using the internet for collection of data
- b. Advantages and limitations in data collection – reach – analysis – accuracy – time.

References

- 1) Research for Marketing Decisions – Paul Green, Donald Tull, Gerald Albaurn
- 2) Marketing Research –Aakar, Kumar, Day
- 3) Marketing Research – Thomas C. Kinnear
- 4) Marketing Research – Nargundkar
- 5) Marketing Research – Measurement & Methods – Donald S. Tull, Del I. Hawkins
- 6) Marketing Research – Beri
- 7) Business Research Methods – Cooper
- 8) Marketing Research – Burns and Bush- Pearson
- 9) Marketing Research – Luck and Rubin – Prentice Hall Publications
- 10) Marketing Reserch – Rajendra Nargundkar – Tata McGraw Hill
- 11) Marketing Research by S.L. Gupta – Excel Books
- 12) Marketing Research – Suja Nair – Himalaya
- 13) Marketing Reserch by Ramanuj Majumdar- New age International
- 14) Marketing Research by D.M. Sarawte – Everest



North Maharashtra University, Jalgaon

(NACC Re-accredited 'A' Grade University)

FACULTY OF COMMERCE AND MANAGEMENT

M.Com II – w.e.f. AY 2018-19

SEMESTER IV

Paper: 404 (E) Supply Chain Management

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Title of the Paper – Inventory Management

Learning Objectives

This course aims at enabling students to –

1. understand the concept and role of Cycle inventory in Supply Chain.
2. know the role of Safety Environment in SCM.
3. determine optimum level of Product Availability.
4. know sourcing decisions in Supply Chain.
5. understand Pricing and Revenue Management in Supply Chain.
6. describe role of Information Technology in SCM.

Required qualification

B.Com or other equivalent having previous knowledge of Commerce

Medium of Instructions

English or Marathi

Instructions as to study and examinations

- a) This subject may be studied in English medium or Marathi medium.
- b) The question paper shall be set in basically in English medium with its Marathi version, and the students shall have an option to answer the question-paper either in English medium or in Marathi medium in its entirety.
- c) The question paper shall consist of all theory questions. However, the question-paper setter may at his option set questions of applied nature or the in the form of a case study. The applied component shall not exceed 20% of the aggregate marks in the university examinations.

Level of Knowledge

Reasonable working knowledge

Course Outcomes

By the end of the course the students will be better able to -

- understand and manage the Cycle inventory in Supply Chain
- discover how the Safety Inventory can be managed in Practice
- decide on the optimum level of Product Availability, and the sources in the Supply Chain.
- understand Pricing and Revenue Management in Supply Chain.

Utilities

The student will be equipped with the ability to apply skills and knowledge effectively in dealing with real life business situation, and to analyze the Cycle inventory in Supply Chain, and to decide on the pricing in the supply chain

Course contents

Unit 1. Role of Cycle Inventory in Supply Chain

Lectures: 10

- 1.1 Introduction
- 1.2 Economies of Scale to Exploit Fixed Costs
- 1.3 Economies of Scale to Exploit Quantity Discounts
- 1.4 Short-Term Discounting: Trade Promotions
- 1.5 Managing Multiechelon Cycle Inventory
- 1.6 Estimating Cycle Inventory-Related Costs in Practice

Unit 2. Role of Safety Inventory in Supply Chain

Lectures: 10

- 2.1 Introduction
- 2.2 Determining Appropriate Level of Safety Inventory
- 2.3 Impact of Supply Uncertainty on Safety Inventory
- 2.4 Impact of Aggregation on Safety Inventory
- 2.5 Impact of Replenishment Policies on Safety Inventory
- 2.6 Managing Safety Inventory in a Multiechelon Supply Chain
- 2.7 The Role of IT in Inventory Management
- 2.8 Estimating and Managing Safety Inventory in Practice

Unit 3. Determining the Optimal Level of Product Availability

Lectures: 10

- 3.1 The Importance of the Level of Product Availability
- 3.2 Factors Affecting Optimal Level of Product Availability
- 3.3 Managerial Levers to Improve Supply Chain Profitability
- 3.4 Setting Product Availability for Multiple Products Under Capacity Constraints
- 3.5 Setting Optimal Levels of Product Availability in Practice

Unit 4. Sourcing Decisions in a Supply Chain

Lectures: 10

- 4.1 The Role of Sourcing in a Supply Chain
- 4.2 In-House or Outsource
- 4.3 Third- and Fourth-Party Logistics Providers
- 4.4 Supplier Scoring and Assessment
- 4.5 Contracts and Supply Chain Performance
- 4.6 Design Collaboration
- 4.7 The Procurement Process
- 4.8 Sourcing Planning and Analysis
- 4.9 The Role of IT in Sourcing
- 4.10 Risk Management in Sourcing

Unit 5. Pricing and Revenue Management in Supply Chain

Lectures: 10

- 5.1 Introduction
- 5.2 Pricing and Revenue Management for Multiple Customer Segments
- 5.3 Pricing and Revenue Management for Perishable Products
- 5.4 Pricing and Revenue Management for Seasonal Demand
- 5.5 Pricing and Revenue Management for Bulk and Spot Contracts
- 5.6 The Role of IT in Pricing and Revenue Management
- 5.7 Using Pricing and Revenue Management in Practice

Unit 6. Information Technology in Supply Chain

Lectures: 10

- 6.1 The Role of IT in a Supply Chain
- 6.2 The Supply Chain IT Framework
- 6.3 Internal Supply Chain Management
- 6.4 Supplier Relationship Management
- 6.5 The Transaction Management Foundation
- 6.6 The Future of IT in the Supply Chain
- 6.7 Risk Management in IT and Practice

References:

- 1) Supply Chain Management- K Shridhar Bhatt- Himalaya Publishing House
- 2) Supply Chain Management- Sunil Chopra, Peter Mendl- Prentice Hall of India
- 3) Supply Chain and Logistics Management- Donal Bowersox, David Closs- Tata Macgraw Hill
- 4) Exploring the Supply Chain- Upendra Kachru, Excel Books
- 5) Supply Chain Management- D K Agrawal, Macmillan Publishers
- 6) Logistics Management- V. V Sople, Pearson Education
- 7) Supply Chain Management- Concept and Cases, Rahul V Altekar- Prentice Hall of India
- 8) Supply Chain Management- Janat Shah, Pearson Education

Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon



S. Y. B. Sc
(Semester III & IV)
Syllabus of Geography
(Under the Faculty of Science)

Choice Based Credit System (CBCS)

With effect from June 2019

Equivalence courses for S.Y.B.Sc. Geography Students

S.Y.B.Sc Geography (Old Courses)	New Syllabus of S.Y.B.Sc. Geography W.E.F. June 2019
Gg: 231 Sem. III Paper I- Environmental Geography - I	Gg: 301 (DSC) Sem. III Paper I - Environmental Geography
Gg: 232 Sem. III Paper II- Physical Geography of India	Gg: 302 (DSC) Sem. III Paper II –Physical Geography of Maharashtra
Gg: 233 Sem. III Paper III- Practical Geography (Topographical Maps, Weather Instrument, Maps and Images)	Gg: 303(DSC) Sem. III (LAB-III) Paper III - Interpretation of Topographical, Weather Maps and Weather Data Analysis
--	Gg: 304 Sem. III SEC I - Regional Planning and Development
Gg: 241 Sem. IV Paper I-Environmental Geography II	Gg: 401(DSC) Sem. IV Paper I - Human Geography
Gg: 242 Sem. IV Paper II-Economic Geography of India	Gg: 402 (DSC) Sem. IV Paper II - Socio – Economic Geography of Maharashtra
Gg: 243 Sem. IV Paper III -Practical Geography (Surveying, Leveling and Excursion/Village Survey Report)	Gg: 403 (DSC) Sem. IV (LAB-IV) Paper III - Surveying and Area Measurement by GPS
--	Gg: 404 Sem. IV SEC II - Field Techniques and Survey based Project Report

Details about the course for S.Y.B. Sc. Geography under CBCS Pattern

Semester	Courses as per UGC	Core Courses		Number of credits	Hours per semester	Marks	
		Course Code	Course Title			Int.	Ext.
III	Geography-DSC 3A	Gg. 301 Paper-I	Environmental Geography	02	30	40	60
		Gg.302 Paper- II	Physical Geography of Maharashtra	02	30	40	60
	Geography LAB-DSC3A LAB	Gg. 303 Paper-III	LAB III Interpretation of Topographical, Weather Maps and Weather Data Analysis	02	60	40	60
	Skill Enhancement Course I (SEC I)	Gg.304	Regional Planning and Development	02	30	40	60
Semester	Courses as per UGC	Core Courses		Number of credits	Hours per semester	Marks	
		Course Code	Course Title			Int.	Ext.
IV	Geography-DSC 4A	Gg. 401 Paper-I	Human Geography	02	30	40	60
		Gg.402 Paper- II	Socio- Economic Geography of Maharashtra	02	30	40	60
	Geography LAB-DSC4A LAB	Gg. 403 Paper-III	LAB IV Surveying and Area Measurement by GPS	02	60	40	60
	Skill Enhancement Course II (SEC II)	Gg.404	Field Techniques and Survey based Project Report	02	30	40	60

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon**

Under faculty of Science and Technology

S.Y.B.Sc. SEMESTER- III

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 301 (DSC) Paper – I: Environmental Geography

Total Credits – 2.

Internal Marks - 40

Total Hours – 30

External Marks – 60

Objectives:-

1. To create the environmental awareness amongst the students.
2. To acquaint the students with fundamental concepts of Environmental Geography.
3. To aware the students about the processes and patterns in the natural environment.
4. To acquaint the students with past, present and future utility and potentials of Environmental Geography at regional, national and global levels.
5. To make aware the students about the judicious use of resources.

Unit No.	Topic	Sub-topics	Hours
I	Introduction to Environmental Geography	I) Introduction to Environment- Meaning, Concept a) Types of Environment: i) Natural(Physical) ii) Biotic II) Environmental approaches a) Deterministic b) Possibilistic c) Ecological III) Ecosystem- a) Meaning and Concept b) Structure - Components i) Abiotic ii) Biotic c) Function i) Nutrient Cycling a)Carbon Cycle b)Nitrogen Cycle ii)Energy Flow a)Food Chain b)Food Web	8

II	Man and Environment Relation ship	<p>A) Major environmental Dilemmas</p> <p>i) EL-NINO Imbalance</p> <p>ii) pollution concept</p> <p>B) Human environment relationship</p> <p>i) Human life in- Equatorial region</p> <p>-Mountainous Region</p> <p>-Desert Region</p> <p>- Coastal Region</p>	6
III	Environmental Problems And Management	<p>A) Pollutants and pollution:</p> <p>i) Air pollution- causes ,effect and control</p> <p>ii) water pollution-cause effect and control</p> <p>B) Biodiversity- Definition And Type</p> <p>I) Types of Biodiversity</p> <p>a)Genetic Diversity</p> <p>b) Species Diversity</p> <p>c) Ecosystem Diversity</p> <p>C) Threats To Biodiversity</p> <p>I) Pouching Of Wildlife</p> <p>II)Man-Wildlife Conflicts</p> <p>D) Environmental Management-</p> <p>A)Priority Sectors</p> <p>i)Pollution control</p> <p>ii) Power and mineral resources</p> <p>iii) Environmental education</p>	8
IV	National Environmental Policy And Movement	<p>A) National Environmental Policy (NEP)- Introduction, Objective, And Principal</p> <p>B) Initiatives or actions regarding</p> <p>i) Land Degradation</p> <p>ii) Forest And Wildlife Conservation</p> <p>iii) Fresh Water</p> <p>iv) Climate Change.</p> <p>C) Major environmental movements</p> <p>i) The Chipko Andolan</p> <p>ii) Tehri-High Dam Project</p> <p>iii) Sardar Sarover Project</p>	8

Unit No.	Weightage of Marks
I	15
II	15
III	20
IV	10
Total Marks (University Level)	60
Internal Marks (College Level)	40

Reference Books:

- Benny Josheph (2005): Environmental Studies, Tata McGraw-Hill Publishing Company, New Delhi.
- Cunningham W.P. and Cunningham M.A. (2003): Principles of Environmental Science: Inquiry and Applications, Tata McGraw Hill Publications, New Delhi.
- Miller, G.T. (2002): Living in the Environment, Books Cole Thomas Learning Inc. U.S.A.
- Nagor, A.P. (1996): Biological Diversity and International Environmental Law, A.P.H Publication, New Delhi.
- Purohit, Shammi and Agrawal (2012): A Text Book Of Environmental Science, Student Edition, Chopasani Road, Jodhpur
- Saxena, H.M.(2004): Environmental Studies, Rawat Publications, Jaipur.
- Santra S.C (2013): Environmental Science, New Central Book Agency (P) Ltd. Kolkata, West Bengal
- Sharma, P.D. (2004): Ecology and Environment, Rastogi Publications, Shivaji Road, Meerut.
- Singh, Savindra (2001): Environmental Geography, Prayag Pustak Bhavan, Alahabad- 110002.

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
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Under faculty of Science and Technology

S.Y.B.Sc. SEMESTER- III

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 302 (DSC) Paper – II : Physical Geography of Maharashtra

Total Credits – 2.

Internal Marks - 40

Total Hours – 30

External Marks – 60

Unit No.	Unit Sub	Sub Unit	Hours
1	Geographical Personality of Maharashtra	1.1 Introduction to Maharashtra: Natural, Historical and Political 1.2 Location, Extent and Geographical Area 1.3 Administrative Divisions 1.4 Adjoining or Adjacent States	08
2	Physiography and Drainage	2.1 Physiography: a) Konkan Region b) Western Ghat c) Maharashtra Plateau 2.2 Major Rivers in Maharashtra a) Godavari b) Krishna c) Tapi 2.3 Water Resources in Maharashtra - Major Dams or Water reservoirs in Maharashtra a) Koyna b) Jayakwadi e) Hatnur 2.4 Importance and need of conservation of water in Maharashtra	08
3	Climate	3.1 Characteristics of Climate 3.2 Seasons 3.3 Regional variations in temperature and rainfall distribution	07
4	Soils and Natural Vegetation	4.1 Soil: a) Types of Soil b) Spatial Distribution of soil c) Characteristics of Soil d) Erosion and Conservation of Soil in Maharashtra 4.2 Natural Vegetation: a) Types of Forest b) Spatial Distribution of Forest c) Importance conservation of Forest	07
Total Hours			30

Sr. No.	Unit No.	Weightage of Marks
1	1	15
2	2	15
3	3	15
4	4	15
University Assessment (U.A.)		60
College Assessment (C.A.)		40

References: -

- 1) C. D. Deshpande : Geography of Maharashtra
- 2) Dr. S. M. Bhamare (2013) : Geography of Maharashtra, Prashant Publication, Jalgaon.
- 3) Jaymala Diddee, S. R. Jog, V. S. Kale, V. S. Datye : Geography of Maharashtra
- 4) K. R. Dixit : Maharashtra in Maps
- 5) Savadi and Keche : Maharashtra
- 6) R. L. Sing (2012): India: A Regional Geography, National Geographical Society of India
- 7) Santosh Dasthane : Maharashtra. (Marathi Medium)
- 8) Subhashchandra Sarang: Maharashtra Bhugol, Vidya Prakashan, Nagpur. (Marathi Medium)
- 9) Dr. Jaykumar Magar Maharashtracha Bhugol. (Marathi Medium)
- 10) Dr. S. D. Bhaise, Dr. D. A. Mhaski : Maharashtracha Prakrutik Bhugol, Atharva Publication, Jalgaon (Marathi Medium)

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon**

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S.Y.B.Sc. SEMESTER- III

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

**Gg. 303 (DSC) [LAB-III] Paper – III: Interpretation of Topographical, Weather
Maps and Weather Data Analysis**

Total Credits – 2

Internal Marks - 40

Total Hours – 60

External Marks – 60

Objectives:

1. To develop the interpretation skill among the students.
2. To introduce the students about the information recorded on topographical and weather maps.
3. To acquire various information from the maps.

Unit No.	Topic	Sub Topic	Hours
1	Topographical Maps	1. Introduction to topographical maps 2. Indexing of toposheet. 3. Grid reference (Four and Six figures) 4. Methods of representation of relief features a) Qualitative method – Hachures, Hill Shading, Layer tinting, b) Quantitative methods – Spot height, Bench mark, Triangulation, Contour, Form line. 5. Representation of relief features by contours a) Slope b) Relief features 6. Conventional signs and symbols of toposheet. 7. Profiles: a) Cross profile b) Longitudinal profile 8. Interpretation of toposheet. (At least 3 Plain, Plateau, Mountain, Desert & Coastal)	30
2	Weather Maps and Weather Data Analysis	1. Introduction to weather maps 2. Signs and symbols. 3. Isobaric patterns. 4. Interpretation of weather maps (Summer, Winter, Rainy) 5. Weather Data Analysis with the help of a) Temperature Data b) Rainfall Data c) Wind Direction and Wind Speed	30

		6. Structure, Function and Use of following weather instruments: a) Maximum and Minimum Thermometer. b) Aneroid Barometer. c) Rain gauge. d) Barograph. e) Thermograph.	
Total Periods			60

Sr. No.	Unit No.	Weightage of Marks
1	1	30
2	2	30
University Assessment (U. A.)		60
College Assessment (C. A.)		40

Reference Books:

1. Vaidyanadhan, R. (1968): Index to a Set of Sixty Topographic Maps: Illustrating
2. Ramamurthy, K. (1982): Map Interpretation, Rex Printer, Madras
3. Specified Physiographic Features From India, Council of Scientific and Industrial
4. Research, Ministry of Education, Government of India
5. Gupta, K. K. and Tyagi, V. C. (1992): Working with Maps, Survey of India
Publication
6. Tamaskar, B. G. and Deshmukh, V. M. (1974): Geographical Interpretation of Indian
7. Topographical maps, Orient Longman, Kolkata
8. Dury, G. H. (1972): Map Interpretation, Pritman and Sons, London
9. Singh, G. (1996): Map Work and Practical Geography, Vikas Publication, New Delhi

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S.Y.B.Sc. SEMESTER- III

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 304 SEC 1: Regional Planning and Development

Total Credits – 2

Internal Marks - 40

Total Hours – 30

External Marks – 60

Objectives:-

- 1) To introduce general problems of regional development and their application to rural areas.
- 2) To introduce basic methods of elaboration regional development studies
- 3) The student is able to explain the role of regional policy and desire the tools used to regional development support
- 4) To understanding of social and regional relation of the rural development

Unit No.	Topic	Sub Topic	Hours
1	Introduction	A) Regional Planning: i) Definition of region ii) The concept, need & objectives of Regional Planning. iii) Role of Geography in Regional Planning. iv) Role of regional planning in development v) Types of Regional Planning: Short Term, Long Term, Physical and Economic, Developmental & Imperative. B) Types of region:- i. Homogeneous, ii. Nodal, iii. Functional, iv. Programming, v. Administrative, vi. Urban areas. C) Characteristics of Planning Regions	08
II	Choice of Region	A) Characteristics of an ideal planning region B) Delineation of planning region (Variables for delineation, land use characteristics, demographic, transport infrastructure, social services and public utilities, socio-economic structures, methods) C) Regionalization of India for planning D) Agro-ecological Zones	07
III	Theories and Models for Regional Planning	1. Rostows Model of Economic Development 2. Growth Pole Theory in Indian Context.	05

IV	Measuring of development	<p>A) Economic Planning: Introduction to 12th five year plan, Role NITI Aayog in development, Damodhar Valley Corporation- the success story</p> <p>B) Backward regions and regional planning</p> <p>C) Environment:- Environmental laws and their implementation, Policy instruments for controlling water and air pollution, the Environmental Protection Act, Social Forestry in India,- rationale and benefits</p>	10
Total			30

Sr. No.	Unit No.	Weightage of Marks
1	1	15
2	2	15
3	3	15
4	4	15
University Assessment (U.A.)		60
College Assessment (C.A.)		40

Reference Books:

1. Bhattacharyya S.: Corporate Planning.
2. Blij H. J. De, 1971: Geography: Regions and Concepts, John Wiley and Sons.
3. Claval P.I, 1998: An Introduction to Regional Geography, Blackwell Publishers, Oxford and Massachusetts.
4. Friedmann J. and Alonso W. (1975): Regional Policy - Readings in Theory and Applications, MIT Press, Massachusetts.
5. Gore C. G., 1984: Regions in Question: Space, Development Theory and Regional Policy, Methuen, London.
6. Gore C. G., Köhler G., Reich U-P. and Ziesemer T., 1996: Questioning Development; Essays on the Theory, Policies and Practice of Development Intervention, Metropolis-Verlag, Marburg.
7. Haynes J., 2008: Development Studies, Polity Short Introduction Series.
8. Johnson E. A. J., 1970: The Organization of Space in Developing Countries, MIT Press, Massachusetts.
9. Kulkarni A.R. : Contributions to regional Planning and Development.
10. Mahesh Chand & Puri V.K. : Regional Planning in India.
11. Mishra R.P.: Regional Planning
12. Peet R., 1999: Theories of Development, The Guilford Press, New York. Peter Self: Planning and the Urban Region.

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
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S.Y.B.Sc. SEMESTER- IV

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 401 (DSC) Paper I : Human Geography

Total Credits – 2

Internal Marks - 40

Total Hours – 30

External Marks – 60

Objectives:

1. This course is to acquaint the students with the nature of man-environment relationship and human capability.
2. To adopt and modify the environment under its varied conditions from primitive life style to the modern living;
3. To identify and understand environment and population in terms of their quality and spatial distribution pattern.
4. To comprehend the contemporary issues facing the global community.

Unit No	Topic	Sub -topic	Hours
1	Introduction to Human geography	A) A Definition, Nature and Scope B) Branches of Human Geography C) Relationship between Man and Environment D) Approaches of Human Geography	5
2	Human Races and Religion	A) Definition of Human Race B) Physical basis of racial groups C) Classification of world Races – Caucasoid, Mongoloid, Negroid and Australoid D) Definition of Religion and Major Religious system – Judaism, Islam, Christianity, Buddhism and Hinduism	10
3	Population	A) Factors affecting on the distribution of Population – Physical, Socio – Cultural and Demographic. B) Worlds population distribution C) Malthusian theory of Population growth D) Demographic transition theory	5
4	Settlements	A) Definition and types of rural settlements - Compact, Semi Compact and Dispersed. B) Patterns of rural settlements – Circular , Radial , Elongated , Square and Amorphous C) Definition and functional classification of Urban settlements – Administrative, Defence, Culture, Production and Communication. D) Recent Trends and Patterns of Urbanization in India.	10
Total			30

Sr. No.	Unit No.	Weightage of Marks
1	1	12
2	2	16
3	3	16
4	4	16
University Assessment (U.A.)		60
College Assessment (C.A.)		40

References –

1. Majid Husain - Human Geography, Rawat publication, Jaipur.
2. Maurya S.D. – Manav Bhugol , Sharad pustak bhavan , Allahabad
3. S.K.Shelar – Human Geography, Chandralok prakashan , Kanpur.
4. Mohammad I. Hassan – Population Geography, Rawat publication.
5. R.C.Chandana – Geography of Population, Kalyani publishers, New Dehli.
6. Sumita Ghosh – Introduction to Settlement Geography, Orient black swan, Kolkata.
7. Patil S.B. and Patil Y.V. - Geomorphology and Settlements in Dhule District, Research express ,Latur.
8. Manvi Bhugol- Dr. Namdev N. Gajre, Prashant Publication, Jalgaon.
9. Dr. S. D. Bhaise, Dr. D. A. Mhaski : Loksankhya Bhugol, Atharva Publication, Jalgaon (Marathi Medium)

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon**

Under faculty of Science and Technology

S.Y.B.Sc. SEMESTER- IV

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 402 (DSC) Paper II : Socio-Economic Geography of Maharashtra

Total Credits – 2

Internal Marks - 40

Total Hours – 30

External Marks – 60

Objectives:

- To accustom the students with utility and applications knowledge got from the study of Socio-Economic Geography in different walks of the life.
- To acquaint the student with basic knowledge of Maharashtra state.
- To acquaint the student with prospects and problems of agriculture, industries, trade and transport of Maharashtra.

Unit	Topic	Sub-topics	Hours
I	Population	1.1 Introduction and Population Growth in Maharashtra 1.2 Population distribution in Maharashtra a) High population density regions b) Medium population density regions c) Low population density regions 1.3 Factors affecting on distribution of population in Maharashtra. a) Physical b) Economic c) Social Factors 1.4 Demographic features in Maharashtra (Sex Ratio)	6
II	Agriculture	2.1 Introduction to Agriculture of Maharashtra. 2.2 Role of agriculture in the Economy of Maharashtra 2.3 Agro – climatic zones in Maharashtra 2.4 Types of agriculture in Maharashtra (Plantation agriculture, Dairy farming, Horticulture, Subsistence Farming, Organic Farming.) 2.5 Recent trends in agriculture – Introduction to Polyhouse and Shade net house 2.6 Problems of agriculture and its remedial measures	6
III	Minerals, Energy Resources and Industries	3.1 Major minerals and their production and distribution a) Iron ore b) Bauxite 3.2 Energy resources: production and distribution a) Nuclear Power Station b) Thermal power projects c) Hydel power projects 3.3 Industries: a) Cotton Textile Industries: i. Factors governing the location of cotton textile	9

		industries. ii. Distribution and problems faced by cotton textile industries. b) The sugar industries – Distribution and problems of sugar industries.	
IV	Trade and Transport	A) Trade: i) Introduction and types of trades a) International b) National ii) Factors affecting on trade in Maharashtra B) Transportation: i) Meaning and different modes of transportation in Maharashtra. ii) Classification of roads a) National highways b) State highways iii) Railways a) General information about length, distribution and types of gauges. b) Main railway lines passing through Maharashtra.	9

Sr. No.	Unit No.	Weightage of Marks
1	1	15
2	2	15
3	3	15
4	4	15
University Assessment (U.A.)		60
College Assessment (C.A.)		40

Reference Books:

- 1) Government of India. : The Gazetteer of India, Vol. I & II, Publication Division, New Delhi, 1965.
- 2) Government of India: Census of India 2011.
- 3) Despande, C.D.: India: A Regional Interpretation, Northern Book Centre, New Delhi, 1992.
- 4) Sharma, and Coutinho,: Economic and Commercial Geography of India. Vikas Publishing House, India, 1998.
- 5) Memoria, C. B.: Geography of India, Shival Agrawal and Co., Agra, 1986.
- 6) Negi, B. S.: Economic and Commercial Geography of India, Kedarnath Ram nath, New Delhi.
- 7) Tirtha, Ranjit.(2002) : Geography of India, Rawat, Jaipur.
- 8) Tata McGraw Atlas: Socio Economic Atlas of India.
- 9) Majid Hussain (2014): Geography of India ,McGraw Hill Education (India) Private education, New Delhi.
- 10) Dr. S. M. Bhamare (2013) : Geography of Maharashtra, Prashant Publication, Jalgaon.
- 11) C. D. Deshpande : Geography of Maharashtra.
- 12) K. R. Dixit : Maharashtra in Maps.

- 13) S. H. Deshpande : Economy of Maharashtra.
- 14) Jaymala Diddee, S. R. Jog, V. S. Kale, V. S. Datye : Geography of Maharashtra.
- 15) Savadi and Keche : Maharashtra.
- 16) R. L. Sing (2012): India: A Regional Geography, National Geographical Society of India, Varanasi -5.
- 17) Santosh Dashtane : Maharashtra. (Marathi Medium)
- 18) Subhaschandra Sarang : Maharashtra Bhugol, Vidya Prakashan, Nagpur. (Marathi Medium)
- 19) Dr. Jaykumar Magar Maharashtra Bhugol. (Marathi Medium)
- 20) Dr. S. D. Bhaise: Maharashtra Prakrutik Bhugol, Atharva Publication, Jalgaon (Marathi Medium)
- 21) Dr. Lalit Sandanshiv : Krushi Bhugol, Atharva Publication, Jalgaon (Marathi Medium)

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon**

Under faculty of Science and Technology

S.Y.B.Sc. SEMESTER- IV

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 403 (DSC) [LAB-IV] Paper III: Surveying and Area Measurement by GPS

Total Credits – 2

Internal Marks - 40

Total Hours – 30

External Marks – 60

Objectives:

1. To develop the surveying skill among the students.
2. To introduce the students about working and practical utility of GPS.
3. To acquaint the students about the field survey.

Unit No.	Unit	Sub Unit	Hours
1	Surveying	A) Meaning and Definition of Surveying B) Need of Surveying in Geography C) Types of Surveying 1) Plane Surveying 2) Geodetic Surveying D) Methods of Surveying 1) Trigonometric Survey 2) Traverse Survey: Open and Close Traverse	08
2	Plane Table Survey	A) Introduction B) Instruments Used in Plane Table Survey C) Procedure in Plane Table Survey D) Methods of Plane Table Survey 1) Radiation Method 2) Intersection Method F) Conversion of Area in Different Units- (Hectare and Acre to Sq. Feet and Sq. Meters)	22
3	GPS Survey	A) Introduction and Components of GPS B) Applications of GPS C) Procedure of GPS Survey D) Survey Using GPS 1) Survey of Given Area 2) Preparation of Layout 3) Measurement of Surveyed Area	18
4	Excursion or Village Survey	Visit to a Place of Geographical Interest or Village Survey Students Should Submit a Field Report at the Time of Semester Examination.	12

Weightage of Marks

Unit No.	Unit	Weightage of Marks
1	Surveying	05
2	Plane Table Survey	20
3	GPS Survey	15
4	Excursion or Village Survey	10
Viva –voce		10
Total (University Level)		60
Total (College Level)		40

Note: *The educational tour or village survey should be conduct and organized by the directions of Maharashtra Govt. rules and regulations.*

Reference Books:-

- 1) Kanetkar T.P. and Kulkarni S.V. (1983), Surveying and Levelling (Part I and II), Pune Vidyarthi Gruha Prakashan, Pune.
- 2) Monkhouse, F.X.J. & Wilkinson, H.R.(1989): Maps & Diagrams, B.I Publications, Bombay.
- 3) Mishra, R.P and Ramesh A. (2000): Fundamental of Cartography, Concept Publishing Company, New Delhi.
- 4) Robinson, A.H. & Sleep, R.D.(1969): Elements of Practical Geography, New York, John Wiely
- 5) Singh Gopal (1996): Map Work and Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi.
- 6) Singh, R.C. and Dutta (1993): Elements of Practical Geography, Kalyani Publications, New Delhi.
- 7) Singh, Lekhraj & Singh Raghunandan (1973): Map work and Practical, Central Book Deopt. Allahabad.
- 8) Singh, R.L. and Singh, R.P.B. (1997): Elements of Practical Geography, Kalyani Publishers, New Delhi.
- 9) Sing, R.L. and Kanaujia L.R.S.(1963): Map Work and Practical Geography, Allahabad Central Book Depot.

**Kavayitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon**

Under faculty of Science and Technology

S.Y.B.Sc. SEMESTER- IV

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 404 SEC II: Field Techniques and Survey Base Project Report

Total Credits – 2

Internal Marks - 40

Total Hours – 30

External Marks – 60

Objectives:

- 1) To inculcate in students the analytical approach towards their geographical environment through field study/work of a selected area.
- 2) To aware students that how does a field work form an important part of geographical learning?
- 3) To develop the skill of selection of appropriate technique for field study.
- 4) To enable the student to frame different types of questionnaires to conduct a field study.
- 5) To develop the ability of analysis, interpretation and report writing based upon the data collected during a field study.

Unit	Topic	Sub Topic	Hours
01	Introduction to Field Study Report	A. Definition of Field and field work B. Role and Objective of Field-Work C. Values and Ethics of Field-Work D. Identifying the Case Study (Rural / Urban / Physical / Human / Environmental)	05
02	Concepts in Field Work	A. Kinds of Question (One sentence Answer) 1. Generic 2. Genetic 3. Theoretical 4. Remedial 5. Methodological B. Merits, Demerits of the Field Techniques. C. Selection of the Appropriate Technique; Observation (Participant / Non Participant). D. Types of Sampling 1. Simple random sampling 2. Stratified random sampling 3. Systematic random sampling	05
03	Data Collection and Analysis	A. Types of Hypothesis - Null Hypothesis - H ₁ and H ₀ Hypothesis - Importance of Hypothesis - Testing and Hypothesis B. Questionnaires (Open/ Closed / Structured / Non-Structured); Interview with Special Focus	05

		C. Analysis of data D. Use of Supporting Techniques for data representation E. Types of Hypothesis	
04	Report Writing	Designing the Field Report A. Title Page B. Acknowledgment C. Content D. Research Problem E. Review of Literature F. Abstract G. Introduction H. Objective I. Hypothesis J. Methodology K. Result or Findings L. Discussion / Subject Explanation M. Conclusion N. References / Bibliography O. Appendices P. Binding	15

Sr. No.	Unit No.	Weightage of Marks
1	1	10
2	2	15
3	3	15
4	4	20
University Assessment (U.A.)		60
College Assessment (C.A.)		40

Reading List:

1. Creswell J., 1994: Research Design: Qualitative and Quantitative Approaches Sage Publications.
2. Dikshit, R. D., 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
4. Mukherjee, Neela, 1993. Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.
5. Mukherjee, Neela, 2002. Participatory Learning and Action: with 100 Field Methods. Concept Publs. Co., New Delhi
6. Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
7. Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001).
8. Stoddard R. H., 1982: Field Techniques and Research Methods in Geography, Kendall/Hunt. 9. Wolcott, H. 1995. The Art of Fieldwork. Alta Mira Press, Walnut Creek, CA.



**KAVAYITRI BAHINABAI CHAUDHARI
NORTH MAHARASHTRA UNIVERSITY, JALGAON
Faculty of Humanities**

SCHOOL OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

**Syllabus for M.A Economics (Semester III & IV)
With Effect from Academic Year - 2020-2021**

(Syllabus Structure under revised CBCS for PG courses in the University Campus only)

**DEPARTMENT OF ECONOMICS,
SCHOOL OF SOCIAL SCIENCES
KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY, JALGAON
Syllabus for M.A Economics (Under Academic Flexibility)**

Syllabus Structure (w.e.f. 2019-20)

Credits: Sem-I : 18

Sem-II : 18

Sem-III : 18

Sem-IV : 18

SEMESTER-I

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination			Credits
			Th.(L)	Pr.	Total	Int.	Ext.	Total	
ECO-101	Core	Advance Price Theory-I	04	--	04	40	60	100	04
ECO-102	Core	Public Finance-I	04	--	04	40	60	100	04
ECO-103	Core	Statistics for Economics	04	--	04	40	60	100	04
ECO-104	Elective	Agricultural Economics-I OR Industrial Economics	04	--	04	40	60	100	04
AC- 101	Audit Course	Practical Cleanliness	02	--	02	100		100	02

SEMESTER-II

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination			Credits
			Th.(L)	Pr.	Total	Int.	Ext.	Total	
ECO-201	Core	Advance Price Theory-II	04	--	04	40	60	100	04
ECO-202	Core	Public Finance-II	04	--	04	40	60	100	04
ECO-203	Core	Research Methodology for Economics	04	--	04	40	60	100	04
ECO-204	Elective	(A) Agricultural Economics-II OR (B) Rural Development	04	--	04	40	60	100	04
AC- 201	Audit Course	Choose one out of Four AC-201 (A/B/C/D)	02	--	02	100		100	02

List of elective course to be offered in Semester-II

*AC-201 (A): Soft Skill
AC-203 (C): Practicing Yoga*

*AC-202 (B): Practicing Sport Activities
AC-204 (D): Introduction to Indian Music*

SEMESTER-III

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination			Credits
			Th.(L)	Pr.	Total	Int.	Ext.	Total	
ECO-301	Core	Monetary Economics	04	--	04	40	60	100	04
ECO-302	Core	Economics of Development	04	--	04	40	60	100	04
ECO-303	Core	International Economics-I	04	--	04	40	60	100	04
ECO-304	Elective	(A) Modern Banking System in India OR (B) Economics of Labour - I	04	--	04	40	60	100	04
AC- 301	Audit Course	Choose one out of Four AC-301 (A/B/C/D)	02	--	02	100		100	02

List of elective course to be offered in Semester-III

AC-301 (A): Computer Skill
AC-303 (C): Use of SPSS in Social Sciences

AC-302 (B): Cyber Security
AC-304 (D): Application of E-Learning

SEMESTER-IV

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination			Credits
			Th.(L)	Pr.	Total	Int.	Ext.	Total	
ECO-401	Core	Dissertation	04	--	04	40	60	100	04
ECO-402	Core	Theories of Economic Growth	04	--	04	40	60	100	04
ECO-403	Core	International Economics-II	04	--	04	40	60	100	04
ECO-404	Elective	(A) Financial Market in India OR (B) Economics of Labour - II	04	--	04	40	60	100	04
AC- 401	Elective Audit Course	Choose one out of Four AC-401 (A/B/C/D)	02	--	02	100		100	02

List of elective course to be offered in Semester-IV

AC-401 (A): Human Rights
AC-403 (C): Awareness and Development of Personality

AC-402 (B): Current Affairs
AC-404 (D): Recent Trends and Community Development.

Note:-Detail Syllabus for Audit Course AC-301 (A/B) and AC-401 (A/B) are Available on University Website Separately at:

<http://www.nmu.ac.in/StudentCorner/Academics/Syllabi.aspx>

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

School of Social Sciences

Department of Economics

M.A. Economics

NEW STRUCTURE OF M.A. (ECONOMICS) PART: I (W.E.F ACADEMIC YEAR:2019-20)

M.A. Economics: Part –I : Semester: I

Sr. No.	Nature		Paper Code No.	Paper Title	College Assessment (Internal Marks)	University Assessment (External Marks)	Total Maximum Marks (UA+CA)
1	Core Paper	Compulsory	ECO-101	Advance Price Theory–I	40	60	100
2	Core Paper	Compulsory	ECO-102	Public Finance-I	40	60	100
3	Core Paper	Compulsory	ECO-103	Statistics for Economics	40	60	100
4	Elective Paper	Choose <u>Any One</u>	ECO-104 A	Agricultural Economics-I	40	60	100
	Elective Paper		ECO-104 B	Industrial Economics	40	60	100

M.A. Economics : Part –I : Semester –II

Sr. No.	Nature		Paper Code No.	Paper Title	University Assessment (External Marks)	University Assessment (External Marks)	Total Maximum Marks (UA+CA)
1	Core Paper	Compulsory	ECO-201	Advance Price Theory–II	40	60	100
2	Core Paper	Compulsory	ECO-202	Public Finance-II	40	60	100
3	Core Paper	Compulsory	ECO-203	Research Methodology for Economics	40	60	100
4	Elective Paper	Choose <u>Any One</u>	ECO-204 A	Agricultural Economics-II	40	60	100
	Elective Paper		ECO-204 B	Rural Development	40	60	100

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
School of Social Sciences
Department of Economics
M.A. Economics

NEW STRUCTURE OF M.A. (ECONOMICS) PART: I (W.E.F ACADEMIC YEAR:2020-21)

M.A. Economics: Part –II : Semester: III

Sr. No.	Nature		Paper Code No.	Paper Title	College Assessment (Internal Marks)	University Assessment (External Marks)	Total Maximum Marks (UA+CA)
1	Core Paper	Compulsory	ECO-301	Monetary Economics	40	60	100
2	Core Paper	Compulsory	ECO-302	Economics of Development	40	60	100
3	Core Paper	Compulsory	ECO-303	International Economics-I	40	60	100
4	Elective Paper	Choose <u>Any One</u>	ECO-304 A	Modern Banking System in India	40	60	100
	Elective Paper		ECO-304 B	Economics of Labour - I	40	60	100

M.A. Economics : Part –II : Semester –IV

Sr. No.	Nature		Paper Code No.	Paper Title	University Assessment (External Marks)	University Assessment (External Marks)	Total Maximum Marks (UA+CA)
1	Core Paper	Compulsory	ECO-401	Dissertation	40	60	100
2	Core Paper	Compulsory	ECO-402	Theories of Economic Growth	40	60	100
3	Core Paper	Compulsory	ECO-403	International Economics-II	40	60	100
4	Elective Paper	Choose <u>Any One</u>	ECO-404 A	Financial Markets in India	40	60	100
	Elective Paper		ECO-404 B	Economics of Labour - II	40	60	100

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
School of Social Sciences
Department of Economics

M.A. Economics

Equivalence of M.A. Economics: Part – I : Semester: I

OLD PATTERN (W.E.F ACADEMIC YEAR:2017-18)				NEW PATTERN (W.E.F ACADEMIC YEAR:2019-20)			
Sr. No .	Paper Code	Nature Of Paper	Title Of The Paper	Sr. No.	Paper Code	Nature Of Paper	Title Of The Paper
1	Eco:111	Core	Advanced Micro Economics: I	1	ECO 101	Core	Advance Price Theory–I
2	Eco:112	Core	Modern Public Economics : I	2	ECO 102	Core	Public Finance-I
3	Eco:113 (A)	Optional	Statistics For Economics	3	ECO 103	Core	Statistics for Economics
4	Eco:113 (B)	Optional	Schools Of Economic Thoughts				
5	Eco:114(A)	Optional	Economics Of Agriculture & Rural Development	4	ECO 104 (A)	Optional	Agricultural Economics-I
6	Eco:233(B) *	Optional	Economics of Labor-I (M.A.II SEM III)	5	ECO 104 (B)	Optional	Industrial Economics
7	Eco:114(C) *	Optional	Economics Of Environment				

Equivalence OF M.A. Economics: Part – I : Semester: II

OLD PATTERN (W.E.F ACADEMIC YEAR : 2017-18)				NEW PATTERN (W.E.F ACADEMIC YEAR:2019-20)			
Sr. No	Paper Code	Nature Of Paper	Title Of The Paper	Sr. No	Paper Code	Nature Of Paper	Title Of The Paper
1	Eco:121	Core Paper	Advanced Micro Economics: II	1	ECO- 201	Core	Advance Price Theory–II
2	Eco:122	Core Paper	Modern Public Economics : II	2	ECO- 202	Core	Public Finance-II
3	Eco:123(A)	Optional Paper	Research Methodology for Economics	3	ECO- 203	Core	Research Methodology for Economics
4	Eco:123(B) *	Optional Paper	Comparative Economic Systems in the World				
5	Eco:124(A)	Optional Paper	Economics of Agriculture & Rural Development	4	ECO- 204 (A)	Optional	Agricultural Economics-II
6	Eco:243(B) *	Optional Paper *	Economics of Labor-II (M.A.II SEM- IV)	5	ECO- 204 (B)	Optional	Rural Development
7	Eco:124(C) *	Optional Paper	Economics Of Population				

Note: * Semester of the Paper is Changed.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
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M.A. Economics

Equivalence of M.A. Economics: Part – II : Semester: III

OLD PATTERN (W.E.F ACADEMIC YEAR:2018-19)				NEW PATTERN (W.E.F ACADEMIC YEAR:2020-21)			
Sr. No.	Nature Of Paper	Paper Code	Title Of the Paper	Sr. No.	Nature Of Paper	Paper Code	Title Of the Paper
1	Core Paper	Eco:231	Advanced Monetary Economics: I	1	Core Paper	ECO- 301	Monetary Economics
2	Core Paper	Eco:232	Theories of Economic Development	2	Core Paper	ECO- 302	Economics of Development
3	Optional	Eco:233 (A)	Economics of International Trade: II	3	Core Paper	ECO- 303	International Economics-I
4	Optional	Eco:233 (B)	Economics Of Labor - I				
5	Optional	Eco:234 (A)	Computer Techniques For Economics	4	Optional	ECO- 304(A)	Modern Banking System in India
6	Optional	Eco:234 (B)	Indian Banking System	5	Optional	ECO- 304(B)	Economics of Labour - I
7	Optional	Eco:234 (C)*	Mathematical Economics	• Paper Changed			
8	Optional	Eco:114 (B)*	Industrial Economics – I (M.A.I SEM- I)				

Equivalence of M.A. Economics: Part – II: Semester: IV

OLD PATTERN (W.E.F ACADEMIC YEAR:2018-19)				NEW PATTERN (W.E.F ACADEMIC YEAR:2020-21)			
Sr. No.	Nature Of Paper	Paper Code	Title Of the Paper	Sr. No.	Nature Of Paper	Paper Code	Title Of the Paper
1	Core Compulsory	Eco:241	Advanced Monetary Economics: II	1	Core Paper	ECO- 401	Dissertation
2		Eco:242	Theories of Economic Growth	2	Core Paper	ECO- 402	Theories of Economic Growth
3	Optional Paper	Eco:243(A)	Economics of International Trade: II	3	Core Paper	ECO- 403	International Economics-II
4	Optional	Eco:243:B	Economics Of Labor - II				
5	Optional	Eco:244(A)	Economics of Public Utilities & Services	4	Optional	ECO-404(A)	Financial Markets in India
6	Optional	Eco:244(B)	Money & Capital Markets in India	5	Optional	ECO- 404(B)	Economics of Labour - II
6	Optional	*Eco:244(C)	Econometrics	* Paper Changed			
7	Optional	*Eco:124(B)	Industrial Economics – II (M.A.I SEM-II)				

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Humanities

Department of Economics

M.A. Economics: Part – II : Semester: III

NEW PATTERN (W.E.F ACADEMIC YEAR : 2020-21)

Sr. No.	Paper Code No.	Nature Of Paper		Title Of The Paper
1	ECO-301	Core Paper	<i>Compulsory Paper</i>	Monetary Economics
2	ECO-302	Core Paper	<i>Compulsory Paper</i>	Economics of Development
3	ECO-303	Core Paper	<i>Compulsory Paper</i>	International Economics-I
4	ECO-304 (A)	Elective	<i>Optional paper</i>	Modern Banking System in India
5	ECO-304 (B)	Elective	<i>Optional paper</i>	Economics of Labour – I

M.A. Economics: Part – II : Semester: IV

NEW PATTERN (W.E.F ACADEMIC YEAR : 2020-21)

Sr. No.	Paper Code No.	Nature Of Paper		Title Of The Paper
1	ECO-401	Core Paper	<i>Compulsory Paper</i>	Dissertation
2	ECO-402	Core Paper	<i>Compulsory Paper</i>	Theories of Economic Growth
3	ECO-403	Core Paper	<i>Compulsory Paper</i>	International Economics-II
4	ECO-404 (A)	Elective	<i>Optional paper</i>	Financial Markets in India
5	ECO-404 (B)	Elective	<i>Optional paper</i>	Economics of Labour – II

SEMESTER – III

- **Paper Code No: Eco: 301**

- **Title: Monetary Economics**

- **Nature: Core Paper**

- **Total Hours Required: 60**

Learning Objectives

1. To identify the determinants of various macroeconomic aggregates such as output, unemployment, inflation, productivity and the major challenges associated with the measurement of these aggregates.
2. Discuss the linkages between financial markets and the real economy, and how these linkages influence the impact of economic policies over differing time horizons.
3. To describe the main macroeconomic theories of short term fluctuations and long term growth in the economy.
4. Students will be able to critically evaluate the consequences of basic monetary policy and fiscal policy under differing economic conditions.

Unit 1. Introduction to Monetary Economics**Marks/Hrs.12**

- 1.1 Monetary Economics: Meaning, Nature, Scope and importance.
- 1.2 Functions and types of Money.
- 1.3 Significance and Role of Money
- 1.4 The Circular flow of Money, Inside and outside Money, Neutrality of Money.

Unit 2 Demand for Money**Marks/Hrs.12**

- 2.1 The Quantity Theory of Money and its variants.
- 2.2 The Keynesian Theory of Money and price.
- 2.3 The Liquidity Theory of Money.
- 2.4 Demand of Money: classical and neo classical approaches
- 2.5 Approaches of Baumol and Tobin, Patinkin.

Unit 3 Supply of Money**Marks/Hrs.12**

- 3.1 Supply of Money-RBI Approach to money supply, High Powered Money
- 3.2 Sources of Changes in Money Supply in India
- 3.3 Deficit Budget and Money Supply
- 3.4 Money Multiplier and its Limitations.

Unit 4 Neo classical and Keynesian Synthesis**Marks/Hrs.12**

- 4.1 IS-LM Curve: derivation, Equilibrium.
- 4.2 Theory of Inflation- Structural theory, Philips curve analysis, modified Philips Curve.
- 4.3 Stagflation, supply side of economics- Laffer curve
- 4.4 Theories of Business Cycle: Keynes, Kaldor, Schumpeter, Samuelson, Hicks.

Unit 5 Monetary Policy and Fiscal Policy**Marks/Hrs.12**

- 5.1 Monetary Policy: objectives, Targets and Indicators.

- 5.2 Classical, Keynesian and Modern view on Monetary Policy.
- 5.3 Fiscal Policy: coordination between Monetary and fiscal Policy
- 5.4 Crowding out Effect and Availability Doctrine.

References: -

RECOMMENDED & REFERENCE BOOKS FOR SEMESTER – III

(Eco: 301 Monetary Economics)

- Jhingan M.L. Monetary Economics, Vrunda Publication, Pvt. Ltd. New Delhi. 2016.
- 'Modern Monetary Theory', Kishore G. Kulkarni, (1999) Macmillan India Ltd.
- 'Macroeconomic' Hall R.E. And J.B. Taylor (1986), W.W. Norton, New York.
- 'Macroeconomic' (8th Edition) Rudiger Dornbusch, Stanely, Fischer, Richard Startz, (2001), Tata Mcgraw Hill Publishing Ltd. New Delhi.

SEMESTER – III

- **Paper Code No: Eco: 302**

- **Title: Economics of Development**

- **Nature: Core Paper**

- **Total Hours Required: 60**

Learning Objectives

1. The goal of this course is to provide students with the essential tools and concepts of development economics, to prepare them to understand what makes underdevelopment persist and what helps development succeed.
2. The course deals with the principal issues of economic development, with the objective of preparing students for advanced study and policy-oriented research in this subject area.
3. Emphasis will be on economy-wide aspects of economic development.

Unit 1. Introduction to Economic Development**Marks/Hrs.12**

- 1.1 Development: Meaning, Determinants, Indicators.
- 1.2 Measurement of Economic Development.
- 1.3 Concept of sustainable development: Meaning, Importance, and Advantages
- 1.4 Human Development Index and Physical Quality of Life Index (PQLI).
- 1.5 Obstacles to economic development.
- 1.6 Characteristics of Developing Economy.

Unit 2 Theories of Economic Development**Marks/Hrs.12**

- 2.1 Classical theories of Development (Adam Smith, Ricardian, J.S. Mill, Marx, Schumpeter).
- 2.2 Myrdal's theory of circular causation, Social Dualism, Technological Dualism,
- 2.3 Models of Dualistic growth (Lewis, Fei and Ranis Models).

Unit 3 Strategies of development**Marks/Hrs.12**

- 3.1 Rosenstein Rodan's Big Push Theory
- 3.2 Balanced growth,
- 3.3 Unbalanced growth
- 3.4 Critical minimum efforts thesis, Low level equilibrium trap,
- 3.5 Dependency theory. Agriculture and economic development.

Unit 4 Trade and development**Marks/Hrs.12**

- 4.1 Two-gap theory, import substitution vs. export-led strategies.
- 4.2 Role of capital formation, internal and external sources of capital formation
- 4.3 Human capital formation and economic development,
- 4.4 Role of foreign investment in economic development.

Unit 5 Sectoral Aspect of Development

Marks/Hrs.12

5.1 Role of Agricultural and Industries in Economic Development

5.2 Infrastructure and Economic Development –

5.2.1 Importance of Infrastructure

5.2.2 Types of infrastructure- Physical and Social

5.2.3 Role of Infrastructure in Economic Development.

References: -

RECOMMENDED & REFERENCE BOOKS FOR SEMESTER – III

(Eco: 302 Economics of Development)

1. Yotopoulos and Nugent (1976), Economics of Development – Empirical Investigation, Harper and Row, New York.
2. Higgins, B. (1966), Economic Development – Problems, Patterns and Policies, Central Book Depot, Allahabad.
3. Todaro, M.P. (1966), Economic Development in Third World, Orient Longman, Hyderabad.
4. Meier, G. (ed.) (1995), Leading Issues in Economic Development, Oxford University, New Delhi.
5. Datta and Sunderam, Indian Economy.
6. Ramesh Singh, Indian Economy, Tata Mc-Graw Hill Publication.
7. Uma Kapila, Indian Economy.

SEMESTER – III

- **Paper Code No: Eco: 303**

- **Title: International Economics-I**

- **Nature: Core Paper**

- **Total Hours Required: 60**

Learning Objectives

1. Discuss the major economic theories of international trade, and to analyze the economic implications of alternative trade policies.
2. Able to trace the development of the international financial architecture and of the international monetary system, and to evaluate the implications of different exchange rate regimes for domestic macroeconomic policy.
3. To identify major economic characteristics of selected world's regions.
4. Able to trace the origins of various processes of international (global or regional) economic integration, and to discuss their implications for the international patterns of productive specialization.

Unit 1 Theories of International Trade – I**Marks/Hrs. 12**

- 1.1 Meaning and significance of International economics
- 1.1 Modification in theory of Comparative cost
- 1.2 Mill's theory of International Value
- 1.3 Marshal-Edgeworth offer curve explanation
- 1.4 Haberler Opportunity cost theory
- 1.5 Empirical Verification of HO Theory- Leontief Paradox

Unit 2 Theories of International Trade – II**Marks/Hrs. 12**

- 2.1 Factor Intensity Reversals, Factor price equilibrium theory (Samuelson analysis, Hicks Analysis, Lerner's analysis, Kindle Berger analysis, Soderston's analysis), Stolper – Samuelson Theorem, Rybczynski Theorem
- 2.2 Complementary trade theories: Specific factor model, Two specific factor model, Technological gap and product cycle model and trade, Kravis theory of trade, Linder's theory of demand, Donald Keesing's theory of trade.
- 2.3 Intra Industry Trade: Meaning of Intra-Industry Trade, Neo Heckscher-Ohlin Model, Neo Chamberlin Model, Neo Hotelling Model, Oligopolistic Model (Brander-Krugman Model, Reciprocal Dumping Model)
- 2.4 Technical Progress and International Trade: Meaning, Classification of Technical Progress, Effects of Technical Progress On Trade (Neutral Technical Progress, Labour Using/Capital Saving Technical Progress, Capital Saving/ Labour Using Technical Progress)

Unit 3 Gains from International Trade and Terms of Trade. Marks/Hrs. 12

- 3.1 Meaning, Nature, Sources and factor determining size of Gain
- 3.2 Potential and actual gain from trade
- 3.3 Measurements of gains from trade: Classical method, Modern Approach
- 3.4 Gains from trade and income distribution
- 3.5 Gains from trade in case of large and small country
- 3.6 Free trade V/s No Trade and Restricted Trade V/s No trade
- 3.7 Static and dynamic gains from trade
- 3.8 Meaning, Types and Importance of terms of trade
- 3.9 Factors affecting on terms of trade
- 3.10 Secular deterioration in terms of trade-Prebish-Singer Thesis
- 3.11 Impact of deterioration of terms of trade on Developing Countries

Unit 4 International Trade Policy Marks/Hrs. 12

- 4.1 Free Trade Policy V/s Protected Trade Policy
- 4.2 Arguments in Favor and against of free trade and protective trade
- 4.3 Role of protection in developing countries
- 4.4 Barriers to trade for tariff – Meaning, Types, Effects, Optimum Tariff – effective rate of protection
- 4.5 Barrier to trade for non-tariff – Quotas, Exchange control, dumping, subsidies, international cartels, political economy of protection
- 4.6 Trade policy in developing countries – infant industry arguments and its problems, import substitution V/s Export promotion
- 4.7 State trading- forms, objectives, merits and demerits.

Unit 5 Balance of Payments & Foreign Exchange. Marks/Hrs. 12

- 5.1 Meaning, components of Balance of Payments
- 5.2 Adjustment mechanism of Balance of payments
- 5.3 Internal and external balance and balance of payments
- 5.4 Income adjustment- Foreign trade and Balance of payment
- 5.5 Devaluation and balance of payment
- 5.6 Foreign exchange rate (Meaning and instrument, Functions of Foreign exchange markets, Determination of equilibrium exchange rate, Spot and Forward exchange rate, Mint Parity Theory, Purchasing Power Parity Theory, Imperial test of PPP Hypothesis, Balance of Payments theory, Monetary approach to rate of exchange, Portfolio Balance approach, factor causing variation in exchange rate
- 5.7 International capital movement and balance of payment
- 5.8 The transfer problems

SEMESTER – III• **Paper Code No: Eco: 304 (A)**• **Title: Modern Banking System in India**• **Nature: Elective Paper**• **Total Hours Required: 60****Learning Objectives**

1. The main objective of the course is to provide students with the necessary theoretical and conceptual tools used in banking.
2. The course will provide the intellectual framework used in the banking process: financial analysis, valuation and the mechanics of deal structuring.
3. This course is appropriate for students who are pursuing a career in banking or an internship in the banking division of a financial firm.

Unit 1 Commercial Banking Theory**Marks/Hrs.12**

- 1.1 Functions of modern commercial Banks –
- 1.2 Structure of Banking system in India.
- 1.3 System of Banking: Group Banking, Chain Banking, Unit Banking, Branch Banking, Investment Banking, Universal Banking, Merchant Banking, Virtual Banking, Mixed Banking, Green Banking.
- 1.4 Banking Operations- Prudential norms, classification of assets, provisioning requirement of assets, discloser standards, risk management system.
- 1.5 Policies and Principles of commercial Banks: Objectives of Portfolio management, Theories of portfolio management, the liabilities management theory, Investment policy of commercial Bank, Essential of a sound Banking system.

Unit 2 Commercial Bank and Priority Sectors**Marks/Hrs.12**

- 2.1 Classification of priority sector advances.
- 2.2 Certain types of fund development eligible as priority sector advices.
- 2.3 Target for priority sector lending by scheduled commercial bank.
- 2.4 Common guideline for priority sector advances.
- 2.5 Problems of Non- performing assets.

Unit 3 Regional Rural Banks and Co-Operative Banking in India**Marks/Hrs.12**

- 3.1 Regional rural Banks – Objective, Function, Achievement and weaknesses.
- 3.2 Co-Operative Bank – Meaning Structure and Development of Co-Operative Bank.
- 3.3 Objective and Function of rural and urban Co-Operative Bank. (State Co-Operative Bank, District Co-Operative Bank, Urban Co-Operative Bank, Janata Co-Operative Bank)
- 3.4 Co-Operative credit societies types and progress.
- 3.5 NABARD – objective, function and Role in rural development.

Unit 4 Working and Operation of RBI**Marks/Hrs.12**

- 4.1 RBI – Objective Organization, nationalization of RBI.
- 4.2 Function of RBI.
- 4.3 Recent monetary policy of RBI
- 4.4 Development role of RBI- measure to development a bill market in India, discount finance house of India ltd.
- 4.5 Payment of soft element system - Development payment of soft element system in India.
- 4.6 Regulation of banking, Non-banking financial Intuition by RBI.
- 4.7 Financial Inclusion: Meaning, Rational and Importance, reason and measures of financial inclusion, recent initiative by RBI.

Unit 5 Reforms and New Technology in Indian Banking System**Marks/Hrs.12**

- 5.1 Report of the committee of on the financial systems (Narsiham Committee-I & II)
- 5.2 Reforms in Banking Sector: Prudential regulation and supervision, Rehabilitation of Nationalized Public sector Banks, Reduction in the SLR and CRR, Deregulation of Instant Role promoting competition phasing out of Directed Credit Base Rate Banking laws (Amendment) Act-2012.
- 5.3 New Technology in Banking Sector – Importance and Benefits of N.T.
- 5.4 Computerization of Banking - Core Banking, Net Banking, Tele Banking, Mobile Banking.
- 5.5 Bank Services - ATM, Credit and Debit Cards, EFT, NEFT, RTGS, ECS, NSS, E purchase, E-money, Electronic fund Transfer at point of Sale, EFTPOs)

Reference: -

RECOMMENDED & REFERENCE BOOKS FOR SEMESTER – III

(Eco: 304(A) Modern Banking System in India)

1. K.C. Shekhar, Banking C Vikas Publishing House Pvt.Ltd., New Delhi
2. O.P. Agrawal, Modern Banking of India, Himalaya Publishing House, Mumbai
3. N.C. Mujumdar, Modern Banking, New Central Book Agency (P)Ltd., Kolkata.
4. Ramchandran, banking WWW.mjppublishar.com
5. Perminder Khanna Advanced study in money and Banking. Atlantic Publisher.
6. Vasant Desai, the Indian Financial system and development, Himalaya Publishing House, Mumbai.
7. Datta Sunderam, Indian Economy.
8. Mishra Puri, Indian Economy.
9. Kolate, Indian banking System (Marathi) Prashout
10. Kolate, Banking Principles and praches (Marathi)
11. Chavhan, Principles and Practices of Banking (Marathi)
12. Fuse, Modern Banking and financial system (Marathi)
13. Chavhan, Indian Economy Part-II, Prashant Publication, Jalgaon.

SEMESTER – III

- **Paper Code No: Eco: 304 (B)**
- **Nature: Elective Paper**
- **Title: Economics of Labour-I**
- **Total Hours Required: 60**

Learning Objectives

1. To understand Issues pertaining to the labour market, wage theories, employment policies trade unions and collective bargaining in the globalized economy have become vitally important for developing countries.
2. In a country like India where the bulk of the labour force is in the unorganized sector and the organized sector is witnessing "jobless" growth, the importance of issues such as employment and unemployment as well as livelihood and social security for the growing millions continues to assume significance.
3. This paper exposes students to theoretical as well as empirical issues relating to the labour market with special reference to India.

Unit 1. Introduction to Labour Economics**Marks/Hrs.12**

- 1.1 Meaning and Concepts of Labour
- 1.2 Significance and Peculiarities of Labour
- 1.3 Definition, Nature, Scope and importance of Labour Economics
- 1.4 Characteristics of Indian Labour Market
- 1.5 Problems of Labour in the Developing Countries.

Unit 2 Demand and Supply of Labour**Marks/Hrs.12**

- 2.1 Demand and Supply for Labour: Meaning, Nature and Its Determinants
- 2.2 Productivity of Labour, Meaning, Objectives and Determinants
- 2.3 Labour Force: Concept, Size, Importance, Its Participation Rate and Composition.

Unit 3 Mobility of Labour**Marks/Hrs.12**

- 3.1 Meaning, Occupational and Geographical Mobility
- 3.2 Major Barriers in Mobility of Labour
- 3.3 Agricultural Labour: its Problems
- 3.4 Impact of Mechanization on Agriculture Labour
- 3.5 Labour Turnover- Trends in Labour Turnover in India.

Unit 4 Women and Child Labour**Marks/Hrs.12**

- 4.1 Women and Child Labour
- 4.2 Main Features of Women Labour and Child Labour
- 4.3 Women and Child Labour Participation in Organized and Unorganized Sectors
- 4.4 Main Problems of Women Labour in India
- 4.5 Factors Affecting Employment of Women Labour

4.6 Legislative measures for Welfare and Protection for Women and Child Labour in India.

Unit 5 Wage Determination

Marks/Hrs.12

- 5.1 Wage Determination Theory: Classical, Neo-classical and Collective Bargaining Theory
- 5.2 Concepts Minimum Wage, Living wage and Fair Wage in Theory and in Practice
- 5.3 Wage Determination in Organized and Unorganized Sectors
- 5.4 Discrimination in Labour Markets
- 5.5 National Wage Policy in India: Objectives and its Critical Appraisal.

References:

RECOMMENDED & REFERENCE BOOKS FOR SEMESTER – III

(Eco: 304 B- Economics of Labour - I)

1. Bhagoliwal T.N. Economics of Labour and Industrial Relations: Sahitya Bhavnagar (2002)
2. Roy B Helfgott: Labour Economics: Random House, New York (1973)
3. John N Dunlop:(Ed) The Theory of Wage Determination: Macmillan (1966)
4. Hajela. P.D.: Labour Restructuring in India: A Critique of New Economic Policies: Commonwealth Publishers
5. Venkata Ratnam C.S.: Globalization and Labour Management Relations: Dynamics of Hange; Sage Publication, New Delhi.
6. Punekar, S.D., Deodhar S.B., Saraswati Sankaran: Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, New Delhi (2012)

Choice Based Credit System (CBCS)

Syllabus for M.A. (Social Sciences)

Theory: 60

Practical/Internal: 40

Total Hours: 30

AC-301 C: Use of SPSS in Social Sciences

- **Introduction to SPSS** - Meaning and purpose, using the windows in SPSS: Title Bar, Menu Bar, Tool Bar, Status Bar; Using SPSS windows: Data View, Variable View Open SPSS files, Create and Modify Data files and Load Excel files Coding (05 Hrs.)
- **Data Management in SPSS (I)** - Data Modification: Recode Variables, Create new variables, Select cases, Split cases, Rank cases (05 Hrs.)
- **Data Management in SPSS (II)** - Visual Binning, Various transformations; logarithmic, inverse, cubic, quadratic etc (05 Hrs.)
- **Descriptive Statistics (I)** - Frequency Tables, Descriptive Tables, Cross Tabulation, Multiple Responses (05 Hrs.)
- **Descriptive Statistics (II)** - Pie Charts, Box plots, Graphs with Chart Builder, Contingency Tables, Export to word processing programs (05 Hrs.)
- **Testing Data** - Associations in contingency tables, binomial test, Types of t-tests, Analysis of Variance, Correlation, Regression Analysis, Factor analysis, ANOVA, Non-parametric techniques (05 Hrs.)

References:

- Coakes, S.J., *SPSS Analysis without Anguish*, John Wiley and Sons, Australia, 2005
- Einspruch Eric L. (2004), "Next Steps with SPSS", London/New Delhi, Sage Publication
- Einspruch Eric L. (2005), "An Introductory guide to SPSS for Windows", London/New Delhi, Sage Publication, 2nd Eds.
- Field, A., *Discovering Statistics Using SPSS*, Sage Publications Ltd, 2005.
- Gerber, S.B. and Finn, K.V., *Using SPSS for Windows-Data Analysis and Graphics*, Springer, USA, 2005
- Kirkpatrick, L.A. and Feeney, B.C., *A Simple Guide to IBM SPSS Statistics*, Cengage Learning, 2012
- Pandya, K., Bulsari, S. and Sinha, S., *SPSS in Simple Steps*, Kogent Learning Solutions, dreamtech Press, New Delhi, 2012

मॅनफ्रेड ते ग्रोतेन्युईस आणि मॅथीज्सेन, (२०१७), "SPSS चे प्राथमिक पाठ" न्यू दिल्ली, सेज भाषा पब्लिकेशन .

Choice Based Credit System (CBCS)
Syllabus for M.A. (Social Sciences)

Theory: 60
Practical/Internal: 40
Total Hours: 30

AC- 301 D: Application of E- Learning

- Introduction to E- Learning -Meaning nature and scope of e learning, Hrs:05
Types of e learning, Need an importance of e learning Limitations of e learning.
- E-Resources - Definition and types of e resources, E- book, Inflight, Hrs:05
virtual Hours, Skype and video conferencing and a media.
- Strategy of e Learning-Advantages and disadvantages of e learning. Hrs:05
- E Governance -E- Governance an introduction, Government governance Hrs:05
and democracy, ICT for development.
- E-Governance projects in India -Measures to be considered before going for Hrs:05
e governance, Challenges before the government and the governance.
- E-Commerce -Introduction to e commerce and e commerce activities, Hrs:05
Marketing security & E-Payment system, Customer relationship management, Supply chain
management and implementation of e commerce.

References-

1. E-Government for Developing Countries: Opportunities and Challenges". The Electronic Journal on Information Systems in Developing Countries (EJISDC). 2004.
2. Teriz, N (2011). "The impact of e-commerce on international trade and employment". Procedia - Social and Behavioural Sciences. 24: 745–753.
3. Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press. [ISBN 978-0-521-78749-9](https://doi.org/10.1017/9780521787499).

SEMESTER – IV

• **Paper Code No: Eco: 401**

• **Title: Dissertation**

• **Nature: Core Paper**

• **Total Hours Required: 60**

Objectives:

1. Each student will have to do field work on a Unit assigned, under the supervision of a teacher.
2. The Unit of such research project shall be relevant to economics course on the whole.
3. The type of research project (qualitative, quantitative or combined) should be based on the consensual decision of both the student and the supervisor.
4. The sample size for quantitative research shall not be less than 50 respondents; and minimum of 10 cases if it is qualitative.
5. Not less than 4 class hours per week or 60 hours in 4th semester shall be spent by the student for such Research Project.
6. A total of 4 Credits shall be allocated to the Research Project Course.
7. A certificate from the Institution/ Industry/ Panchayat/ Banks etc. should be enclosed with the research report if the project fieldwork is done in such institution.
8. Plagiarism should be avoided and the Department/college should check the project report for plagiarism.
9. The student has to submit two bound copies of Research Dissertation to the Head/Director of the Department/College Principal on or before the last working day of the IV semester in a prescribed format.
10. Internal evaluation will be done by the concerned teacher or guide.
11. External Examination will be conducted by two examiners one of whom will be internal and second will be external examiners.
12. Marks for Project Report and Presentation and viva-voce will be given by both examiners and the average of the same will be considered as final marks of candidate.

External Examination: -60 marks

Report writing	Presentation	Viva-voce
20	20	20

Internal Examination: - 40 marks

Regularity and punctuality	Presentation	Outline	Viva-voce
10	10	10	10

SEMESTER – IV

- **Paper Code No: Eco: 402**

**Title: Theories of Economic Growth**

- **Nature: Core Paper**

**Total Hours Required: 60****Learning Objectives**

1. The goal of this course is to provide students with the essential tools and concepts of development economics, to prepare them to understand what makes underdevelopment persist and what helps development succeed.
2. The course deals with the principal issues of economic development, with the objective of preparing students for advanced study and policy-oriented research in this subject area.
3. Emphasis will be on economy-wide aspects of economic development.

Unit 1 Introduction to Economic Growth**Marks/Hrs.12**

- 1.1 Economic Growth – Meaning, Indicators,
- 1.2 Determinant factors of Economic Growth.
- 1.3 Features of Modern Economic Growth,
- 1.4 Economic Growth and Social Justice.
- 1.5 Doctrine of Balanced Growth.

Unit 2 Growth Models – I**Marks/Hrs.12**

- 2.1 Classical Models (Growth Theories) – Adam Smith, Karl Marx and Schumpeter
- 2.2 Neo Classical Models (Growth Theories) – Meads and Solow Models
- 2.3 Keynesian Theory of Under develop Countries: Essence and relevance, Post Keynesian Phases- steady states and stability
- 2.4 Critical Evaluation of Neo Classical Models.
- 2.5 Harrods Model of Economic Growth, Domars Model of Economic Growth

Unit 3 Growth Models – II**Marks/Hrs.12**

- 3.1 Lewis Theory of Unlimited Supply of Labour.
- 3.2 The Kaldor Model of Distribution.
- 3.3 Mrs. Joan Robinsons Model of Capital Accumulation.
- 3.4 A.K. Sen's Model – Explanations of cross country differentials in Economic Growth.

Unit 4 Technological Change and Growth**Marks/Hrs.12**

- 4.1 Obstacles in Economic Growth.
- 4.2 Contribution of Technology to Growth.
- 4.3 Choice of Techniques.
- 4.4 Hicks and Harrods Views on Neutrality.

Unit 5 Investment Criteria**Marks/Hrs.12**

- 5.1 Meaning of Investment Criteria
- 5.2 Marginal Social Productivity Criteria, Rate of return criteria
- 5.3 Objectives of factor allocation of Investment.

References: -

RECOMMENDED & REFERENCE BOOKS FOR SEMESTER – IV

(Eco: 402 Theories of Economic Growth)

1. Adelman (1961), Theories of Economic Growth and Development, Stanford University Press, Stanford.
2. Solow R.M. (1991), A Contribution to the Theory of Economic Growth – Quarterly Journal of Economics.
3. Hendrik Van den Berg, Economic Growth and Development: Second Edition.
4. Anthony Thirlwall, Growth and development, with special reference to developing economies
5. Eve Fleck and Gloria Leifer, Growth and Development Across the Lifespan: A Health Promotion Focus.
6. Kavimandan Vijay, Vikasache arthashastra. (Marathi)

SEMESTER – IV

• Paper Code No: Eco: 403

• Title: International Economics - II

• Nature: Core Paper

• Total Hours Required: 60

Learning Objectives

1. Discuss the major economic theories of international trade, and to analyze the economic implications of alternative trade policies.
2. Able to trace the development of the international financial architecture and of the international monetary system, and to evaluate the implications of different exchange rate regimes for domestic macroeconomic policy.
3. To identify major economic characteristics of selected world's regions.
4. Able to trace the origins of various processes of international (global or regional) economic integration, and to discuss their implications for the international patterns of productive specialization.

Unit 1 Capital Movement and Foreign Capital

Marks/Hrs.12

- 1.1 Capital Movement: Meaning, Classification and factor governing International Capital Movement
- 1.2 Need of Foreign Capital for LDCs
- 1.3 Sources, types of Foreign Capital
- 1.4 FDI and FII (Meaning, Objective, Importance Merits & Demerits of FDI)
- 1.5 FDI in India: from 1991 inflow and outflow, factors affecting to FDI in India, roots of FDI in India, sector wise and region wise FDI in India, Critical Appraisal of FDI in India
- 1.6 Multinational Corporation (Definition, Features, Spread, reasons for the growth of MNCs, Role of MNCs in developing countries drawbacks of MNCs)
- 1.7 MNCs in India

Unit 2 International Finance Institutions & Economic Cooperation.

Marks/Hrs.12

- 2.1 IMF, World Bank, World bank group, ADB and BRICS Bank: Objectives, functions, organisation, structure, achievements & Critical appraisal.
- 2.2 Problems of international liquidity and SDRs
- 2.3 Euro Currency
- 2.4 Economic Cooperation: Meaning, Forms, and Benefits
- 2.5 Customs Union and free trade area: static and dynamic effects

- 2.6 Group of economic cooperation: EEC, UNCTAD, OECD, OPEC, GATT, WTO, SAARC, BRICS. (Origin, Objectives, Organisation, Functions, Achievements and Failures)

Unit 3 Globalisation and India

Marks/Hrs.12

- 3.1 Meaning of Globalisation
- 3.2 Globalisation and India: Economic crisis in India (1990), The push towards Globalisation
- 3.3 India's steps towards globalization
- 3.4 Obstacles to globalization in India
- 3.5 Effects of globalization on Indian Economy

Unit 4 New International Economic Order (NIEO)

Marks/Hrs.12

- 4.1 Origin, Definition, needs, Objectives and basis of new international economic order
- 4.2 Main proposal crisis difficulties and efforts to solve the crisis in NIEO
- 4.3 Advantage towards NIEO
- 4.4 International debt problems
- 4.5 Sub-prime Crisis in America and there impacts on world economy
- 4.6 India's External Debt
- 4.7 External Debt Strategy in India

Unit 5 India's Balance of Trade & Balance of Payments

Marks/Hrs.12

- 5.1 Size composition and direction of India's Foreign Trade
- 5.2 Balance of payments since 1991
- 5.3 Causes of adverse in BOP
- 5.4 Measures to correct adverse BOP
- 5.5 India's Recent Foreign Trade Policy

References:

RECOMMENDED & REFERENCE BOOKS FOR SEMESTER – I & II

(Eco: 303 International Economics-I - & Eco: 403 International Economics-II)

- 1. Soderston, Bo (1991), International Economics, The McMillan Press Ltd., London
- 2. Ellsworth P.T. International Economics (1961), The McMillan Press Ltd., London
- 3. Kindle Berger C.P., (1968), International Economics, Richard D. Irwin, Inc. Homewood, Illinois
- 4. Bhagwati J., (1981), International Trade, Selected readings, Cambridge University Press, Massachusetts.
- 5. Haberler G.V., The Theory of International Trade, William Hodge & Co. Ltd. London

6. Krugman P.R. & Obstfeld M. (2009), International Economics (theory and Policy), Pearson (Indian Edition)
7. Salvatore D., (2008), International Economics, Wiley India Pvt. Ltd., New Delhi
8. Mithani D.M., (2010), International Economics, Himalaya Publishing House, Mumbai
9. Zingan M.L., (2008), International Economics, Vrinda Publications Pvt. Ltd., New Delhi
10. Sinha V.C., (2004), International Economics, Mayur Paperbacks, New Delhi
11. Rana K. C., Verma K.N., (2008), International Economic, Vishal Publishing Co., Jalandhar
12. Bapat B.G., (1982), Antarashtriya vyaapar Siddhant aani dhoran (marathi), Marathi Arthdahastra Parishad, Pune
13. Modak S.K., Antarrashtriya Arthshastra, (marathi) Shree Vidya Prakashan, Nagpur
14. Zamare G.M., Antarrashtriya Arthshastra(Marathi) Pimpalapur and Co. publishers, Nagpur
15. Chavhan N.L., (2005) Antarrashtriya Arthshastra (Marathi), Prashant Publications, Jalgaon
16. Chavhan N.L., (2013) Antarrashtriya Vyapar aani Vyavahar (Marathi), Prashant Publications, Jalgaon
17. Chavhan N.L., (2016), Bhartiya Arthavyavastha, Prashant Publications, Jalgaon

Some Useful Internet Website and other Information

- IMF <http://www.imf.org>
- OECD <http://www.oecd.org>
- WTO <http://www.wto.org>
- World Bank <http://www.worldbank.org>
- World investment report
- World Development report
- RBI annual report
- Economic Survey of India.

SEMESTER – IV

- **Paper Code No: Eco: 404 (A)**
- **Nature: Elective Paper**
- **Title: Financial Markets in India**
- **Total Hours Required: 60**

Learning Objectives

1. The main objective of the course is to provide students with the necessary theoretical and conceptual tools used in banking.
2. The course will provide the intellectual framework used in the banking process: financial analysis, valuation and the mechanics of deal structuring.
3. This course is appropriate for students who are pursuing a career in banking or an internship in the banking division of a financial firm.

Unit1 The Financial System in India.**Marks/Hrs.12**

- 1.1 Structure of financial system.
- 1.2 Financial system and economic development
- 1.3 Functions of financial system.
- 1.4 Key elements of a well-functioning financial market
- 1.5 Nature & Role of Financial Institutions and financial market.

Unit 2 The Money Market**Marks/Hrs.12**

- 2.1 Introduction of Money Market
- 2.2 Institution and Instruments of Money Market
- 2.3 Significance of Money Market
- 2.4 Characteristics of Developed and Underdeveloped Money Market
- 2.5 Defects of Indian Money Market
- 2.6 Suggestions to improvement in Indian Money Market
- 2.7 Recent Reforms in Indian Money Market

Unit 3 The Capital Market**Marks/Hrs.12**

- 3.1 Nature, structure, Instruments and Features of Indian Capital Market.
- 3.2 Stock market in India: N.S. E., B.S.E., O.T.C.E.I. Function, Role, Progress and Problems.
- 3.3 Equity market.
- 3.4 Corporate Bond Market in India.
- 3.5 Derivate Market in India.
 - i) Meaning, Development of the Derivatives Market, Function and Regulations
 - ii) Forex Derivatives: Meaning, Development, Functions & Regulations.
 - iii) Rupees Interest Rate Derivatives Meaning, Development, Functions & Regulations.
 - iv) Commodity derivatives market in India: Evolution, Structure, Mechanism, Function & Regulation.
- 3.6 S.E.B.I.: Functions and Its Impact on Capital Market.
- 3.7 Securities Depository in India: Importance, Functions and Problems.

3.8 Credit Rating Services: Meaning, Need, Benefits & Rating Agencies in India.
(CRISIL, ICRA, CARE)

Unit 4 New Development in Indian Financial System

Marks/Hrs.12

4.1 Micro Finance

- i) Micro finance Delivery Model in India.
- ii) Policy Initiative in India.
- iii) Progress of micro finance in India.
- iv) Impact of Micro Finance in India.
- v) Key Issues for Indian Banks in micro Finance.

4.2 Self-help group.

4.3 Financial literacy & Credit Counseling

4.4 Financial stability

- i) An Assessment of Indian Financial system.
- ii) Key sources of variability to the Indian financial system
- iii) mitigating risks through financial sector policy.

4.5 KYC – Norms and Policy.

Unit 5 Financial Services

Marks/Hrs.12

5.1 Leasing

5.2 Hire-Purchase.

5.3 Factoring and Forfaiting

5.4 Housing finance

5.5 Venture capital financing.

Reference: -

(Eco: 404(A) Financial Market in India)

1. K.C. Shekhar, Banking C Vikas Publishing House Pvt.Ltd., New Delhi
2. O.P. Agrawal, Modern Banking of India, Himalaya Publishing House, Mumbai
3. N.C. Mujumdar, Modern Banking, New Central Book Agency (P)Ltd., Kolkata.
4. Ramchandran, banking WWW.mjppublishar.com
5. Parameswaren, Indian Banking S. Chand and Co. N.D.
6. Perminder Khanna Advanced study in money and Banking. Atlantic Publisher.
7. Khan, financial services The McGraw Hill
8. Vasant Desai, the Indian Financial system and development, Himalaya Publishing House, Mumbai.
9. Datta Sunderam, Indian Economy.
10. Mishra Puri, Indian Economy.
11. Kolate, Indian banking System (Marathi) Prashout
12. Kolate, Banking Principles and practice (Marathi)
13. Chavhan, Principles and Practices of Banking (Marathi)
14. Fuse, Modern Banking and financial system (Marathi)
15. Chavhan, Indian Economy Part-II, Prashant Publication, Jalgaon.

SEMESTER – IV• **Paper Code No: Eco: 404 (B)**• **Title: Economics of Labour-II**• **Nature: Elective Paper**• **Total Hours Required: 60****Learning Objectives**

1. To understand Issues pertaining to the labour market, wage theories, employment policies trade unions and collective bargaining in the globalized economy have become vitally important for developing countries.
2. In a country like India where the bulk of the labour force is in the unorganized sector and the organized sector is witnessing "jobless" growth, the importance of issues such as employment and unemployment as well as livelihood and social security for the growing millions continues to assume significance.
3. This paper exposes students to theoretical as well as empirical issues relating to the labour market with special reference to India.

Unit 1 Problem of Unemployment- I**Marks/Hrs.12**

- 1.1 Unemployment, Concept, Types and Measurements
- 1.2 Causes of Unemployment
- 1.3 Employment and Development Relationship
- 1.4 Relation between employment and economic development.

Unit 2 Problem of Unemployment- II**Marks/Hrs.12**

- 2.1 Impact of Technological Change
- 2.2 Modernization in Agricultural sector
- 2.3 Recent Employment Policy of the Government of India.

Unit 3 Industrial Relations**Marks/Hrs.12**

- 3.1 Industrial Relation in India
- 3.2 Industrial Relation in the Public Sector and Small -Scale Sector
- 3.3 Labour Unions: Growth, Pattern and Structure in India
- 3.4 Impact of International Labour organization on the Indian Labour
- 3.5 Industrial Disputes: Concepts, Classification, Causes and Impacts, Collective Bargaining.

Unit 4 Social Security**Marks/Hrs.12**

- 4.1 Social Security: Concept, Objectives and Importance
- 4.2 Social Security: Measures in India
- 4.3 Labour Welfare: Basic Features, Need, Aims and Scope
- 4.4 Labour Welfare Activities in India
- 4.5 Labour Welfare Officer and His Duties
- 4.6 Contract Labour: and its problems.

Unit 5 Labour Legislations in India

Marks/Hrs.12

- 5.1 Labour Legislation: Objectives, Need, Forms, Principles and Applicability
- 5.2 Main Provisions of Labour Legislation in India
- 5.3 Recent Trade Union Act, Recent Payment Wage Act
- 5.4 Indian Labour Laws in Relation to International Labour Standards Role of Judicial Activision.

References:

1. Bhagoliwal T.N. Economics of Labour and Industrial Relations: Sahitya Bhavnagar (2002)
2. Roy B Helfgott: Labour Economics: Random House, New York (1973)
3. John N Dunlop:(Ed) The Theory of Wage Determination: Macmillan (1966)
4. Hajela. P.D.: Labour Restructuring in India: A Critique of New Economic Policies: Commonwealth Publishers
5. VenkataRatnam C.S.: Globalization and Labour Management Relations: Dynamics of Hange; Sage Publication, New Delhi.
6. Punekar, S.D., Deodhar S.B., SaraswatiSankaran: Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, New Delhi (2012)

Carrier Opportunity in Economics

Economists work as consultants, public policy analysts, financial managers, health insurance analysts and much more. One thing most of these career paths have in common, however, is the need for a master's degree to get your foot in the door and/or work your way through the ranks. Types of careers in economics that typically either require or benefit from a master's degree include:

- Economist
- IES (Indian Economic Service)
- Reserve Bank of India Special Officers (Grade B)
- Consultant
- Professor
- Policy Analyst
- Budget Analyst
- Market Researcher
- Data Scientist
- Statistician

WORK AS A GOVERNMENT ECONOMIST

According to the most recent statistics from the Bureau of Labor Statistics, 36 percent of economists work for the government at the local, state and federal levels. Government economists serve in a wide variety of positions involving policy research and analysis. Economists play an important role at each level of the government as policymakers use their insights when drafting, reviewing and implementing policies and programs. Working in the public sector, while not always the highest-paying option for master's degree holders, provides an opportunity to work on important societal problems, potentially improving the lives of others. Public sector jobs can also offer more security than some private sector jobs.

WORK AS A PRIVATE SECTOR ECONOMIST

Jobs in the private sector often require a Master's in Economics in order to gain even entry-level employment. For those who wish to enter the private sector, the knowledge and skills obtained in pursuit of a master's degree will be valuable for a wide range of careers. Economic consultants, for example, provide expert insight into complex financial and economic situations and offer expert testimony in major litigation cases. Consultants also apply economic analysis to help businesses evaluate and implement strategic decisions. Master's programs that specialize in applied economics are particularly beneficial for students who wish to enter the private sector, as this discipline focuses on the application of economic principles in the real world.

OTHER OPPORTUNITIES WITH A MASTER'S IN ECONOMICS

There are many other career paths and job opportunities for students of economics. For instance, you may want to assume a consulting or research role at one of the many economic "think tanks" in the country that help shape public policy decisions. Or if you have an interest in international development, a Master's in Economics can give you the skills to help solve global problems and prop up economically under-developed regions to the benefit of the people living there. Of course, there's also the academic route for economists. A Master's Degree in Economics is often the minimum requirement to teach economics at most two-year colleges; the Doctor of Philosophy degree is necessary for a faculty position in economics at most four-year colleges and universities. One of the best ways to set yourself up for a successful career in economics is to complete a master's degree.



**KAVAYITRI BAHINABAI CHAUDHARI
NORTH MAHARASHTRA UNIVERSITY, JALGAON**

(NAAC Re-Accredited 'A' Grade University)

Faculty of Commerce and Management

Structure B. Com. Programme

T.Y.B.Com

(W.e.f. 2020-21)

Sr. No	Objectives	Paper No.	Third Year B.Com Semester (V) (W.e.f. June-2020-21)
I	LANGUAGE COMPETENCE International Link Language:		-----
	Local Language		-----
II	CORE COMPETENCE * Improving Economic Understanding & Capacity of Analysis * Preparing for facing the real Business World by Developing Necessary Skills in the Subject	501	Indian Economic Scenario
		502	Principles of auditing
		503	Business Management
		504	Income Tax
		505	Elective (Any One)*
			a) Human Resource Management b) Introduction to Business Research c) Economics of Global Trade and Finance
III	APPLIED COMPONENT Developing Skills for Applying Knowledge to Business Situations		506) & 507) Elective (Any One Group)**
			a) Advanced Accountancy I & II b) Advanced Cost & Management Accounting I & II c) Advanced Banking I & II d) Business Administration I & II

Sr. No	Objectives	Paper No.	Third Year B.Com Semester (VI) (W.e.f. June-2020-21)
I	LANGUAGE COMPETENCE International Link Language:		-----
	Local Language		-----
II	CORE COMPETENCE * Improving Economic Understanding & Capacity of Analysis * Preparing for facing the real Business World by Developing Necessary Skills in the Subject	601	Indian Economic Scenario
		602	Principles of Auditing
		603	Business Management
		604	Goods and Service Tax (G S T)
		605	Elective (Any One)*
			a) Human Resource Management b) Introduction to Business Research (Project) c) Economics of Global Trade and Finance
III	APPLIED COMPONENT Developing Skills for Applying Knowledge to Business Situations		606) & 607) Elective (Any One Group)**
			a) Advanced Accountancy I & II b) Advanced Cost & Management Accounting I & II c) Advanced Banking I & II d) Business Administration I & II



Kavayitri Bahinabai Chaudhari North Maharashtra
University, Jalgaon

M.A. English
(Part I)

Curriculum Specifics
**(Program Specific Objectives and Outcomes, Course Objectives
and Course Outcomes)**

(w.e.f. June 2021)

Faculty of Humanities
Post Graduate Courses
Under Choice Based Credit System (CBCS)
Summary of Distribution of Credits under CBCS for PG
(w. e. f. 2021-2022)

Type of Course	Sem. I	Sem. II	Sem. III	Sem. IV
Core	12	12	12	12
Skill based / Elective	04	04	04	04
Audit	02	02	02	02
Total Credits	18	18	18	18
Total Credits = 72				

Subject Type	Core	Skill based / Elective	Audit	Total Credits
Credits	48	16	08	72

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weight age in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T/P)	Total Credits	No. of Courses	Credits (T/P)	Total Credits	No. of Courses	Credits (P)	Total Credits	
I	3	4	12	1	4	4	1	2	2	18
II	3	4	12	1	4	4	1	2	2	18
III	3	4	12	1	4	4	1	2	2	18
IV	3	4	12	2	4	4	1	2	2	18

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV(Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201 (A)	Soft Skills	AC-301(A)	Computer Skills	AC-401(A)	Human Rights
		AC-201 (B)	Sport Activities	AC-301(B)	Cyber Security	AC-401 (B)	Current Affairs
		AC-201 (C)	Yoga	AC-301(C)	Related to concerned PG subject	AC-401(C)	Related to concerned PG subject
		AC-201 (D)	Music	AC-301(D)	Related to concerned PG subject	AC-401(D)	Related to concerned PG subject

Faculty of Humanities
Post Graduate Courses
Under Choice Based Credit System (CBCS)

Semester-wise Course Structure of M. A. English (w.e.f. 2021)

Semester I

Course	Course Type		Course Title	Teaching Hours/Week			Marks (Total 100)				Credits
				T	P	Total	Internal		External		
							T	P	T	P	
PG-ENG-101	Core			4	--	4	40	--	60	--	4
PG-ENG-102	Core			4	--	4	40	--	60	--	4
PG-ENG-103	Core			4	--	4	40	--	60	--	4
PG-ENG-DSE-104	A	Elective		4	--	4	40	--	60	--	4
	B	Skill		4	--	4	40	--	60	--	4
AC-101	Audit Course		Practicing Cleanliness	--	2	2	--	100	--	--	2
Total Credit for Semester I: 18 (T = Theory: 12; Skill Based/Elective: 4; Audit Course: 2)											

Semester II

Course	Course Type		Course Title	Teaching Hours/Week			Marks (Total 100)				Credits
				T	P	Total	Internal		External		
							T	P	T	P	
PG-ENG-201	Core			4	--	4	40	--	60	--	4
PG-ENG-202	Core			4	--	4	40	--	60	--	4
PG-ENG-203	Core			4	--	4	40	--	60	--	4
PG-ENG-DSE-204	A	Elective		4	--	4	40	--	60	--	4
	B	Skill		4	--	4	40	--	60	--	4
AC-201/202/203/204	Audit Course		Choose one out of Four (AC-201/ AC-202/AC-203/AC-204) from Personality and Cultural Development	--	2	2	--	100	--	--	2
Total Credit for Semester II: 18 (T = Theory: 12; Skill/Elective Based: 4; Audit course: 2)											

Program at a Glance

Name of the program (Degree)	: M. A. (English)
Faculty	: Humanities
Duration of the Program	: Two years (four semesters)
Medium of Instruction and Examination	: English
Exam Pattern	: 60 : 40 (60 marks University exam and 40 marks continuous internal departmental exam/assessment)
Passing standards (separate head of passing)	: 40% in each exam separately
Evaluation mode	: CGPA
Total Credits of the program	: 72 (48 core credits including 4 credits of project, 16 skill enhancement / elective credits and 08 audit credits)

About Course:

The syllabus framed for M.A. part I and II form AY 2021-22 is in accordance with the instruction given in CBCS pattern. The syllabus is in three tear structure, core courses, skill based/elective courses and audit courses. Core Courses fulfill the requirement of syllabus for specialization in literatures in English, criticism and various forms. Skill based or elective courses from the syllabus cater the need of skill development in the students. Audit courses contribute to the overall development of student personality.

In this world of globalization, the nature of job has become hybrid. Therefore students required such education which will help them in getting hybrid jobs and they can even gain the advantage of having their own start ups.

Program Objectives (POs) for M. A. Program:

1. To facilitate students to demonstrate a degree of mastery over the area as per their program of specialization at a level higher than requirements in UG program.
2. To enable students to carry out research/ investigation and development work independently to solve critical problems in their respective field
3. To apply a number of strategies for sorting through the applicability of and connections among a range of scholarly approaches to speculate and reconstruct their previous knowledge
4. To prepare students to produce original scholarship that contributes to knowledge in their respective fields
5. To persuade students to compare and validate previous and contemporary development in their respective field of knowledge to generate remedies for contemporary social situation.

Program Outcomes (POs) for M. A. Program:

After completing the program, the students will be able to-

PO No.	PO	Cognitive level
PO1	Use strategic connections among approaches to reconstruct their previous knowledge	3
PO2	Think and write research proposals/thesis/dissertations independently	6
PO3	Employ the strategies to achieve mastery over their program of specialization	3
PO4	Create study/reference material to contribute existing knowledge of their domain through research/books	6
PO5	Devise remedies for contemporary social issues by associating their knowledge with real situations.	4

Programme Specific Objectives (PSOs) for M. A. English Program:

1. To make students familiar with the areas of research in English Literature.
2. To further skills in students pertaining job opportunities.
3. To enhance students' perception of life through value education.
4. To develop analytical, interpretative and descriptive ability in students.

Programme Specific Outcomes (PSOs) for M. A. English Program:

Sr. No.	Outcomes	Cognitive level
1.	Skill based course will hone the skills in students, required for job.	3
2.	The skill based courses can also help the students in having their own start ups so that they can create employment.	6
3.	Papers of specialization will motivate students to gain depth in the area so that they can opt for it in their further research.	2
4.	The course flaunts more than twenty four areas of research, so that after completing their PG, the students can opt any one for their Ph.D/ M.Phil.	3
5.	The course caters the need of required qualification for hybrid jobs.	6
6.	Interdisciplinary papers like gender sensitization will provide opportunity to build career in social work.	6
7.	Papers like Film and Literature will open up job avenues like script writer for film, script writer for TV serials.	6
8.	Papers like Value Education and Literature will contribute to the constructive furtherance in the students' personality so that they can lead quality life and help others for the same as well.	5

M. A. ENGLISH

Part I

CBCS Syllabus (w.e.f. 2021-22)



Paper I (Core Paper)

PG-ENG-101 & PG-ENG-201

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To familiarize students with the theory and practices of communication
2. To acquaint students with the nature of English phonetics and its application
3. To introduce students to various theories and practices in linguistics and update their knowledge towards recent trends in linguistics
4. To make students aware of the relation of language to brain, society, and culture
5. To develop amongst students grammatical and stylistic competence.
6. To introduce students the development of English language in India

Semester-I

PG-ENG-101: Basics of Linguistics

Unit-I Language Orientation

- a. Language and Communication
- b. Characteristics of communication
- c. Effective communication
- d. Barriers to communication

- e. Verbal and Non-verbal communication

Unit-II Phonetics and Phonology

- a. Major Classes of Speech Sounds: Consonants, Vowels, Monophthongs and Diphthongs
- b. Supra Segmental and Prosodic Phenomenon
- c. Word Stress/Accent, Pitch, Strong forms and weak forms
- d. Intonation, Juncture and Rhythm

Unit-III Functional Grammar

- a. Text and Grammar
- b. Phonology and Grammar
- c. Language Structure and Language Function
- d. Modes of Meaning and Modes of Expression

Unit-IV Semantics

- a. Definition of Semantics
- b. What is meaning- Lexical Vs Grammatical meaning
- c. Sense and Reference
- d. Lexical relations- synonymy, antonymy, homonymy, polysemy

Semester II

PG-ENG-201: Applied Linguistics

Unit-I Introduction to Pragmatics

- a. Pragmatics: Definition and its nature
- b. Pragmatics Basic Concepts:
 - i. Speech situation and Speech event
 - ii. Presupposition-Types
 - iii. Turn-taking
 - iv. Adjacency Pairs
 - v. Implicatures
 - vi. Deixis
- c. Speech acts
 - i. Constatives and performatives

- ii. Searle's typology of speech-acts
- iii. Direct/Indirect speech-acts
- iv. Felicity conditions
- d. Politeness and Co-operative Principles (Introductory)

Unit-II Stylistics

- a. Definition and nature of Stylistics
- b. Stylistic Principles: foregrounding, deviation (graphical, thematic, linguistic), Parallelism, (phonological, morphological, grammatical) cohesion, coherence
- c. Methods in Stylistic Analysis (semantico-stylistic analysis, comparative method, stylistic experiment, stylistics of language and speech)

Unit-III Socio-linguistics

- a. Sociolinguistics: Definition and Nature
- b. Language variation William Labov Theory- Social class, gender and language, age and language, registers and jargons
- c. Sociology of language: Language planning, policy, National and official languages, endangered languages, and language death
- d. Speech communities and language contact: Pidgin, Creole, code-switching and code-mixing

Unit-IV Psycho-linguistics

- a. Psycho-linguistics: Definition and nature
- b. Language Acquisition: First, Second & Bilingual
- c. Speech Perception- Understanding utterances: Serial models, parallel models and interpretative processes
- d. Speech Production -Producing utterances: structure of message level and structure of sentence level, lexical access and serial vs. parallel interpretations

Suggested Readings:

1. Pinker, S.(1981). Language and Linguistics. Cambridge (UK): Cambridge University Press.
2. Sapir, E. 1949. Language. New York: Hercourt. Brace & World.

3. Clark, J. C. Yallop. 1990. An Introduction to Phonetics and Phonology. Oxford, Basil Blackwell.
4. Gaskell, G. et al 2007 The Oxford Handbook of Psycholinguistics, Oxford University Press, London. Ingram
5. David. 1989. First Language Acquisition. Cambridge: Cambridge University Press.
6. Fishman, J. Sociolinguistics: A Brief Introduction. Rowley: Newsbury House, 1971.
7. Holmes, J. An Introduction to Sociolinguistics. London: Longman, 1992.
8. Black, E. (2006) Pragmatic Stylistics. Edinburgh: Edinburgh University Press.
9. Leech, G. N. (1983) Principles of Pragmatics. London: Longman.
10. Levinson, S. C. (1983) Pragmatics. London: Cambridge University Press.
11. Quirk R, & S, Greenbaum. (1973). A University Grammar in English. Chennai: Longman.
12. Kishnaswamy, N. & L. Krishnaswamy. (2006) The Story of English in India. Cambridge University Press India Pvt.Ltd.
13. Halliday, M.A.K. (1994). Introduction to Functional Grammar, 2nd ed. London: Edward Arnold.
14. ---. (2002). On Grammar Edt. Jonathan Webster. London: Continuum.

Outcomes:

Sr. No.	Outcome	Level
1.	Students will recognize rich heritage of communication and language	1
2.	Students will be able to examine/associate usage of language and communication used in day to day conversation.	2
3.	Creativity will be inculcated in students to use their knowledge in different registers	6

PG-ENG-101: Basics of Linguistics & PG-ENG-201: Applied Linguistics

External and Internal Evaluation Pattern

Semester-I: PG-ENG-101

Internal Evaluation: 40 Marks: Break up is as follows:

1) Written Test:20 Marks

2) Practical Journal and Oral Test: 20 Marks (10 marks each)

*Maintenance of Practical Journal with five practicals and Oral Test will be compulsory and will be conducted by the subject teacher being an internal examiner.

External Evaluation: 60 Marks: Question paper format is as follows:

Format of Question Paper (External Examination)

Semester-I: PG-ENG-101

Time: Three Hours

Max. Marks: 60

1) Complete the following sentences choosing the correct alternative from those given below (on all units) (Twelve out of fifteen) 12 marks Question

2) Short answer questions (on Language) (Three out of Five) 12 marks Question

3) Short answer questions (on Phonetics) (Three out of Five) 12 marks Question

4) Short answer questions (on Functional Grammar)(3 out of Five) 12 marks Question

5) Short answer questions (On Semantics) (Three out of Five) 12 marks Question

Semester-II: PG-ENG-201

Internal Evaluation: 40 Marks: Break up is as follows:

1) Written Test:20 Marks

2) Practical Journal and Oral Test: 20 Marks (10 marks each)

*Maintenance of Practical Journal with five practicals and Oral Test will be compulsory and will be conducted by the subject teacher being an internal examiner.

External Evaluation: 60 Marks: Question paper format is as follows:

Format of Question Paper (External Examination)

Semester-II: PG-ENG-201

Time: Three Hours

Max. Marks: 60

- 1) Complete the following sentences choosing the correct alternative from those given below
(on all units) (Twelve out of fifteen) 12 marks Question
- 2) Short answer questions (on Pragmatics) (Three out of Five) 12 marks Question
- 3) Short answer questions (on Stylistics) (Three out of Five) 12 marks Question
- 4) Short answer questions (on Sociolinguistics) (Three out of Five) 12 marks Question
- 5) Short Notes (On Psycholinguistics) (Three out of Five) 12 marks Question

Paper II (Core Paper)

PG-ENG-102 & PG-ENG-202

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To acquaint students with various types of drama.
2. To introduce students with the contribution of different playwrights in developing various types of drama.
3. To familiarize students with various dramatic techniques and device.

Semester: I

PG-ENG-102: English Drama (Medieval to 17th Century)

Unit: 1

Study of development of English Drama from Medieval Period to 17th century with special focus on following topics:

- Miracle plays and Mystery plays
- Morality Plays
- University Wits
- Revenge Play
- Shakespearean Tragedy
- Shakespearean Comedy
- Comedy of Humours
- Comedy of Manners

Unit : 2

William Shakespeare: *Othello*

Unit : 3

Ben Jonson: *The Alchemist*

Unit: 4

William Wycherley: *The Country Wife*

Semester: II

PG-ENG-202: English Drama (18th to 20th Century)

Unit: 1

Study of development of English Drama from 18th to 20th century with special focus on following topics:

- Sentimental Comedy
- Influence of Henrik Ibsen
- Drama of Ideas
- Problem Play
- Revival of Poetic Play in the Twentieth Century
- Theater of the Absurd
- Kitchen-sink Drama

Unit : 2

Richard B. Sheridan: *The Rivals*

Unit : 3

Harold Pinter: *The Caretaker*

Unit: 4

G. B. Shaw: *Pygmalion*

Suggested Reading:

1. . Martin Esslin *The Theatre of the Absurd*, Pelican, 1968.
2. . Eric Bentley: *The Playwright as Thinker: A Study of Drama in Modern Times*. London: Mariner Books, 1987.
3. Nicoll Allardyce. *Theory of Drama*. New York: B. Blom, 1966.
4. Scott, Mark W. *Shakespeare for Students: Critical Interpretations of As You Like It, Hamlet, Julius Caesar, Macbeth, the Merchant of Venice, a Midsummer Night's Dream, Othello, and Romeo and Juliet*. Detroit: Gale Research, 1992. Print
5. Ralph Kaufman ed. *Elizabethan Drama*. Oxford: Oxford University Press, 1989.
6. Ervine, St J. G. *Bernard Shaw: His Life, Work, and Friends*. New York: Morrow, 1956. Print.
7. William Raymond. *Drama from Ibsen to Brecht*. Penguin Books. 1964.
8. Laurie E. Maguire. *Studying Shakespeare: A Guide to the Plays*. Blackwell, 2004.
9. Frank Kermode. *Shakespeare's Final Plays*. Farrar Straus Giroux, 2000.
10. Sanders, Andrew. *The Short Oxford History of English Literature*. London: OUP.
11. A.C. Bradley, *Shakespearean Tragedy*. Palgrave, 2007.
12. Bentley Eric. *The Theory of the Modern Stage: An Introduction to Modern Theatre and Drama*. Harmondsworth: Penguin, 1968.

Outcomes:

Sr. No.	Outcome	Level
1.	Students will identify difference in various types of drama.	1
2.	Students will be able to relate their knowledge of dramatic devices and technique to the texts.	2
3.	Students will be able to analyze variety of plays and how to analyze those.	4

PG-ENG-102 & PG-ENG-202

Internal Assessment: 40 Marks (Compulsory First Test – 20 Marks, Second Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Question Paper Format for Semester I and II

Total Marks: **60**

Time: **03 Hrs**

Q. No. 1. Multiple Choice Questions on all 04 Units (any 12 out of 15) -- **12 Marks**

Q. No. 2. (A) Long Answer Type Question on Unit 2

OR

(B) Short Notes on Unit 2 (any 03 out of 05) -- **12 Marks**

Q. No. 3. (A) Long Answer Type Question on Unit 3

OR

(B) Short Notes on Unit 3 (any 03 out of 05) -- **12 Marks**

Q. No. 4. (A) Long Answer Type Question on Unit 4

OR

(B) Short Notes on Unit 4 (any 03 out of 05) -- **12 Marks**

Q. No. 5. Short Notes on Unit 1 (any 03 out of 05) -- **12 Marks**

Paper III (Core Paper)

PG-ENG-103 & PG-ENG-203

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce students with the contribution of various poets to English poetry.
2. To acquaint the students with the form, language, subject and poetic devices used in prescribed poems.
3. To orient students with the skill of creative writing through the prescribed poems.

SEMESTER – I

PG-ENG-103: ENGLISH POETRY (Chaucer to Romantic Period)

Unit I: The background study of the growth and development of English poetry from Chaucer to Romantic Period with reference to trends, movements, tendencies and contributions of major poets.

- Unit II:**
1. Geoffrey Chaucer: The Knight's Tale (from the Canterbury Tales)
 2. William Shakespeare: When Forty Winter Shall Besiege Thy Brow
 3. Edmund Spenser: The Faire Queen- Part I
 4. John Donne: The Sun Rising

Unit III: 5. Andrew Marvell: To His Coy Mistress

6. John Milton: Lycidas
7. John Dryden: Mac Flecknoe
8. Alexander Pope: Know Then Thyself (*An Essay on Man: Epistle II; Lines 1-18*)

Unit IV: 9. William Wordsworth: Intimations of Immortality

10. S. T. Coleridge: Christabel (Part I)
11. P. B. Shelley: Ode to a Skylark
12. John Keats: Ode to Nightingale
13. William Blake: The Human Abstract

SEMESTER – II

PG-ENG-203: ENGLISH POETRY (Victorian period to Post Modern period)

Unit I: The background study of the growth and development of English poetry from Victorian Period to Post Modern Period with reference to trends, movements, tendencies and contributions of major poets.

Unit II: 1. A. L. Tennyson: Ulysses
2. Robert Browning: Fra Lippo Lippi
3. Mathew Arnold: Scholar Gipsy

Unit III: 4. W. B. Yeats: The Second Coming
5. T. S. Eliot: Love Song of J. Alfred Prufrok
6. Dylan Thomas: Lie Still, Sleep Becalmed
7. Wilfred Owen: Strange Meeting

Unit IV: 8. W. H. Auden: Muses Des Beaux Arts
9. C. D. Lewis: The Poet
10. Philip Larkin: The Whitson Wedding
11. Stephen Spender: My Parents Kept Me from Children Who were Rough
12. Louis MacNeice: Prayer Before Birth

Suggested Reading:

1. Cox and Dyson. *Poems of This Century*. Bombay: Orient Longman, 1972.
2. Barua, K.A. (ed.), *Whispering Reeds An Anthology of English Poetry*. Delhi: OUP, 2015
3. Ramanan, G. M (ed). *Modern English Poetry: A Selection*. Hyderabad: Orient Blackswan, 2013.
4. Wright, David. *The Penguin Book of English Romantic Verse*. England: Penguin Books Ltd., 1968.
5. Williams, H. M. *Six Ages of English Poetry*. London: Blackie & Son Ltd., 1967.
6. Sachithanandan, V. *Six English Poets*. Delhi: Macmillan India Ltd., 1987.
7. *Fifteen Poets*. Calcutta: Oxford University Press, 1974.
8. Ramanan, G. M (ed). *Modern English Poetry: A Selection*. Hyderabad: Orient Blackswan, 2013.

9. Anderson, Judith H. *Reading the Allegorical Intertext: Chaucer, Spenser, Shakespeare, Milton*. New York: Fordham University Press, 2008.
10. Butler, Shane, *The Matter of the Page: Essays in Search of Ancient and Medieval Authors* . Madison: University of Wisconsin Press, 2011.
11. Cooper, Helen. *The English Romance in Time: Transforming Motifs from Geoffrey of Monmouth to the Death of Shakespeare*. Oxford: Oxford University Press, 2004.
12. Sacks, Peter, *The English Elegy: Studies in the Genre from Spenser to Yeats*. Baltimore: Johns Hopkins University Press, 1985.

Outcomes:

Sr. No.	Outcome	Level
1.	Students will recognize glorious heritage of English poetry.	1
2.	Students will be able to understand poetic styles of prescribed poets.	2
3.	Students will get the practice of expressing their creative urge by writing poems.	6

PG-ENG-103 & PG-ENG-203

Pattern of Evaluation

External Evaluation: 60 Marks

Internal Evaluation: 40 Marks (One test of 20 Marks + One Test/Seminar/Presentation for 20 Marks)

Semester – I

Format of Question Paper

Time: Three Hours

Max.Marks-60

Question 1: Complete the following sentences choosing the correct alternative from those given below (on all units) (12/15)

12 Marks

Question 2 A) : Broad question on Unit II.

12 Marks

OR

B) Shrot Notes on Unit II (3/5).

Question 3: A) : Broad question on Unit III.

12 Marks

OR

B) Shrot Notes on Unit III (3/5)

Question 4: A) : Broad question on IV.

12 Marks

OR

B) Shrot Notes on IV (3/5).

Question 5: A) Broad question on background (Unit I).

12 Marks

OR

B) Shrot Notes on background (Unit I). (3/5)

Semester – II

Format of Question Paper

Time: Three Hours

Max.Marks-60

Question 1: Complete the following sentences choosing the correct alternative from those given below (on all units) (12/15)

12 Marks

Question 2 A) : Broad question on Unit II.

12 Marks

OR

B) Shrot Notes on Unit II (3/5).

Question 3: A) : Broad question on Unit III.

12 Marks

OR

B) Shrot Notes on Unit III (3/5)

Question 4: A) : Broad question on IV.

12 Marks

OR

B) Shrot Notes on IV (3/5).

Question 5: A) Broad question on background (Unit I).

12 Marks

OR

B) Shrot Notes on background (Unit I). (3/5)

Paper IV (Elective Paper)

PG-ENG-104 (A) & PG-ENG-204 (A)

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To acquaint students with the growth and development of Indian poetry, drama and novel.
2. To familiarize students with Indian ethos and universality of issues depicted in Indian writing in English.
3. To facilitate students with trends, techniques and tendencies depicted in Indian writing in English.

SEMESTER – I

PG-ENG-104 (A): INDIAN WRITING IN ENGLISH (Poetry and Drama)

- Unit I:** 1. The study of growth and development of Indian Poetry in English with reference to trends, techniques, themes, tendencies and contributions of major poets.
2. The study of growth and development of Indian Drama in English with reference to trends, techniques, themes, tendencies and contributions of major play dramatists.

- Unit II:** 1. Rabindranath Tagore: Stream of Life
2. Nissim Ezekiel: Poet, Lover, Birdwatcher
3. A. K. Ramanujan: Obituary
4. Kamala Das: The Dance of Enoch
5. Jayant Mahapatra: Hunger
6. Arun Kolhatkar: An Old Woman (from *Jejuri*)

Unit III: 7. Vijay Tendulkar: *Kanyadan* (Drama)

Unit IV: 8. Girish Karnad: *Hayavadana* (Drama)

SEMESTER – II

PG-ENG-204 (A): INDIAN WRITING IN ENGLISH (Novel)

Unit I: The study of growth and development of Indian Novel in English with reference to trends, techniques, themes, tendencies and contributions of major novelists.

Unit II: 1. Raja Rao: *Kanthapura*

Unit III: 2. Kamala Markandaya: *Nector in Seive*

Unit IV: 3. Amitav Ghosh: *Calcutta Chromosome*

Suggested Reading:

1. Parthasarthy, R.(ed). *Ten Twentieth Century Indian Poets*. Delhi: OUP, 2002.
2. Sarang, Vilas (ed). *Indian English Poetry Since 1950: An Anthology*. Bombay: Orient Longman Ltd., 1989.
3. *An Anthology of Indian English Poetry*. Bombay: Orient Longman Ltd., 1995.
4. Naik, M. K. *Indian English Poetry*. Delhi: Pencraft International, 2000.
5. Chaudhari, Rosinka. *A History of Indian Poetry in English*. Cambridge Uni. Press, 2016
6. King Bruce, *Modern Indian Poetry in English*. Madras: OUP, 1987
7. Dharwadkar, A. B. *Collected Plays: Girish Karnad, Vol.2*. New Delhi: OUP, 2006
8. Tendulkar, Vijay. *Five Plays*. New Delhi: OUP, 1992
9. Chandra, Laksmi(ed). *Lights on Indian Plays in English Vol 1 and 2*. Bombay: Orient Blackswan, 2006
10. Soat, Babu. *Indian Drama Today*. New Delhi: Prestige, 1997
11. Naik, M.K. and Punekar, S. *Perspectives on Indian Drama in English*. Madras: OUP, 1977
12. Shridasani, Menka (ed). *Anthology of Contemporary Indian Poetry*. USA: Big Bridge, 2004
<https://www.poetryfoundation.org>
13. Naik, M. K. *A history of English Literature*. New Delhi: Sahitya Akademi, 1982
14. Ramamurti, K. S. *Rise of the Indian Novel in English*. New Delhi: Sterling, 1987
15. Mukharji, Minakshi. *The Twice Born Fiction, Themes and Techniques of the Indian Novel in English*. New Delhi: Heinimen, 1971
16. Anjaria, Ulka (ed). *A History of the Indian Novel in English*. New Delhi: Cambridge Uni. Press, 2015
17. Mehotra, Arvind. *Encyclopedia of Indian Writing in English*. New Delhi: India Ink, 1990
18. Rao, Raja. *Kanthapura*. New Delhi: Penguin Random House India, 2015
19. Markandaya, Kamala. *Nector in the Sieve*. New Delhi: Penguin Books, 2009
20. Ghosh, Amitav. *The Calcutta Chromosome*. New Delhi: Ravi Dayal Publisher, 1985

Outcomes:

Sr. No.	Outcome	Level
1.	The students will associate their previous knowledge with the growth and development of Indian writing in English.	2
2.	The students will appraise the kind of difference between native English writing and Indian writing in English.	4
3.	The students will be able to device how to use the trends and techniques form wise.	6

PG-ENG-104 (A) & PG-ENG-204 (A)

Pattern of Evaluation

External Evaluation: 60 Marks

Internal Evaluation: 40 Marks (One test of 20 Marks + One Test/Presentation for 20 Marks)

Semester – I - PG-ENG-104 (A)

Format of Question Paper

Time: Three Hours

Max.Marks-60

Question 1: Complete the following sentences choosing the correct alternative from those given below (on all units) (12/15) **12 Marks**

Question 2 A): Broad question on prescribed poems. **12 Marks**

OR

B) Short Notes on prescribed poems (3/5)

Question 3: A) Broad question on prescribed Drama *Kanyadan*. **12 Marks**

OR

B) Short Notes on *Kanyadan*. (3/5)

Question 4: A) Broad question on prescribed Drama *Nagamandala*. **12 Marks**

OR

B) Short Notes on *Nagamandala*. (3/5)

Question 5: A) Broad question on background. **12 Marks**

OR

B) Short Notes on background. (3/5)

Semester – II - PG-ENG-204 (A)

Format of Question Paper

Time: Three Hours

Max.Marks-60

Question 1: Complete the following sentences choosing the correct alternative from those given below (on all units) (12/15) **12 Marks**

Question 2 A) : Broad question on *Kanthapura*. **12 Marks**

OR

B) Shrot Notes on *Kanthapura*. (3/5)

Question 3: A) Broad question on *Nector in Sieve*. **12 Marks**

OR

B) Shrot Notes on *Nector in Sieve*. (3/5)

Question 4: A) Broad question on *Calcutta Chromosome*. **12 Marks**

OR

B) Shrot Notes on *Calcutta Chromosome*. (3/5)

Question 5: A) Broad question on background. **12 Marks**

OR

B) Shrot Notes on background. (3/5)

Paper IV (Skill)

PG-ENG-104 (B) & PG-ENG-104 (B)

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To familiarize students with the concept of gender studies and its significance
2. To acquaint students with the feminist writers and their writings from the West and East.
3. To introduce students to various theories and literary practices
4. To make students aware of the popular feminist writings in fiction, drama, autobiography, essays, and poetry.
5. To develop amongst students the awareness about gender sensitization.

Semester I

**PG-ENG-104 (B): GENDER STUDIES AND LITERATURE (Fiction,
Essays and Short Stories)**

Unit-I Introduction to Gender Studies

- f. Gender Studies: Definition, Nature and Scope
- g. Social Construction of Femininity and Masculinity
- h. Feminist Movements and its impact on literature
- i. Introduction to LGBT (Lesbian, Gay, Bisexual, Transgender) and Queer Literature

Unit-II Studies in Fiction

Study of the Novel: *Cry, the Peacock* by Anita Desai

Unit-III Studies in Essays

- a. *A Vindication of Rights of Women (Chapter-IV)*- Mary Wollstonecraft
- b. *The Subjection of Women (Chapter-III)*- John Stuart Mill

Unit-IV Studies in Short Stories

- a. The Yellow Wallpaper by Charlotte Perkins Gilman
- b. A Wife's Letter by Rabindranath Tagore

Semester II

PG-ENG-204 (B) GENDER STUDIES AND LITERATURE (Drama, Autobiography and poetry)

Unit-I Gender Studies in British, American, Indian Literature

- d. Early feminist writings in British, American, and Indian literature
- e. Feminism in English drama, novel, and poetry
- f. Brief introduction to feminist writers and their writings- Tony Morrison, Dorris Lessing, and Pandita Ramabai.

Unit-II Studies in Drama

Henrik Ibsen: *A Doll's House*

Unit-III Studies in Autobiography

Maya Angelou: *I Know Why a Caged Bird Sings*

Unit-IV Studies in Poetry

- e. Meena Kandaswamy- Backstreet Girls
- f. Sylvia Plath- Lady Lazarus
- g. Meena Alexander- Birthplace with Buried Stones
- h. Margaret Atwood- Siren Song
- i. Alice Walker- Be Nobody's Darling, Be an Outcaste

Suggested Readings:

1. Desai, Anita. *Cry, the Peacock*. New Delhi: Orient Paperbacks, 1980. Print.
2. Wollstonecraft, Mary, *A Vindication of the Rights of Woman: with Strictures on Political and Moral Subjects*. London : J. Johnson, 1792.
3. Mill, J.S. *The Subjection of Women*. Dover Publications Inc.; 1997.
4. Gilman, Charlotte Perkins. *The Yellow Wallpaper*. Virago Press, 1981.
5. Tagore, Rabindranath. *A Wife's Letter*. Tranl. From Bengali.
6. Bhasin and Khan, *Some Questions on Feminism*, Kali for Women, New Delhi, 1986.

7. Caplan, Pat (ed.) *The Cultural Construction of Sexuality*, Routledge, New York, 1987.
8. Rose, Hillary 1983. *Hand, Brain, and Heart: A Feminist Epistemology for the Natural Sciences Signs, Vol. 9, No. 1*, Women and Religion (Autumn, 1983)
9. Connell, Robert W. *Masculinities*, Cambridge: Polity Press, 2005.
10. Seidler, Victor. *Unreasonable Men. Masculinity and Social Theory*, London: Routledge
11. Kandasamy, Meena. *Ms Militancy: Poems*. New Delhi: Navayana, 2010.
12. Alexander, Meena. *Birthplace with Buried Stones*. North-Western University Press, 2013.
13. Atwood, Margeret. "Siren Song" from *Selected Poems 1965-1975*. Houghton Mifflin Company. 1976.
14. Walker, Alice. Be Nobody's Darling, Be an Outcaste. www.poemhunter.com.
15. Shinde, Tarabai. *Stri Purush Tulana*. (Translated by Maya Pandit), 1882.
16. Angelou, Maya. *I know why the caged bird sings*. Random House, 2009.

Outcomes:

Sr. No.	Outcome	Level
1.	The students will understand the concept of gender studies through prescribed texts.	1
2.	To help students, distinguish between male and female writing and predicament as well.	4
3.	To stimulate students to practice gender sensitization in day to day life.	6

PG-ENG-104 (B) & PG-ENG-204 (B)

External and Internal Evaluation Pattern

Semester I- PG-ENG-104 (B)

Internal Evaluation: 40 Marks: Break up is as follows:

1) Written Test:20 Marks

2) Seminar Presentation/Assignment/Written Test- 20 Marks

(First written Test of 20 is compulsory while remaining 20 marks are allotted for Seminar Presentation or Assignment or Written Test whichever is decided by the subject teacher as an internal choice)

External Evaluation: 60 Marks: Question paper format is as follows:

Format of Question Paper (External Examination)

Semester I- PG-ENG-104 (B)

Time: Three Hours

Max. Marks: 60

1) Complete the following sentences choosing the correct alternative from those given below (on all units) (Twelve out of fifteen) 12 marks Question

2) One Long answer question or Three Short notes (on Unit-I) 12 marks Question

3) One Long answer question or Three Short notes (on Unit-II) 12 marks Question

4) One Long answer question or Three Short notes (on Unit-III) 12 marks Question

5) One Long answer question or Three Short notes (on Unit-IV) 12 marks Question

Semester-II: PG-ENG-204 (B)

Internal Evaluation: 40 Marks: Break up is as follows:

1) Written Test:20 Marks

2) Seminar Presentation/Assignment/Written Test- 20 Marks

(First written Test of 20 is compulsory while remaining 20 marks are allotted for Seminar Presentation or Assignment or Written Test whichever is decided by the subject teacher as an internal choice)

External Evaluation: 60 Marks: Question paper format is as follows:

Format of Question Paper (External Examination)

Semester-II: PG-ENG-204 (B)

Time: Three Hours

Max. Marks: 60

- 1) Complete the following sentences choosing the correct alternative from those given below (on all Units) (Twelve out of fifteen) 12 marks Question
- 2) One Long answer question or Three Short notes (on Unit-I) 12 marks Question
- 3) One Long answer question or Three Short notes (on Unit-II) 12 marks Question
- 4) One Long answer question or Three Short notes (on Unit-III) 12 marks Question
- 5) Two short answer questions or Three Short notes (on Unit-IV) 12 marks Question

Format of Question Paper (External Examination)

Semester-II: PG-ENG-204 (B)

Time: Three Hours

Max. Marks: 60

- 1) Complete the following sentences choosing the correct alternative from those given below (on all Units) (Twelve out of fifteen) 12 marks Question
- 2) One Long answer question or Three Short notes (on Unit-I) 12 marks Question
- 3) One Long answer question or Three Short notes (on Unit-II) 12 marks Question
- 4) One Long answer question or Three Short notes (on Unit-III) 12 marks Question
- 5) Two short answer questions or Three Short notes (on Unit-IV) 12 marks Question

Audit Course

Semester I

AC 101 (Audit Course): Practicing Cleanliness

Course Credits: 2

Teaching Hours: 02 hrs

(No weightage in CGPA)

Objectives:

To make students aware of Clean India Mission and inculcate cleanliness practices among them.

Content:

Awareness program on

- Swachh Bharat Abhiyan (Clean India Mission)
- Clean Campus Mission
- Role of youth in Clean India Mission

Cleaning activities inside and surroundings of Department buildings.

Tree plantation and further care of planted trees

Waste(Liquid/Solid/e-waste) Management, Japanese 5-S practices

Planning and execution of collection of Garbage from different sections of University campus

Role of youth in power saving, pollution control, control of global warming, preservation of ground water and many more issues of national importance.

Cleanest School/Department and Cleanest Hostel contests

Painting and Essay writing competitions

Outcomes(COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC101.1	Identify need at of cleanliness at home/office and other public places.	2
AC101.2	Plan and observe cleanliness programs at home and other places.	4
AC101.3	Practice Japanese 5-S practices in regular life.	3

Semester II

AC-201(A): Soft Skills		
	<p>Course Objectives (CObs):</p> <ul style="list-style-type: none"> To inculcate different soft skills among students. 	
Unit 1	<p>Introduction to soft skills</p> <p>Formal definition, Elements of soft skills, Soft vs. Hard skills, Emotional quotient, Goal setting, life skills, Need for soft skills, Communication skills, Etiquettes & Mannerism.</p>	2 hrs.
Unit 2	<p>Self-Assessment</p> <p>Goal setting, SWOT analysis, attitude, moral values, self-confidence, etiquettes, non-verbal skills, achievements, positive attitude, positive thinking and self-esteem.</p> <p>Activity: The teacher should prepare a questionnaire which evaluate students in all the above areas and make them aware about these aspects.</p>	4 hrs.
Unit 3	<p>Communication Skills</p> <p>Types of communication: Verbal, Non-verbal, body language, gestures, postures, gait, dressing sense, facial expressions, peculiarity of speaker (habits).</p> <p>Rhetoric speech: Prepared speech (topics are given in advance, students get 10 minutes to prepare the speech and 5 minutes to deliver, Extempore speech (students deliver speeches spontaneously for 5 minutes each on a given topic), Storytelling (Each student narrates a fictional or real-life story for 5 minutes each), Oral review (Each student orally presents a review on a story or a book read by them)</p> <p>Drafting skills: Letter, Report & Resume writing, business letters, reading & listening skills</p> <p>Activity: The teacher should teach the students how to write the letter, report and build resume. The teacher should give proper format and layouts. Each student will write one formal letter, one report and a resume.</p>	8 hrs.
Unit 4	<p>Formal Group Discussion, Personal Interview & Presentation skills</p> <p>Topic comprehension, Content organization, Group speaking etiquettes, driving the discussion & skills.</p> <p>Preparation for personal interview: dress code, greeting the panel, crisp self-introduction, neatness, etiquettes, language tone, handling embarrassing & tricky questions, graceful closing.</p> <p>Activity: Each batch is divided into two groups of 12 to 14 students each. Two rounds of a GD for each group should be conducted and teacher should give them feedback. Mock interview are to be conducted.</p>	4 hrs.
Unit 5	<p>Aptitude and analytical skills</p> <p>Quantitative aptitude, Numerical reasoning, verbal reasoning, diagrammatic test, situational tests, logical thinking.</p> <p>Analytical skills: Definition, Types, problem solving</p>	8 hrs.
Unit 6	<p>Life skills</p> <p>Time management, critical thinking, sound and practical decision making by dealing with conflicts, stress management, leadership qualities</p> <p>Activity: The teacher can conduct a case study activity to train students for decision making skills. The teacher should conduct a session on stress management and guide students on how to manage stress. The teacher may conduct a stress relieving activity in the class. He/she may counsel students individually to know their problems and guide them on dealing with them effectively.</p>	4 hrs.
<p>Suggested readings:</p> <p>1. Basics of Communication In English: Francis Sounderaj, MacMillan India Ltd.</p>		

2. English for Business Communication: Simon Sweeney, Cambridge University Press
3. An Introduction to Professional English and Soft Skills: Das, Cambridge University Press
4. Quantitative Aptitude: R.S. Agrawal

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201A.1	Identify their lacunas about some soft skills and try to overcome the same.	2
AC201A.2	Practice learned soft skills in real life and do their jobs more effectively.	3

AC-201(B): Practicing Sports Activities

Course Objectives (COs):

- To motivate students towards sports and provide them required training.

SR NO.	NAME OF THE SPORT/GAME (Select ONE of the Following)	SYLLABUS OF THE COURSE	TIMING (02 Hours in a Week)	SEMESTER
1	Volleyball	<ul style="list-style-type: none"> • General Fitness • Basic Fitness • Specific Fitness • History of the Game • Basic Skill of the Game • Major Skill of the Game • Technique & Tactics of the Game • Game Practice 	<p style="text-align: center;">Morning : 07 to 09 AM</p> <p style="text-align: center;">OR</p> <p style="text-align: center;">Evening : 05 to 07 PM</p>	<p style="text-align: center;">Total 30 Hours in Each Semester</p>
2	Athletics			
3	Badminton			
4	Cricket			
5	Basketball			
6	Handball			
7	Kabaddi			
8	Kho-Kho			
9	Table-Tennis			
10	Swimming			

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201B.1	Identify one or more sports of their choice and develop more interest to participate at University/National level sport events.	2
AC201B.2	Practice the learned sports activities regularly in real life.	3

AC-201(C): Practicing Yoga

Course Objectives:

- To motivate students towards yoga and provide them required training.

<ul style="list-style-type: none"> • Yog: Meaning, Definition & Introduction, Objectives • Primary Introduction of Ashtanga Yoga • Preparation of Yogabhyas • Omkar Sadhana, Prayer, Guru Vandana • Sukshma Vyayamas • Suryanamaskar (12 Postures) • Asanas : <ul style="list-style-type: none"> ▪ Sitting (Baithaksthiti) - Vajrasana, Padmasana, Vakrasana, Ardha-Pashchimotanasana ▪ Supine (Shayansthiti) - Uttan Padaasan(Ekpad/Dwipad), Pavanmuktasana, Viparitarani Aasan, Khandarasan, Shavasana ▪ Prone (Viparitshayansthiti) - Vakrahasta, Bhujangasana, Saralhasta Bhujangasana, Shalabhasana(Ekpad/Dwipad), Makarasana ▪ Standing (Dhandsthiti) - Tadasana , TiryakTadasana, Virasana, Ardh Chakrasana • Primary Study of Swasana: Dirghaswasana, Santhaswasana, JaladSwasana - 6 Types • Pranayama : Anuloma-viloma, Bhramari
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Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201C.1	Identify and practice some Yoga asanas regularly in their life to remain healthy.	2
AC201C.2	Provide guidance and practice about Yoga to their friends, parents and relatives.	3

AC-201(D): Introduction to Indian Music

Course Objectives:	
<ul style="list-style-type: none"> • To motivate students towards Indian music and provide them minimum required training. 	
<ul style="list-style-type: none"> • Definition and brief about generation of Swar, Saptak, Thaata, Raaga, Aavartan, Meend, Khatka, Murkee, Taal, Aalaap etc. • Taal and its uses - Treetaal, Daadraa, Zaptaal, Kervaa. • Information of Badaakhyaal, Chhotaakhyaal (one), Sargam, Lakshangeet (information) • Detailed information of Tambora • Detailed information of Harmonium and Tablaa. • Five filmy songs based on Indian Classical Music (Theory and Presentation) • Sound Management - Basic information of Sound Recording (including Practicals) • Composition of Music as per the Story • Preparing news write-ups of the Seminars, Library Musical Programmes held at the nearest Akashwani, by personal visits. 	

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201D.1	Identify different types of Indian music.	3
AC201D.2	Develop more interest to learn and practice Indian music.	4

Equivalence

Old Syllabus	New Syllabus (CBCS)
<p>Core Paper- I: ENG 111 & ENG 121 An Introduction to Linguistics</p> <p style="text-align: center;">(Semester I & II)</p>	<p>PG-ENG-101: Basics of Linguistics</p> <p>PG-ENG-201: Applied Linguistics (Semester I & II)</p>
<p>Core Paper- II: ENG 112 & ENG 122 English Poetry</p> <p style="text-align: center;">(Semester I & II)</p>	<p>PG-ENG-102: English Drama (Medieval to 17th Century)</p> <p>PG-ENG-202: English Drama (18th to 20th Century) (Semester I & II)</p>
<p>Core Paper- III: ENG 113 & ENG 123 English Drama</p> <p style="text-align: center;">(Semester I & II)</p>	<p>PG-ENG-103: ENGLISH POETRY (Chaucer to Romantic Period)</p> <p>PG-ENG-203: ENGLISH POETRY (Victorian period to Post Modern period) (Semester I & II)</p>
<p>Optional Paper-: ENG 114 (A) & ENG 124 (A) Indian Writing in English</p> <p style="text-align: center;">(Semester I & II)</p>	<p>PG-ENG-104 (A): INDIAN WRITING IN ENGLISH (Poetry and Drama)</p> <p>PG-ENG-204 (A): INDIAN WRITING IN ENGLISH (Novel) (Semester I & II)</p>
<p>Optional Paper-: ENG 114 (B) & ENG 124 (B) Comparative Literature</p> <p style="text-align: center;">(Semester I & II)</p>	<p>PG-ENG-104 (B): GENDER STUDIES AND LITERATURE (Fiction, Essays and Short Stories)</p> <p>PG-ENG-204 (B) GENDER STUDIES AND LITERATURE (Drama, Autobiography and poetry) (Semester I & II)</p>
	<p>Audit Course: AC 101- Practicing Cleanliness</p> <p>AC-201(A): Soft Skills, AC-201(B): Practicing Sports Activities, AC-201(C): Practicing Yoga, AC-201(D): Introduction to Indian Music (Semester I & II)</p>

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon



'A' Grade
NAAC Re-Accredited
(3rd Cycle)

SYLLABUS

For

M.A. / M. Sc.- Ist YEAR (Sem. Ist and IInd)

Subject: Geography

Under

Choice Based Credit System

(With Effect from June - 2021)

**Summary of Distribution of Credits under CBCS Scheme
for
M. A /M.Sc. (Geography)**

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	16	16	16	12
02	Skill based	04	04	-	-
03	Elective	-	-	04	04
04	Project	-	-	-	04
05	Audit	02	02	02	02
06	Total Credits	22	22	22	22

Subject Type	Core	Skill based	School Elective	Project	Audit	Total
Credits	60	08	08	04	08	88

Total Credits = 88

Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

M.A / M. Sc. Geography

Choice Based Credit System (Outcome Based Curriculum) with effect from 2021 -2022

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	4	8 + 8	16	1	4 + 0	4	1	2	2	22
II	4	12 + 4	16	1	0 + 4	4	1	2	2	22
III	4	8 + 8	16	1	4 + 0	4	1	2	2	22
IV	4	8 + 8	16	1	4 + 0	4	1	2	2	22
Total Credits	64			16			8			88

(T, Theory; P, Practical)

Structure of Curriculum

		First Year				Second Year				Total Credit Value
		Semester I		Semester II		Semester III		Semester IV		
		Credit	Course	Credit	Course	Credit	Course	Credit	Course	
(A)	Prerequisite and Core Courses									
	Theory	4	2	4	3	4	2	4	2	36
	Practical	4	2	4	1	4	2	4	2	28
(B)	Skill Based / Subject Elective Courses									
1	Theory /Practical	4	1	4	1	4	1	4	1	16
(C)	Audit Course (No weightage in CGPA calculations)									
1	Practicing Cleanliness	2	1							2
2	Personality and Cultural Development Related Course			2	1					2
3	Technology Related + Value Added Course					2	1			
4	Professional and Social + Value Added Course							2	1	2
	Total Credit Value	14	6	14	6	14	6	14	6	88

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV (Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201A	Soft Skills	AC-301A	Computer Skills	AC-401A	Human Rights
		AC-201B	Sport Activities	AC-301B	Cyber Security	AC-401B	Current Affairs
		AC-201C	Yoga	AC-301C	Rainwater Harvesting	AC-401C	Green Audit
		AC-201D	Music	AC-301D	Geo-Tourism	AC-401D	Review of Research Paper.

Semester-wise Course Structure of M.A M.Sc. Geography

Semester I

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
GG.- 101	Core	Principles of Economic Geography	4	--	4	40	--	60	--	4
GG.- 102	Core	Principles of Population Geography	4	--	4	40	--	60	--	4
GG.103	Core	Practical in Interpretation of SOI Topographical maps and Surveying by GPS	--	4+4	8	--	40	--	60	4
GG.- 104	Core	Practical in Human Geography	--	4+4	8	--	40	--	60	4
GG.- 105	Skill Based	Tourism Management	4	--	4	40	--	60	--	4
AC-101	Audit Course	Practicing Cleanliness	-	2	2	--	100	--	--	2
Total Credit for Semester I: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester II

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
GG.201	Core	Geographical Thoughts	4	--	4	40	--	60	--	4
GG.-202	Core	Social and Cultural Geography	4	--	4	40	--	60	--	4
GG.-203	Core	Remote Sensing	4	--	4	40	--	60	--	4
GG.-204	Core	Practical in Cartographic Techniques with the help of GIS	--	4+4	8	--	40	--	60	4
GG.205	Skill Based	Practical in Geo-Statistical Methods.	--	4+4	8	--	40	--	60	4
AC-201 A/B/C/D	Audit Course	(Choose one out of Four) AC-201A - Soft Skills / AC-201B - Sport Activities/ AC-201C -Yoga / AC-201D- Music	--	2	2	--	100	--	--	2
Total Credit for Semester II: 22 (T = Theory: 12; P = Practical:4; Skill Based:4; Audit course:2)										

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
GG. -301	Core	Regional Geography of India	4	--	4	40	--	60	--	4
GG.-302	Core	Research Methodology	4	--	4	40	--	60	--	4
GG.303	Elective	(Choose one out of Three.)								
		GG.303 A Watershed Management and Planning								
		GG.303 B Geographical Information System	4	-	4	40	-	60	-	4
		GG.303 C Agricultural Geography								
GG. -304	Core	Practical in Remote Sensing - Interpretation of Aerial Photographs and Satellite Imageries	--	4+4	8	--	40	--	60	4
GG. -305	Core	Practical of Computerize Data Analysis Techniques in Geography	-	4+4	8	-	40	-	60	4
AC-301 A/B/C/D	Audit Course	(Choose one out of Four)								
		AC-301A - Computer Skills /								
		AC-301B - Cyber Security /	2		2	100	--	--	2	
		AC-301C – Rainwater Harvesting / AC-301D- Geo-tourism								
Total Credit for Semester III: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
GG. -401	Core	Geomorphology	4	--	4	40	--	60	--	4
GG.-402	Core	Climatology	4	--	4	40	--	60	--	4
GG.-403	Elective	(Choose one out of Three.)								
		GG.403 A Geography of Rural Settelments.	4	-	4	40	-	60	-	4
		GG.403 B Geography of Resourses.								
		GG.403 C Industrial Geography								
GG.-404	Core	Practical in Physical Geography	--	4+4	8	--	40	--	60	4
GG.405	Core	Project work	-	4+4	8	-	40	-	60	4
AC-401 A/B/C/D	Audit Course	(Choose one out of Four)								
		AC-401A Human Rights /								
		AC-401B Current Affairs /								
		AC-401C Green Audit /								
		AC-401D Review of Reseach Paper		2	2	100	--	--	2	
Total Credit for Semester IV: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Program at a Glance

Name of the program (Degree)	: M.A / M. Sc. (Geography)
Faculty	: Science and Technology
Duration of the Program	: Two years (four semesters)
Medium of Instruction and Examination	: English
Exam Pattern	: 60 : 40 (60 marks University exam and 40 marks continuous internal assessment)
Passing standards	: 40% in each exam separately (separate head of passing)
Evaluation mode	: CGPA
Total Credits of the program	: 88 (64 core credits including 4 credits of project/dissertation, 08 skill enhancement credits, 08 subject elective credits and 08 audit credits)

➤ **Program Objectives:**

1. To produce skilled experts with various aspects of Geography employable for positions in the field of education, industry, and government and non-government organizations.
2. To impart knowledge on advances and challenges in Geographical challenges.
3. To enhance the quality and standards of Geography Education.
4. To provide a broad common framework, for exchange, mobility, and free dialogue across the Indian Geography and associated community.
5. To prepare our graduates to become effective scientific communicators/collaborators in multidisciplinary teams providing technical leadership to engage with the challenging Geographical problems of local, national, and global nature.

➤ **Program Outcomes:**

Upon successful completion of the M.A/M.Sc program in Geography, student will be able to;

1. Understand the unifying themes of both human and physical geography as well as have a working knowledge of the discipline's diverse conceptual and methodological approaches.
2. Demonstrate an ability to develop research questions, critically understand quantitative and qualitative data sources, data bias, and data analysis and presentation, and conduct research using primary and/or secondary source material.
3. Students will be able to apply geographical knowledge for the exploration of GIS, Remote Sensing, and geographical resources.
4. M.A / M. Sc. Geography programme is structured for providing advances and by considering the overall development of students.
5. Students will be able to work in public and private sector companies working in the field of GIS, Tourism, and Cartographer.

Equivalences for old courses of M. A / M. Sc Geography (Part I)

Semester – Ist

Old Courses (June 2017)		New Courses (June 2021)	
Code of Courses	Title of the courses	Code of Course	Title of the courses
Gg.111	Principles of Economic Geography	GG. 101	Principles of Economic Geography
Gg.112	Principles of Population and Settelement Geography.	GG.102	Principles of Population Geography
Gg.113	Principles of Climatology.	GG.402	Climatology
Gg.114	Principles of Geomorphology.	GG. 401	Geomorphology
Gg.115	Practical in Geography	GG.103	Practical in Interpretation of SOI Topographical maps and Surveying by GPS

Semester – IInd

Old Courses (June 2017)		New Courses (June 2021)	
Code of Courses	Title of the courses	Code of Courses	Title of the courses
Gg.211	Geographical Thoughts	GG. 201	Geographical Thoughts
Gg.212	Social and Cultural Geography	GG.202	Social and Cultural Geography
Gg.213	Remote Sensing.	GG.203	Remote Sensing
Gg.214	Geo-Statistical Methods	GG. 205	#
Gg.215	Practical of Computerize Data Analysis Techniques in Geography	GG.204	Practical in Cartographic Techniques with the help of GIS

No equivalent course is available for this paper, so students may be allowed to appear by old course.

Distribution of Course papers for M.A / M. Sc. Part I (Geography)

Subject Code	Title of the Paper		Duration (Hrs./Wk)	Max. Mark	Exam. Time (Hrs.)
M.A / M.Sc. Part I					
Semester I : Theory Courses					
GG.-101	Principles of Economic Geography	Core course	04	100	03
GG -102	Principles of Population Geography	Core course	04	100	03
GG -105	Tourism Management	Skill based	04	100	03
Semester I : Practical Courses					
GG -103	Practical in Interpretation of SOI Topographical maps and Surveying by GPS	Core course	04+04	100	06
GG -104	Practical in Human Geography	Core course	04+04	100	06
AC-101	Practicing Cleanliness	Audit Course	02	100	
Semester II : Theory Courses					
GG -201	Geographical Thoughts	Core course	04	100	03
GG -202	Social and Cultural Geography	Core course	04	100	03
GG -203	Remote Sensing	Core course	04	100	03
Semester II : Practical Courses					
GG -204	Practical in Cartographic Techniques with the help of GIS	Core course	04+04	100	06
GG -205	Practical in Geo-Statistical Methods	Skill based	04+04	100	06
AC-201A/B/C/D	Choose one out of Four AC-201A - Soft Skills / AC-201B - Sport Activities/ AC-201C -Yoga / AC-201D- Music	Audit Course	02	100	

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New Syllabus M.A./M.Sc. Geography
Semester-I (CBCS Pattern)
Core-Course

Gg. 101: Principles of Economic Geography

(With Effect from June 2021)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

- 1) To understand concept Economic Geography in different walks of the life.
- 2) The students are able to explain the role of economic landscape in economic development.
- 3) To understand the economic measures and problems of economic development.
- 4) To acquaint the students with fundamental knowledge of international trade and impact of globalization on economic development of India

Course Outcomes:

After completion of this course, the students will be able to

1. Evaluate the applicability and importance of economic geography in analyzing the modes of societies and economies' operation.
2. Establish and analyze spatial patterns of economic development.
3. Explain the role of natural and cultural factors in determining economic development of India.

Unit No.	Units	Sub-units	Lectures
I	Introduction to Economic Geography	A) Definition, Nature and Scope. B) Approaches to Economic Geography. C) Recent trends in Economic Geography.	06
II	Resources and Economic Development	A) Meaning of the term 'Resources' B) Classification of Resource. C) Significance of natural and human Resources (Suitable Examples and Characteristics) D) Role of resources in economic development E) Models of economic development. i). Rostow's Model. ii) Myrdal Model	14

III	Economic Landscape	A) Land, labour, capital, organization. B) Significance of land, labour and capital in different economic activities. C) Spatial variation in the factor cost. D) Location of economic activity- Von Thunen's Model of agricultural location.	10
IV	Economic Measures and Economic Development Region	A) Measures of economic development. B) Problems of economic development. C) Economic development in developed and underdeveloped countries. D) Economic Regions; i) Definition and concept, types of economic region. ii). Stages in the development of economic regions iii) Economic development regions in India.	10
V	International Trade	A) Definition of international trade. B) Role of international trade in world economic growth. C) Factors affecting international trade D) India's foreign trade. E) Changing forms of international trade.	10
VI	Economic Development in India	A) Natural and cultural factors influencing economic development in India. B) Impact of green revolution on economic development in India. C) Impact of globalization on economic development of India. D) Free trade initiatives.	10

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Alexander, J. W. (1977) : 'Economic Geography', Prentice Hall of India Pvt. Ltd., New Delhi.
- 2) Chorley, R. J. and Haggett, P (1970) : 'Socio Economic Models in Geography', Methuen.
- 3) H. M. Saxena (2013) : 'Economic Geography', Rawat publication, Jaipur.
- 4) Mitra, A (2002) : 'Resource Studies', Sreedhar publishers, Kolkata.
- 5) Kanan Chatterjee (2015) : 'Basics of Economic Geography', Concept publishing Company Pvt. Ltd., New Delhi.
- 6) Ray, P. k. (1997) : 'Economic Geography', New Central Book Agency (P) Ltd., Calcutta.
- 7) Shelar S. K. (2013) : 'Principles of Economic Geography' Chandralok Prakashan, Kanpur.
- 8) Garnier, B. J. and Delobez, A (1979), : 'Geography of Marketing', Longman.
- 9) Janaki V.A(1985) Economic Geography, Concept Publishing Co.
10. Sharma T.C.(2013) Economic Geography of India , Rawat Publication, Jaipur

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Syllabus for M.A. /M.Sc. Geography

Semester-I (CBCS Pattern)

Core-Course

Gg. 102 : Principles of Population Geography.

(With Effect from June 2021)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04

Clock Hours : 60

Course Objectives:

- 1) To enable students to acquire knowledge of Population Geography.
- 2) To study the population structure and characteristics of population.
- 3) To study the various theories in Population Geography.
- 4) To understand the World and Indian Population distribution.

Course Outcomes:

After completion of this course, the students will be able to,

- 1) To understand the concepts in Population geography.
- 2) Students able to evaluate different theories of population growth.
- 3) Students compare different population zones.
- 4) Students know the various problems of population.

Unit No.	Units	Sub - Units	Lectures
I	Introduction to Population Geography	A) Definitions and Meaning. B) Development of Population Geography as discipline. C) Nature and Scope of Population Geography. D) Population geography and Demography. E) Approaches to study the Population Geography.	08
II	Population Distribution	A) Factors affecting on distribution of population. i) Physical factors – topography, climate, soil, availability of water, natural vegetation , geographical location. ii) Cultural/ Human factors – religion, family system, Industrial development, transportation , economic factors, government policy, political and	10

		<p>agriculture system.</p> <p>B) Population Density - Definitions and meaning.</p> <p>C) Types of density – arithmetic, economic, agricultural, physiological and critical.</p> <p>D) Population distribution in India (According to census 2011).</p> <p>E) World population distribution.</p> <p>F) Problems of over, optimum and under population.</p>	
III	Population Structure and Characteristics	<p>A) Sex structure.</p> <p>B) Age structure (importance of age composition and determinants of age structure, age pyramid and age groups.)</p> <p>C) Sex ratio in India, causes of decreasing sex ratio and its impact</p> <p>D) Marital status.</p> <p>E) Literacy and educational attainment.</p> <p>E) Literacy in India.</p> <p>F) Religions in India ((According to census 2011).</p>	10
IV	Fertility and Mortality	<p>A) Fertility – definitions, social and cultural factors affecting fertility, crude birth rate.</p> <p>B) Mortality – definitions, measures of mortality- Crude death rate, Infant mortality, levels and trends of mortality.</p>	12
V	Dynamics of Migration- Trends and Pattern	<p>A) Definitions and importance of migration.</p> <p>B) Types of migration – internal migration and types, international migration.</p> <p>C) Causes and effects of migration.</p> <p>D) Brain drain of human resource.</p> <p>E) Lee’s theory of Migration.</p>	10
VI	Population Theories	<p>A) Theory of demographic transition.</p> <p>B) Malthusian theory of population growth.</p> <p>C) Karl Marx’s theory of population.</p>	10

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Mohammad Hassan (2005) – Population Geography, Rawat publication, Jaipur.
- 2) Asha A. Bhende and Tara Kanitakar (2006) – Principles of Population Studies, Himalaya Publishing House, Mumbai.
- 3) Chandana R.C. and Jagjit S.S. (1980) – Introduction to Population geography, Kalyani Publishers, New Dehli.
- 4) Majid Hussain (1991) – Anmol Publication, New Dehli.
- 5) Sawant S.B and Athavale A.S. (1994) – Population Geography, Mehat publishing house, Pune.

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**Syllabus M.A./M.Sc. Geography
Semester-I (CBCS Pattern)
Core-Course**

**GG-103 : Practical in Interpretation of SOI Topographical Maps and Surveying by
GPS.**

**(With Effect from June 2021)
(10 Students Per Batch)**

Total Marks-100

Credit Points- 04

**Teaching Hours/Week: 08
Clock Hours : 96**

Course Objectives:

1. To introduce the students with basic knowledge of topographical maps.
2. To know the importance and techniques of interpretation of topographical maps.
3. To introduce the students with basic principles of GPS and its functioning.
4. To give practical knowledge about survey using GPS receiver and to prepare the survey layout using post-processing software.

Course Outcomes:

After completion of this course, the students will be able to,

1. Enhance interpretative skills of the students.
2. Identify the physical and cultural features in SOI topographical maps.
3. Adopt the knowledge of drawing profiles.
4. Understand the GPS and its functions, work, types and components for a filed survey.

Unit No.	Units	Sub-Units	Lectures
I	SOI Topographical Maps	A) Arrangement of toposheet on map of India i) Indexing of topographical map. B) Marginal information and grid references . i) Marginal information . ii) Grid references: four and six figure. C) Conventional signs and symbols on SOI topographical map.	14
II	Relief Features by Contours	A) Relief features by contours. i) Conical hill ii) Plateau iii) Ridge iv) Gorge. v) U Shaped valley vi) V Shaped valley. vii) Waterfall. B) Slopes: Concave and Convex Slopes, Gentle and Steep Slopes, Terraced Slope.	17
III	Profiles	A) Drawing of Longitudinal Profile, Cross Profile. B) Intervisibility.	14

IV	Interpretation of SOI Topographical Maps	(Any Three) A) Plain Region. B) Plateau Region. C) Mountainous Region . D) Coastal Region. E) Desert Region.	17
V	Fundamental Concepts of GPS	A) Introduction, Components, types and applications of GPS. B) GPS Satellites. C) Constellation of GPS Satellites. D) Segments.	14
VI	Data Collection and Mapping Using GPS	A) GPS Survey on field. B) Area measurement using GPS. C) Data Import. D) Processing and Mapping. E) Project work using GPS.	20

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Tamaskar B.G. and Deshmukh V.M. (1974), Geographical Interpretation of Indian Topographical Maps. Orient Longman Limited Bombay
2. Petrie N. (1992), Analysis and Interpretation of Topographical Maps. Orient Longman Limited Calcutta.
3. Meux A. H. (1960), Reading Topographical Maps. University of London Press Limited
4. Wheeler K.S. Ed (1970), Geography in the field. Blond Educational, London.
5. Gupta, K. K. and Tyagi, V. C. (1992): Working with maps, Survey of India Publication, Dehradun
6. Ramamurthy, K. (1982): Map Interpretation, Rex Printer, Madras
7. Vaidyanadhan, R. (1968): Index to a Set of Sixty Topographic Maps: Illustrating Specified Physiographic Features From India, Council of Scientific and Industrial Research, Ministry of Education, Government of India
8. Gupta, K. K. and Tyagi, V. C. (1992): Working with Maps, Survey of India Publication, Dehradun
9. Basudeb Bhatta (2014): Remote Sensing and GIS, Oxford University Press, New Delhi.
10. Atiqur R. & Shahab A. (2017): Global Positioning System: Concept, Technique and Application, New Age International Publisher, New Delhi
11. Ben L. & Lawrence H. (2016): GPS Systems: Technology, Operation, and Applications, Discover Net Publishing, Walnut Street, USA

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New Syllabus M.A./M.Sc. Geography

Semester-I (CBCS Pattern)

Core-Course

GG-104 : Practical in Human Geography.

(With effect from 2021)

(10 Students Per Batch.)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08

Clock Hours : 96

Course Objectives:

1. To introduce some basic research method to the students to be applied to various themes in Human Geography.
2. To indicate the assumptions, limitations, and interpretation of these methods and results.

Course Outcomes:

After completion of this course, the students will be able to,

1. Evaluate and investigation the population data.
2. Understand the data analysis techniques in Human Geography
3. Understand the various basics statistical Techniques for analysis of the geographical data.

Unit No.	Units	Sub-Units	Lectures
I	Introduction to Research Data in Human Geography and Data Collection Techniques	A) Introduction to research data. B) Questionnaire: meaning and types. C) Planning, designing of questionnaire for field work. D) Data compilation and analysis.	15
II	Data Analysis Techniques in Population Geography	A). Density: i) Arithmetic density of population. ii) Economic density of population. iii) Nutritional density of population. iv) Agricultural density of population. v) Critical density of population. B) Measures: I) General fertility rate. II) Crud death rate. III) Infant mortality rate. C) Sex Ratio: i) Sex ratio of all groups of population.	18

		ii) Age- sex pyramids.	
III	Data Analysis Techniques in Settlement Geography	A) Rural Settlement Geography i). Dispersion of rural settlements: Bernhard's method, Demangeon method, Debouvrie's method. B) Urban Settlement Geography i) Nearest neighbour analysis- Clerk and Evan's method. ii) Rank size rule.	16
IV	Data Analysis Techniques in Agricultural Geography	A) Crop concentration by Bhatia. B) Crop diversification by Bhatia. C) Crop combination by Weaver's method. D) Agricultural efficiency by Jasbirsing's method.	16
V	Data Analysis Techniques in Transport and Industrial Geography	A) Transport Geography i) Graph theoretic measures of transport Network, Ratio Measures: a) Alpha b) Beta c) Gamma. B) Industrial Geography i) Measurement of industrial activity. a) Location Quotient. b) Lorenz curve.	15
VI	Cartographic Techniques Maps	A) Literacy Rate (Choropleth method). B) Dispersion of settlements (Dot method) C) Functional classification of towns (Use different signs and symbols) D) Land use and Land classification.	16

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. R.B.Mandal: "Statistic for Geography and Social Science".
2. Monkhouse: "Maps and Diagram".
3. Masjid Husen "Agricultural Geography".
4. Hudson F.S. (1976): "Geography of Settlement".
5. Yeats, M.H. (1974): "An Introduction to Quantitative Analysis in Human Geography".
6. Sing J. and Dhillon (1984) "Agricultural Geography".
7. Sing R.L. "Readings in Rural Settlement Geography".
8. Michael E. and E. Hulse: "Transportation Geography".
9. Edward Arnold: "The Study of Urban Geography".
10. George Omura: Mastering Auto CAD, BPB Publication, b14 Conneaut place, New Delhi
11. Grini Courter and Annette Marquis (1999): "OFFICE 2000" BPB Publication
12. Dr. Sanjay Bhaise and Prof. Devendra Maski: 'LoksankhyaBhugol'
Pattern of question paper
 1. All questions will be compulsory.
 2. A mark for Viva-voce is 10 marks.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

**New Syllabus M.A./M.Sc. Geography
Semester-I (CBCS Pattern)**

Skill Based Course

**GG: 105, Tourism Management
(With effect from June 2021)**

Total Marks-100

Credit Points- 04

**Teaching Hours/Week: 04
Clock Hours : 60**

Course Objectives:

To understand concept of tourism management:

1. To provide training, skill development and education needed to prepare individuals for effective job in the tourism and entertainment industries.
2. To understand the management functions of tourism industry including human resource management, financial management, marketing and technology applications.
3. To identify potential career opportunities of our students through internship programs.

Course Outcomes:

After completion of this course, the students will be able to,

1. Tourism Management graduates are hired by both private and government sector companies.
2. Tourism Management course helps students specialize in the industry-specific knowledge and make them business ready for fields such as hotels, vacation resorts, retreat hotels, campgrounds,

Unit No.	Units	Sub-Units	Lectures
I	Introduction to Geographical Tourism Management	A) Concept of tourism and geo-tourism. B) Need and importance of tourism management. C) Scope and future of tourism management. D) Types of tourism management. General problems of tourism management.	10
II	Tourism Planning	A) Types of tourism planning. B) Problem of tourism planning. C) National and International Tourism planning. D) Components of tourism planning. Programme implementation.	10
III	Tourism Marketing & Management	A) Defining of tourism marketing. B) Need of marketing in tourism. C) Components of Tourism Marketing	12

		& Management- i) The tourist product, ii) Special features of tourism marketing, iii) Marketing process, iv) Marketing research, v) The segmentation, targeting, positioning (STP) marketing model. vi) Tourism promotion, vii) Advertising.	
IV	Role of Infrastructure and Transport in Tourism	A) Infrastructure facilities. B) Tourism accommodation & Food Services. C) Resort and Event Management. D) Transportation-Tourism management.	08
V	Sale Services in Tourism	A) Sales and marketing and Public relations. B) Tour and travel documentation services. C) Language skill and Business communications. D) Tourism management information system. E) Customer care and interpersonal skills. F) ICT in tourism management.	10
VI	Tourism impact and Tourism Policy of India	A) Tourism impacts. B) Sustainable and green tourism. C) Role of Travel agency & Tour operations. D) National tourism policy in india-2016.	10

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) A. K. Bhatia. (1908): Tourism Management and Marketing
- 2) Alston, A., (1979): Working in the Travel Business, Batsford Publications, London.
- 3) Anthony, Edwards (1985) International Tourism Forecasts to 1995, EIU, 40 Duke Street, London W1M 5 DG, UK.
- 4) Balsdon, J. P. V. D. (1966): Life and Leisure in Ancient Rome, London, Bodley Head.
- 5) Beazely. E. (1970): Designed for Recreation, London: Faber.
- 6) Bernecker, Paul, Methods and Media of Tourist Publicity, Vienna, Austrian National Tourist Office, 1961.
- 7) Bhatia, A.K. : Tourism Development, Sterling Publishers Pvt. Ltd., New Delhi 110016
- 8) Brownell. G. G., Travel Agency Management, Birmingham, Southern University Press, 1975
- 9) Lancaster G. and Massingham, L. (1988) *Essentials of Marketing*. Maidenhead, Berkshire, England. McGraw-Hill.
- 10) Law B. C. (1968 ed) - Mountain and Rivers of India, Calcutta
- 11) Mill and Morrison (1992) : The Tourism system an Introductory Text , Prentice Hall
- 12) P.S. Gill: Dynamics of Tourism (4 Vols) Anmol Publication. New Delhi,
- 13) R. M. Desai (1988) : Strategy of food and agriculture – Bombay
- 14) Robinson H.A.A. -Geography of Tourism, MacDonal and Evans, London.
- 15) Seth: Tourism Management : Sustainable Tourism Development, Guide for Local Planners by WTO, Sterling Publishers Pvt. Ltd., New Delhi-110016
- 16) Smith, W. R. (1956). Product differentiation and market segmentation as alternative marketing strategies. *Journal of Marketing*. (Vol. 21, Issue 1, July). p3-8.

Model Question Paper Format

For

GG. 103 Practical in Interpretation of SOI Topographical Maps and Surveying by GPS

Note: All questions are compulsory.

Que. 1 – Interpretation of SOI topographical map with the help of following points. (09 Marks)

(a)

(b)

(c)

Que. 2 (A) – Drawing of relief features and slopes with the help of contours. (06 Marks)

(a)

(b)

(c)

(B) Drawing and identification of conventional signs and symbols of SOI topographical maps. (03 Marks)

(C) Drawing of profile. (05 Marks)

(D) Write short note on (any one out of 03). (Chapter I and III) (02Marks)

Que. 3- Survey the given area with the help of GPS (as per instructions of examiner given to you.) (12 Marks)

Que.4-(A) Write shorts notes (any three out of 05) (Chapter V and VI) (09 Marks)

(B) Descriptive Question (Chapter V and VI) (04 Marks)

Que. 5 Journal (05 Marks)

Oral (05 Marks)

Model Question Paper Format

For

GG-104 : Practical in Human Geography.

Note: All questions are compulsory.

Que. 1 Solve Example (Attempt any 01 out of 02) (10 Marks)

Que.2 Solve Examples (Attempt A and B)

(12 Marks)

(A)

(B)

Que.3 Solve Example(Attempt any 01 out of 02) (12 Marks)

Que.4 (A) Solve Example(Attempt any 01 out of 02) (10Marks)

(B)Write short notes on(Attempt any two out of 04) (06 Marks)

Que. 5 Journal (05 Marks)

Oral (05 Marks)

M.A / M.Sc. Part I

(Semester I)

Subject: Audit Course

AC-101: Practicing Cleanliness (Compulsory; Audit Course; Practical; 2 Credits)	
Course Objectives (COs):	
<ul style="list-style-type: none">• To make students aware of Clean India Mission and inculcate cleanliness practices among them.	
<ul style="list-style-type: none">• Awareness program on<ul style="list-style-type: none">○ Swachh Bharat Abhiyan (Clean India Mission)○ Clean Campus Mission○ Role of youth in Clean India Mission• Cleaning activities inside and surroundings of Department buildings.• Tree plantation and further care of planted trees• Waste (Liquid/Solid/e-waste) Management, Japanese 5-S practices• Planning and execution of collection of Garbage from different sections of University campus• Role of youth in power saving, pollution control, control of global warming, preservation of ground water and many more issues of national importance.• Cleanest School/Department and Cleanest Hostel contests• Painting and Essay writing competitions	

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC101.1	Identify need at of cleanliness at home/office and other public places.	2
AC101.2	Plan and observe cleanliness programs at home and other places.	4
AC101.3	Practice Japanese 5-S practices in regular life.	3

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

**Syllabus M.A./M.Sc. Geography
Semester-II (CBCS Pattern)
Core- Course
GG-201: Geographical Thoughts.
(With Effect from June 2021)**

Total Marks-100

Credit Points- 04

**Teaching Hours/Week: 04
Clock Hours : 60**

Course Objectives:

1. To understand the evolution of geographical, concept, ideas and knowledge.
2. To generalize the valuable contribution of pioneers in the geography
3. To study the major schools of geography in ancient and modern period.
4. To elaborate the trends of historical development of geography.

Course Outcomes:

After completion of this course, the students will be able to,

1. Appreciate the contribution of the thinkers in Geography.
2. Strengthen point presentations on different schools of geographical thought.
3. Know relationship of geography with other disciplines and man-environment relationships.

Unit No.	Units	Sub-Units	Lectures
I	Nature of Pre- Modern Geography	A) Impact of 'Dark Age' in Geography. B) Development of Geography: i) Greek Geographers- a) Homer b) Aristotle c) Erasthennis ii) Arabian Geographers- a) Ibn Batuta b) Al Idrisi c) Al Masudi iii) Indian Geographers - a) Aryabhatta b) Varahamihira c) Brahamgupta d) Bhaskarachrya	12
II	Role of Ancient Explorers & Discoveries in Geography	A) Marco Polo. B) Christopher Columbus. C) Vasco da Gama. D) Captain James Cook.	08
III	History of Modern Geographical Thoughts	Contribution of modern geographers in the world: A) Contribution of modern geographers- i) Alexander Von Humboldt ii)	12

		Fredrich Ratzel iii) Vidal-de-La-Blache iv) Griffith Taylor B) Roman Geographers- i) Strabo ii) Ptolemy.	
IV	Dualism in Geography	Dualism/ Dichotomies in Geography. i) Physical Geography v/s Human Geography. ii) General Geography v/s Regional Geography. iii) Determinism v/s Possibilism.	08
V	Evolution of Critical Geography	Trends in geographic thoughts and methodology. i) Quantitative revolution. ii) Behavioural approach. iii) Humanistic approach. iv) Human welfare approach.	10
VI	Post Modern trends in Geography	A) Structuralism in Geography. B) Historical materialism. C) Changing concept of 'Space' (with special reference to Harvey) D) Geography in the 21st Century : towards post modernism.	10

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Taylor G. (1951): Geography in 20th Century, Methuen & Co. London.
- 2) Husain Majid (1984): Evolution of Geographical Thoughts, Rawat Publication, Jaipur
- 3) David Harvey: Explanation in Geography
- 4) Hart M.G. (1986): Geomorphology- Pure and Applied, George Allen & Unwin.
- 5) Robert E Dickinson: The Makers of Modern Geography.
- 6) Peter Hagget: Geography, A Modern Syntesis.
- 7) Saroj K Pal: Statistical Techniques, A Basic Approach to Geography, Mc. Graw Hill.
- 8) Floyd Sabins: Remote Sensing, Principles and Application, Freeman and Co. New York

- 9) Hartshorn T A & Alexander (1988): Economic Geography, Prentice Hall, International Inc.
- 10) Brian P Fit Gerald: Development in Geographical Method” Science in Geog. Oxford Uni. Press
- 11) Kang- tsung : Introduction to Geographic Information System (2002) McGraw Hill.
- 12) George Joseph : Fundamentals of Remote Sensing (2004) ,University Press Pvt. Ltd. Hyderabad.
- 13) J.R. Jensen : Remote Sensing of Environment, An Earth Resources, Perspective (2003) ,Person Education Pvt. Ltd. New Delhi.
- 14) Dr. Sawant,Prakash (1999) Thought and Concepts in Geography, Phadake Prakashan, Kolhapur
- 15) James, P.E.(1980) All possible Worlds: A History of Geographical ideas, Sachin Publication Jaipur (Indian Reprint)
- 16) Free Man, T.W, (1965) : Geography as Social Science, Harper International Edition, Harper & Row Publishers, New York.
- 17) Adhikari, S. 2015. Fundamentals of Geographical Thought, Orient Black swan.
- 18) Clifford, N. Holloway S.L., Rice, S.P., Valentine, G. 2009. Key Concepts in Geography, 2nd ed, Sage.
- 19) Couper, P. 2015. A Student’s Introduction to Geographical Thought: Theories, Philosophies, Methodologies, Sage.
- 20) Cresswell, T. 2013. Geographic Thought: A Critical Introduction, Wiley-Blackwell.
- 21) Dikshit, R.D. 2004. Geographical Thought: A Contextual History of Ideas, Prentice Hall India.
- 22) Holt-Jensen, A. 2011. Geography: History and Concepts: A Student’s Guide, Sage

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New Syllabus M.A./M.Sc. Geography
Semester-II (CBCS Pattern)

Core-Course

GG. 202 : Social and Cultural Geography.

(With Effect from June 2021)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

- 1) To study the Social as well as Cultural situation in the different parts in the world.
- 2) To analyze the relationship between the geography and socio-cultural factors.
- 3) To aware the students about various socio-cultural phenomenon.

Course Outcomes:

After completion of this course, the students will be able to,

- 1) Acquire skills related with socio-cultural factors.
- 2) Familiar to information about various social factors.
- 3) Identify various types of cultural landscape of the world.

Unit No.	Units	Sub Units	Lectures
I	Introduction to Social & Cultural Geography	A) Meaning B) Definitions C) Nature and Scope of Social & Cultural Geography D) Development of Social & Cultural Geography	08
II	Social Theories	A) Classical Social Theory i) Modern Social Theory ii) Post Modern Social Theory iii) Social Structure	08
III	The Cultural Complex	A) Cultural landscape i) Development of cultural landscape ii) Cultural Regions of the world	08
IV	Tribes	A) Definition, Tribal social formation B) Nomenclature, Language variation C) Distribution at state and district level D) Distribution of the tribes i) Gond ii) Naga iii) Bhill iv) Bushmen	10

V	Themes in Cultural Geography	A) Themes in cultural geography i) Cultural region ii) Formal cultural region iii) Functional cultural region iv) Cultural diffusion v) Cultural ecology	12
VI	Cultural System	A) Geography and religion B) Geography and language C) Cultural Nationalism D) Globalization and cultural change E) Cultural Convergence & divergence	14

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Ajaruddin Ahmad- "Social Geography", Rawat Publication Jaipur, New Delhi.
- 2) Emrys Johns (1975) - "Readings in Social Geography", Oxford University Press.
- 3) Rajit Tirtha: "Geography of India", Eastern Michigan University, U.S.A. & Region.
- 4) Spencer J.E. and W.L. Thomas: "Introducing Cultural Geography"
- 5) Wagner P.L. and Mi Kesell M.W.: "Reading Cultural Geography"
- 6) Majid Husain: "Cultural Geography", Anmol Publication Pvt. Ltd., New Delhi.
- 7) John Emrys: "Regions in Social Geography"
- 8) John Emry and Eyles John: "An Introduction of Social Geography"
- 9) Dr. Jain: "VishwakaSanskrutikBhugol"
- 10) Majid Husain - Social Geography
- 11) Kaushik, Chavan, P.K. Pande - Social Geography

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

**Syllabus M.A./M.Sc. Geography
Semester-II (CBCS Pattern)**

Core- Course

**Gg. 203 : Remote Sensing.
(With Effect from June 2021)**

Total Marks-100

Credit Points- 04

**Teaching Hours/Week: 04
Clock Hours : 60**

Course Objectives:

- 1) To introduce students with advance techniques of survey and data collection.
- 2) To acquaint the students with fundamental knowledge and principles of Remote Sensing.
- 3) To familiar students with variety of applications of Remote Sensing.
- 4) To acquaint the students with fundamental concepts and importance of Aerial Photographs and satellite imageries.

Course Outcomes:

After completion of this course, the students will be able to,

- 1) Recognize and explain basic principles of remote sensing including electromagnetic spectrum; the emission, scattering, reflection and absorption of electromagnetic radiation (EMR); variations in EMR interactions with many substances.
- 2) Recognize and explain properties of remote sensing data acquisition, storage and processing.
- 3) Recognize properties of aerial photographs and satellite imageries.
- 4) Recognize and describe applications of remote sensing data in different fields.

Unit No.	Units	Sub units	Lectures
I	Introduction to Remote Sensing	A) Introduction. B) Definitions of remote sensing. C) History of remote sensing. D) Process of remote sensing' E) Applications of remote sensing techniques in different fields.	10
II	Fundamentals of Remote Sensing	A) Concept of energy. B) Electromagnetic energy and radiation. C) Properties of electromagnetic waves. i) Wave velocity. ii) Wave length. iii) Wave frequency. D) Electromagnetic spectrum. E) Interaction of EMR with atmosphere:	12

		<p>absorption, scattering [Selective (Rayleigh, Mie and Raman Scattering) and Nonselective], reflection, refraction, and transmission of energy.</p> <p>F) Interaction of EMR with earth surface - Reflection, Absorption, Emission.</p>	
III	Types of Remote Sensing and Platforms.	<p>A) Types of remote sensing.</p> <p>i) Based on energy source.</p> <p>a) Passive remote sensing.</p> <p>b) Active remote sensing.</p> <p>ii) Based on use of wavelength regions of electromagnetic spectrum.</p> <p>a) Optical.</p> <p>b) Thermal.</p> <p>c) Microwave.</p> <p>B) Remote sensing platforms.</p> <p>i) Definition of platform.</p> <p>ii) Types of platforms.</p> <p>a) Ground based platform.</p> <p>b) Air borne platform.</p> <p>c) Space borne platform.</p>	10
IV	Aerial Photographs	<p>A) Introduction to Aerial Photographs.</p> <p>B) Types of aerial photographs.</p> <p>C) Types of camera.</p> <p>D) Types of film.</p> <p>E) Geometry of aerial photographs.</p> <p>F) Equipments used for the interpretation of aerial photographs (Parallax bar, Stereoscope (Mirror and Pocket Stereoscope)).</p> <p>G) Stereoscopic overlapping.</p> <p>H) Methods of scale determination.</p> <p>I) Average scale of aerial photographs.</p> <p>J) Elements of interpretation of aerial photographs.</p>	12
V	Satellite Remote Sensing	<p>A) Satellite orbit.</p> <p>i) Definitions.</p> <p>ii) Types of orbit.</p> <p>a) Geostationary / Geosynchronous.</p> <p>b) Polar / Sun synchronous.</p> <p>B) Satellite swath.</p> <p>C) Scanning techniques.</p> <p>i) Across-track</p> <p>ii) Along track.</p> <p>D) Sensor - definition and types of Sensor.</p>	08

		E) Resolution of sensors (Spectral, Spatial, Radiometric and Temporal). F) Elements of image interpretation.	
VI	Development of Indian Remote Sensing.	A) History of IRS development. B) NRSA organization (NRSC). C) Satellites launched by India and their functions. D) Recent development of India in Space Technology.	08

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Abbasi S.A., K.B. Chari K.B. (2005): Applications of GIS and Remote Sensing in Environmental Management, Discovery Publication House, New Dehli.
2. Agarwal C.S. and Garg P.K. (2002): Text Book on Remote Sensing, Wheeler Publishing Delhi.
3. Prithvish Nag and M. Kudrat (1998): Digital remote Sensing, Concept Publishing Company, New Delhi.
4. Bhatta Basudeb (2011): Remote Sensing and GIS, Oxford University Press.
5. Chang, Kang-Taung (2000): Introduction to Geographic information System, Tata McGraw Hill.
6. Joseph George, 2003, Fundamentals of remote sensing. Universities Press.
7. Lillesand, Thomas M. & Kiefer Ralph (2000): Remote Sensing and Image Interpretation, John Willey.
8. Prithvish Nag and M. Kudrat (1998) : Digital remote Sensing , Concept Publishing Company, New Delhi.
9. Sabbins, F.F., 1985, Remote sensing Principles and interpretation. W.H. Freeman & Company
10. American Society for Photogrammetry and Remote Sensing, 1999, Remote Sensing for the Earth Sciences, Manual of Remote Sensing, 3rd ed., vol. 3, Wiley, New York.

Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

New Syllabus for M.A./M.Sc. Geography

Semester-II (CBCS Pattern)

Core- Course

Gg. 204 : Practical in Cartographic Techniques with the Help of GIS

(With Effect from June 2021)

(10 Students Per Batch)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08

Clock Hours : 96

Course Objectives:

- 1) To acquaint the students with basic concepts of GIS.
- 2) To familiar the students with open-source software, QGIS and its importance in cartography.
- 3) To acquire the skill of georeferencing process in QGIS.
- 4) To enable the students to create different political and physical maps using QGIS
- 5) To acquire the skill of making choropleth maps based on attribute tables.

Course Outcomes: After completion of this course, the students will be able to,

- 1) Explain the importance concept of GIS and importance of QGIS in Cartography.
- 2) Undertake the process of georeferencing a toposheet or a scanned map.
- 3) Create different Political and Physical maps using QGIS.
- 4) Create choropleth maps based on attribute data tables.

Unit No.	Units	Sub - units	Lectures
I	Introduction to GIS	A) Introduction to GIS: Definitions, Evolution, Components and Objectives. B) Computer fundamentals for GIS. C) Spatial data models – raster and vector. D) Non spatial data. E) Metadata.	10
II	Introduction to Quantum GIS (QGIS)	A) Concept of Open-source software. B) Introduction to QGIS. C) Difference between ArcGIS and QGIS. D) Downloading and Installation of QGIS. E) Introduction to basic tools and panels in QGIS.	10

<p style="text-align: center;">III</p>	<p style="text-align: center;">Georeferencing</p>	<p>A) Scanning a map or toposheet with required dpi (Raster). B) Downloading a toposheet from SoI website. C) Uploading map / satellite image in QGIS. D) Selecting Georeferencing points (3 or 4). E) Georeferencing the map or image with the help of selected points.</p>	<p style="text-align: center;">18</p>
<p style="text-align: center;">IV</p>	<p style="text-align: center;">Creating a map using readymade data (packages) Part - I</p>	<p>A) Download the Natural Earth Quickstart Kit. B) Select an appropriate area for a map. C) Creating map layout. D) Grid and Coordinates. E) Legends.</p>	<p style="text-align: center;">18</p>
<p style="text-align: center;">V</p>	<p style="text-align: center;">Creating a map using readymade data (packages). Part - II</p>	<p>A) Adding Title and sub-title to the map. B) Formation of appropriate graphical scale. C) Adding Direction (North arrow). D) Exporting the map as image (set appropriate dpi) and as pdf file.</p>	<p style="text-align: center;">20</p>
<p style="text-align: center;">VI</p>	<p style="text-align: center;">Attribute Data and Data Exploration Digitization and map making</p>	<p>A) Creation of vector data model using line, polygone and point. B) Digitization and creating an outline map. C) Adding attribute data to a map. D) Symbology based on attribute data. E) Creating map layout and addition coordinates, title, direction, scale and legend.</p>	<p style="text-align: center;">20</p>

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) “*Geographic Information System Basics*” by Jonathan E. Campbell, UCLA, Michael Shin, UCLA.
Available for free: <http://2012books.lardbucket.org/books/geographic-information-system-basics/index.html>
- 2) Kang-tsung Chang (2007), 'Introduction to Geographic Information Systems' Tata MCGraw Hill, New Delhi.
- 3) C.P.Lo and Albert K.W. Yeung (2006) "Concepts and Techniques of Geographic information Systems" Prentice Hall of India, New Delhi
- 4) Burrough, Peter A. and Rachael McDonnell, (1998), 'Principles of Geographical Information Systems' Oxford University press, New York.
- 5) Maguire, D.J. Goodchild, M.F. and Rhind, D.M., (2005), 'Geographical Information Systems: Principles and Applications', Longman Group, U.K.
- 6) Burrough, P.A., 1986, Geographical Information System for land Resources System, Oxford Univ. Press, UK.
- 7) Fotheringham, S.; Rogerson, P. (ed.), 1994. Spatial analysis and GIS. Taylor and Francis, London, UK.
- 8) Laurini, Robert and Dierk Thompson, 1992, Fundamentals of Spatial Information Systems, Academic Press, ISBN 0-12-438380-7.
- 9) Maguire, D.J.; Goodchild, M.F.; Rhind, D.W. 1991. Geographical information System, Longman, London, UK
- 10) Siddiqui, M.A.; 2006, Introduction to Geographical Information System, Sharda Pustak Bhavan, Allahabad.
- 11) Siddiqui, M.A.; 2011, Concepts and Techniques of Geoinformatics, Sharda Pustak Bhavan, Allahabad.
- 12) <https://www.qgistutorials.com/en/index.html>
- 13) https://docs.qgis.org/3.4/en/docs/training_manual/index.html

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Syllabus M.A./M.Sc. Geography

Semester-II (CBCS Pattern)

Skill Based Course

Gg-205 : Practical in Geo-Statistical Methods.

(With Effect from June 2021)

(10 Students Per Batch)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08

Clock Hours : 96

Course Objectives:

1. To introduce some basic research methods to the students.
2. To introduce the importance of statistical techniques in Geography.
3. To introduce the skill and practical approach of Geo Statistical Methods.

Course Outcomes:

After completion of this course, the students will be able to,

1. Understand the importance and use of statistical methods in geography.
2. Use of sampling methods in Geo-statistical data.
3. Examine the relationship between two or more variables with the help of Correlation and regression analysis.
4. Measure probability using some probability distributions.
5. Apply large and small sample tests in Geo-statistical data.

Unit No	Topic	Sub Topic	Periods
I	Introduction to Geo-Statistical Methods	A) Introduction. B) Meaning and Definition of Geo-Statistical Methods. C) Importance and use of statistical methods in geography.	12
II	Sampling and Sample Planning in Geo-Science	A) Population and Sample. B) Sampling: Objectives, Advantages. C) Methods of Sampling. i). Simple Random Sampling. ii). Stratified Random Sampling. iii.) Systematic Sampling. iv). Cluster Sampling.	18
III	Bivariate Analysis	A) Bivariate Data. B) Covariance. C) Correlation: Karl Pearsons Correlation Coefficient. D) Regression: Meaning.	18

		E) Linear Regression. F) Non Linear Regression : Power, Exponential, Logarithmic	
IV	Probability Distributions	A) Probability functions and Computation of Probabilities using following distributions B) Binomial Distribution. C) Poisson Distribution. D) Normal Distribution. E) Standard Normal Distribution ($Z \sim N(0,1)$).	16
V	Testing of Hypothesis - I	A) Introduction. B) Types of Hypothesis. C) Type of Errors, Critical Value, Level of Significance, Concept of p-value. D) One tailed and two tailed test. E) Large Sample Tests (Based on Normal Distribution) – i) Test of Significance between sample mean and population mean. ii) Test of Significance between sample proportion and population proportion	16
VI	Testing of Hypothesis - II	A) Chi-square test. B) Student's t-test. C) Snedecor's variance ratio test (F test).	16

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Cole, J.P., King, C.A.M. (1968): Quantitative Techniques in Geography. John Wiley & sons Inc. New York.
- 2) Gregory, S. (1968): Statistical methods and the geographer. Longman, London.
- 3) Elhance, D.N. (1972): Fundamentals of statistics, Kitab Mahal, Allahabad.
- 4) Mahmood, A. (1977): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi

- 5) Hammond,R., McCullagh P. (1978): Quantitative techniques in Geography An Introduction (2nd Ed.), Oxford University Press, USA.
- 6) Gupta, C.B. (1978); An introduction to statistical Methods, Vikas Pub.House,New Delhi.
- 7) 7.King, L.J. (1991): Statistical Analysis in geography. Prentice Hall, Englewood Cliff N.J.
- 8) Frank, H., & Althoen, S. C. (1994). *Statistics: Concepts and Applications*. Cambridge: Cambridge University Press.
- 9) Alvi, Z. (1995): Statistical Geography: Methods and Applications, Rawat Publications, Jaipur
- 10) Mann, P. S. (2007). *Introductory Statistics*. New Delhi: John Wiley and Sons
- 11) Burt, J.E., Barber, G.M., and Rigby, D.L. (2009): Elementary Statistics for Geographers (3rd Ed.), TheGuilford Press, 653pp.
- 12) Harris, R., Jarvis,C.(2011): Statistics for Geography and Environmental Science, Prentice Hall.
- 13) Acevedo, M.F.(2012): Data Analysis and Statistics for Geography, Environmental Science and Engineering, CRC Press.
- 14) Rogerson,P.A.(2015): Statistical Methods for Geography: A Student's Guide, 4th ed,Sage.

Model question paper format

For

Gg. 204: Practical in Cartographic Techniques with the Help of GIS

Note:

- 1. Question 1 is compulsory.**
- 2. Solve any two questions from 2 to 4.**

Question 1. Georeference the given part of toposheet / map. (10 Marks)

Question 2. Prepare the map of (any country) by using the given dataset. The map must include Title, coordinates, north, scale and legend. (20 Marks)

Question 3. Prepare a choropleth map using the given outline and attribute data. (Jalgaon, Dhule, Nandurbar maps) (20. Marks)

Question 4. Prepare a outline map (vector) with help of given map (raster) using polygons or lines. The map must include Title, coordinates, north, scale etc. (20 Marks)

Question-5 Journal (05 Marks)

Oral (05 Marks)

Model Question Paper Format
For Gg-205 : Practical in Geo-Statistical Methods
Note: All questions are compulsory.

Que. 1 Solve Example (Attempt any 01 out of 02) (10 Marks)

Que.2 Solve Examples (Attempt A and B) (12 Marks)

(A)

(B)

Que.3 Solve Example (Attempt any 01 out of 02) (12 Marks)

Que.4 (A) Solve Example (Attempt any 01 out of 02) (10Marks)

(B)Write short notes on (Attempt any two out of 04) (06 Marks)

Que. 5 Journal (05 Marks)

Oral (05 Marks)

M.A/ M.Sc. Part I

Semester II

Audit Courses

AC-201(A): Soft Skills		
(Personality and Cultural Development Related Audit course; Practical; 2 Credits)		
(Optional:)		
	<i>Course Objectives (COs):</i>	
	•	
Unit 1	<p>Introduction to soft skills Formal definition, Elements of soft skills, Soft vs. Hard skills, Emotional quotient, Goal setting, life skills, Need for soft skills, Communication skills, Etiquettes & Mannerism.</p>	2 h
Unit 2	<p>Self-Assessment Goal setting, SWOT analysis, attitude, moral values, self-confidence, etiquettes, non-verbal skills, achievements, positive attitude, positive thinking and self-esteem. Activity: The teacher should prepare a questionnaire which evaluate students in all the above areas and make them aware about these aspects.</p>	4 h
Unit 3	<p>Communication Skills Types of communication: Verbal, Non-verbal, body language, gestures, postures, gait, dressing sense, facial expressions, peculiarity of speaker (habits). Rhetoric speech: Prepared speech (topics are given in advance, students get 10 minutes to prepare the speech and 5 minutes to deliver, Extempore speech (students deliver speeches spontaneously for 5 minutes each on a given topic), Storytelling (Each student narrates a fictional or real-life story for 5 minutes each), Oral review (Each student orally presents a review on a story or a book read by them) Drafting skills: Letter, Report & Resume writing, business letters, reading & listening skills Activity: The teacher should teach the students how to write the letter, report and build resume. The teacher should give proper format and layouts. Each student will write one formal letter, one report and a resume.</p>	8 h
Unit 4	<p>Formal Group Discussion, Personal Interview & Presentation skills Topic comprehension, Content organization, Group speaking etiquettes, driving the discussion & skills. Preparation for personal interview: dress code, greeting the panel, crisp self-introduction, neatness, etiquettes, language tone, handling embarrassing & tricky questions, graceful closing. Activity: Each batch is divided into two groups of 12 to 14 students each. Two</p>	4 h

	rounds of a GD for each group should be conducted and teacher should give them feedback. Mock interview are to be conducted.	
Unit 5	Aptitude and analytical skills Quantitative aptitude, Numerical reasoning, verbal reasoning, diagrammatic test, situational tests, logical thinking. Analytical skills: Definition, Types, problem solving	8 h
Unit 6	Life skills Time management, critical thinking, sound and practical decision making by dealing with conflicts, stress management, leadership qualities Activity: The teacher can conduct a case study activity to train students for decision making skills. The teacher should conduct a session on stress management and guide students on how to manage stress. The teacher may conduct a stress relieving activity in the class. He/she may counsel students individually to know their problems and guide them on dealing with them effectively.	4 h
Suggested readings:		
<ol style="list-style-type: none"> 1. Basics of Communication In English: Francis Sounderaj, MacMillan India Ltd. 2. English for Business Communication: Simon Sweeney, Cambridge University Press 3. An Introduction to Professional English and Soft Skills: Das, Cambridge University Press 4. Quantitative Aptitude: R.S. Agrawal 		

AC-201(B): Practicing Sports Activities				
(Personality and Cultural Development Related Audit course; Practical; 2 Credits)				
(Optional: Campus-level)				
Course Objectives (CObs):				
<ul style="list-style-type: none"> To motivate students towards sports and provide them required training. 				
SR NO.	NAME OF THE SPORT/GAME (Select ONE of the Following)	SYLLABUS OF THE COURSE	TIMING (02 Hours in a Week)	SEMESTER
1	Volleyball	<ul style="list-style-type: none"> General Fitness Basic Fitness Specific Fitness History of the Game Basic Skill of the Game Major Skill of the Game Technique & Tactics of the Game Game Practice 	Morning : 07 to 09 AM OR Evening : 05 to 07 PM	Total 30 Hours in Each Semester
2	Athletics			
3	Badminton			
4	Cricket			
5	Basketball			
6	Handball			
7	Kabaddi			
8	Kho-Kho			
9	Table-Tennis			
10	Swimming			

AC-201(C): Practicing Yoga (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional)	
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To motivate students towards yoga and provide them required training.
	<ul style="list-style-type: none"> • Yog: Meaning, Definition & Introduction, Objectives • Primary Introduction of Ashtanga Yoga • Preparation of Yogabhyas • Omkar Sadhana, Prayer, Guru Vandana • Sukshma Vyayamas • Suryanamaskar (12 Postures) • Asanas : <ul style="list-style-type: none"> ▪ Sitting (Baithaksthiti) - Vajrasana, Padmasan, Vakrasan, Ardha-Pashchimotanasanan ▪ Supine (Shayansthiti) - Uttan Padaasan(Ekpad/Dwipad), Pavanmuktasana, Viparitakarani Aasan, Khandarasan, Shavasana ▪ Prone (Viparitshayansthiti) - Vakrahasta, Bhujangasana, Saralhasta Bhujangasana, Shalabhasana(Ekpad/Dwipad), Makarasana ▪ Standing (Dhandsthiti) - Tadasana , TiryakTadasana, Virasana, Ardh Chakrasana • Primary Study of Swasana: Dirghaswasana, Santhaswasana, JaladSwasana - 6 Types • Pranayama : Anuloma-viloma, Bhramari

AC-201(D): Introduction to Indian Music (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional: Campus-level)	
	<p>Course Objectives:</p> <ul style="list-style-type: none"> To motivate students towards Indian music and provide them minimum required training.
	<ul style="list-style-type: none"> Definition and brief about generation of Swar, Saptak, Thaata, Raaga, Aavartan, Meend, Khatka, Murkee, Taal, Aalaap etc. Taal and its uses - Treetaal, Daadraa, Zaptaal, Kervaa. Information of Badaakhyaal, Chhotaakhyaal (one), Sargam, Lakshangeet (information) Detailed information of Tambora Detailed information of Harmonium and Tablaa. Five filmy songs based on Indian Classical Music (Theory and Presentation) Sound Management - Basic information of Sound Recording (including Practicals) Composition of Music as per the Story Preparing news write-ups of the Seminars, Library Musical Programmes held at the nearest Akashwani, by personal visits.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201D.1	Identify different types of Indian music.	3
AC201D.2	Develop more interest to learn and practice Indian music.	4



Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

101 – ECONOMICS OF INDUSTRIES-I

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- Understand basic knowledge about Industrial Economics
- It also provides a detailed understanding of different theories of Industrial Economics
- Understand the advanced knowledge of Industrial Decisions- Market structure, Investment and Pricing decisions
- Understand the method of pricing in industries and public enterprises
- Understand basics concepts and advanced knowledge of Industrial productivity and Industrial Finance.

Course Outcome –

- To obtain knowledge of need and significance of the study of Industrial Economics
- To obtain practical knowledge about Industrial Locations
- To Obtain an understanding of various types market combinations such as Cartel, Take Over, Mergers & Acquisition
- To Obtain an understanding of various types pricing methods and procedures
- To Understand the preparation of the profile of a project.
- To obtain knowledge on Innovation, Research and Development, Rationalization & Automation
- To Obtain a theoretical understanding of Price Wars and Non-price competition, Industrial finance and productivity

Course Content –

Unit 1 – Introduction

Lectures: 08

- a) Meaning and Scope of Industrial Economics
- b) Need and Significance of The Study of Industrial Economics
- c) Economic & Agricultural Development and Industrialization
- d) Factors Affecting Industrial Development

Unit 2 – Industrial Decisions & Market Structure

Lectures: 8

- a) Competition or Co-Operation.
- b) Firm Behavior & Market Outcomes.
- c) Market Structure and Market Performance
- d) Pricing Strategies
- e) Cartel, Collusion, Merger, Take Over & Acquisition Concepts

Unit 3 – Industrial Location Analysis

Lectures: 08

- a) Meaning of Industrial Location.
- b) The General determinants of industrial location
- c) Approaches to Location analysis: Technical Factors, Economics and Infrastructural Factors
- d) Rawstron's principles
- e) Weber's & Florence's Theories of Industrial Location

Unit 4 – Investment, Research, Development & Innovation in Industry

Lectures: 12

- a) Investment Decisions
 - 1. The Nature & Types of Investment Decisions
 - 2. Preparation of the Profile of a Project.

3. Pricing Methods of Project Evaluation
4. Risk and Uncertainties in Project Appraisal.
- b) Research, Development and Innovation.
 1. Meaning, Process of Innovation: Concept and Relationship
 2. Stages of Innovation, Measurement
 3. R & D Expenditure as an Investment Decision.
 4. The Relationship between R & D, Inputs & Outputs
 5. Rationalization & Automation- Meaning & Objectives, Benefits and Problems, Policy

Unit 5 – Price and Non-Price Competition

Lectures: 14

- a) Pricing in industry
 1. General Situation for Pricing Decisions.
 2. Pricing Under Perfect & Imperfect Competition: in theory
 3. Pricing Procedures in Practice.
 4. Pricing Methods.
 5. Pricing in Public Enterprises
 6. Price Wars: Theories and Evidence
- b) Non-Price Competition
 1. Meaning of Non-Price Competition& Product Differentiation
 2. Horizontal Product Differentiation
 3. Brand Proliferation as an Entry Deterrence Strategy
 4. Vertical Product Differentiation
 5. Price Discrimination: First- Second-& Third Degree Price Discrimination

Unit 6 – Industrial Productivity and Finance

Lectures: 10

- a) Factors affecting productivity
- b) Importance of Productivity
- c) Meaning Scope Importance of Industrial Finance
- d) Sources of Industrial Finance :Shares, debentures, bonds, deposits, loan etc
- e) Role of IDBI, SIDBI, ICICI and SFC

Books Recommended –

- ❖ Ferguson, Paul R. and Glenys J. Ferguson, (1994), Industrial Economics - Issues and Perspectives, Macmillan, London.
- ❖ Shepher, William G. (1985), The Economics of industrial Organization, Prentice - Hall, Inc, Englewood Cliffs, N. J.
- ❖ Staley, E & Morse R. (1965), Modern Small Industry for Developing Countries, McGraw Hill Book Company.
- ❖ Elizabeth E. Bailey William J. Baumol : Deregulation and the Theory of Contestable Markets,1984, Volume 1 Issue 2 Yale Journal on Regulation.
- ❖ Reza Aboutalebi : The Taxonomy of International Manufacturing Strategies , Surrey Business School, University of Surrey, Guildford, UK
- ❖ Joe Chen 111 8.4 A taxonomy of business strategies Lecture Notes: Industrial Organization
- ❖ G. Symeonids : Industrial Economics, 2011, London School of Economics & Political Science.
- ❖ Ahluwalia, I. J. (1985), Industrial Growth in India - Stagnation since Mid-sixties, Oxford University Press, New Delhi
- ❖ Ahluwalia, I. J. (1991), Productivity and Growth in Indian Manufacturing, Oxford University Press, New Delhi.
- ❖ Desai, A. V. (1994), “Factors Underlying the Slow Growth of Indian Industry”, in Indian Growth and Stagnation - The Debate in India Ex. Deepak Nayyar, Oxford University Press.
- ❖ Vepa R. K. (1988), Modern Small Industry in India, Sage Publications.
- ❖ Srivastava, M.P. (1987), Problems of Accountability of Public Enterprises in India, Uppal Publishing House, New Delhi.
- ❖ Mohanty, Binode (1991), Ed. Economic Development Perspectives, Vol. 3, public Enterprises and

- Performance, Common Wealth Publishers, New Delhi.
- ❖ Jyotsna and Narayan B. (1990), “Performance Appraisal of PEs in India: A Conceptual Approach”, in Public Enterprises in India - Principles and Performance, Ed. Srivastave V.K.L., Chug Publications, Allahabad
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

102 – STRATEGIC MANAGEMENT

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To know and understand main concepts & level of Strategic Management.
- To understand the strategic planning, business policy and implementation in the organization
- To understand co-operate level strategies in the competitive situation.
- To know the modern techniques concepts of strategic control and evaluation.
- To develop recommendation that address the unique strategic issue of organization

Course Content –

Unit 1 – Strategic Management Introduction

Lectures: 10

- a) The Strategic Management- Introduction, Need, Features.
- b) Process and importance of Strategic Management.
- c) Role of strategists in decision-making.
- d) Strategies of various Management level
- e) Types of Strategies & limitation of Strategic Management

Unit 2 – Strategic Planning and Business Policy

Lectures: 10

- a) Strategic Planning – Concept, Evolution of Strategic Planning, Level of Strategic Planning
- b) Strategy making and strategic decision
- c) Different dimensions of strategic decision.
- d) Business policy – Objective, Importance & classification.
- e) Current trends in Business policy, Difference between Strategy and policy.
Factors considered before framing business policies.

Unit 3 – Strategic Implementation

Lectures: 10

- a) Concept meaning and relationship of formulation and implementation.
- b) Structural, Behavioral and functional implementation.
- c) Steps involved in strategic implementation.
- d) Role of effective leadership in strategic implementation.
- e) Strategic implementation and social responsibility and ethics.

Unit 4 – Competitive Advantage

Lectures: 10

- a) Competitive advantage- concept and sources
- b) Kind of competitive advantage- position and capability and their interrelationship.
- c) Sustainable competitive advantage.
- d) Cost benefit analysis and Competitive advantage.
- e) Challenges of strategic management in a globalized economy.

Unit 5 – Strategic Control and Evaluation

Lectures: 10

- a) Concept of Strategic Control and Strategic Evaluation
- b) Process of Strategic Control and Strategic Evaluation
- c) Difference between Strategic Control and operational control.
- d) Importance of Strategic Control and Evaluation.
- e) Techniques of Strategic Control and Evaluation.

- a) SWOT and PESTLE Analysis.
- b) BCG Matrix.
- c) Business strategies in MNCs.
- d) Strategies for different industry condition. (Industry Life Cycle Analysis.)
- e) Six sigma techniques.
Business process re-engineering.
Quick Environmental Scanning Techniques. (QUEST)

Books Recommended –

- ❖ Strategic Management & business policy by Kazmi Azhar, McGraw publication
 - ❖ Strategic Management by Dr. M. Jeyarathnam, Himalay publication.
 - ❖ Strategic Management by Dr. Amit Chakladar, Asian book Pvt Ltd.
 - ❖ Strategic Management by Anil Marthi, Academic Book publication.
 - ❖ Strategic Planning by V.S. Ramaswamy, S. Namakumari, Macmillan publishing house Ltd.
 - ❖ Concepts in Strategic Management and business policy by Thomas L. Wheelen and J. David Hunger
 - ❖ Marketing strategy & competitive positioning by Hooley – Pearson Education, Delhi.
 - ❖ Strategic Management by P. Subbarao, Himalaya pub- New Delhi
 - ❖ Business policy - Strategic Management by L. M. Prasad, Sultan Chand and sons, New Delhi.
 - ❖ व्यूहरचना व्यवस्थापन सिद्धांत आणि प्रक्रिया – प्रा. एस. एम. कोलते, प्रशांत पब्लिकेशन, जळगाव
 - ❖ व्यूहरचना व्यवस्थापन – डॉ. प्रकाश राजनकर, पिंपळापुरे बुक वितरण, नागपूर
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

103 – RESEARCH METHODOLOGY

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To study Research Methodology for decision making in business
- To overview the methods of Data Collection
- To understand process of research by students for preparation of research report.
- To know the hypothesis testing techniques

Course Outcomes –

Unit 1 – Introduction to Research

Lectures: 12

- a) Research: Meaning, Objectives, Qualities of Good Research
- b) Importance & Need of Research in Business
- c) Classification of Research: Basic research, Pure and Applied Research, descriptive Research, Diagnostic Research, Analytical and Empirical Research.
- d) Issues and Problems in Research
- e) Research through cyber way, Plagiarism in Research

Unit 2 – Research Methodology

Lectures: 10

- a) Meaning of Research Methodology
- b) Steps in Process of Research Methodology: Formulating the research problem, Extensive literature survey, Development of working hypotheses, Preparing the research design, Collecting the data, Execution of the project, Analysis of data, Hypothesis-testing, Preparation of the report or the thesis
- c) Case Study- Meaning, Characteristics
- d) Steps involved in Case Study - Selection, gathering, interpretation, reporting
- e) Literature Review: Sources and Need, Procedure of Literature Review

Unit 3 – Sampling and Sample Design

Lectures: 12

- a) Meaning and need of Sample and Sampling
- b) Steps in Sampling Design
- c) Essential of Good Sampling
- d) Problems of Sampling Design
- e) Sampling Methods: Probability Sampling and Non-Probability Sampling:
- f) Sampling Error and Non Sampling Error

Unit 4 – Data Collection and Statistical Tools

Lectures: 10

- a) Meaning and Types of Data
- b) Primary Data and Secondary: Meaning, Significance and Limitations
- c) Methods of Data Collection: Observation, Interview, Questionnaire, Schedule & Survey Method
- d) Meaning and types of Questionnaire, Guidelines for Constructing Questionnaire/ Schedule
- e) Choice of Questions
- f) Measurement Scale: Meaning and Types - Nominal, Ordinal, Interval, Ratio
- g) Test of Sound Measurement
- h) Statistical Analysis: Correlation, Regression, Dispersion, Standard Deviation and ANOVA

Unit 5 – Testing of Hypotheses

Lectures: 08

- a) Hypothesis: Meaning, Sources, Importance
- b) Criteria of Good Hypothesis
- c) Types of Hypothesis Testing:
- d) Parametric Test: T- Test, F-Test, Z-Test,
- e) Non Parametric Test: Chi-Square, and ANOVA (One way & Two way)
- f) Procedure for Hypotheses Testing
- g) Flow Diagram of Hypotheses Testing

Unit 6 – Interpretation & Report Writing

Lectures: 08

- a) Interpretation: Meaning and Precautions
- b) Report Writing: Meaning and Importance
- c) Essential of Good Research Report
- d) Steps, Layout of the Research Report
- e) Precautions in Report Writing
- e) Types of Research Reports

Books Recommended –

- ❖ Shrivastava - Research Methodology, Tata McGraw Hill, New Delhi
 - ❖ C.R.Kothari - Research Methodology (Methods & Techniques), Wiley Eastern Ltd
 - ❖ J.K. Sachdeva - Business Research Methodology, Himalaya Publishing House
 - ❖ A.B. Rao - Research Methodology, Excel Books
 - ❖ Wilkinson & Bhandarkar- Methodology And Techniques of Social Research, Himalaya Publishing
 - ❖ Murthy, Bhojanna - Business Research Methods, Excel Books
 - ❖ A.P.Sarode, D.D.Bhakkad - Research Methodology in Commerce Management, Prashant Publ.
 - ❖ Smarth & Siriya - Research Methodology, S. Chand & Company Ltd.
 - ❖ Sabine Landau and Brian S. Everitt - A Handbook of Statistical Analysis of SPSS, A CRC Press Company
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

104 A – ADVANCED ACCOUNTANCY

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- 1 Understand elementary knowledge about Accounting Standard
- 2 Understand different aspects of Value Added Statement and Reporting
- 3 Understand the advanced aspects of accounting relating to company liquidation, Holding company
- 4 Understand the method of presenting financial statements by Insurance companies
- 5 Understand basics concepts and convergence of IFRS and Ind-Accounting Standard

Course Outcome –

- 1 To obtain knowledge about Disclosure requirements of AS 20,21,22 and 23.
- 2 Apply the Consolidation Procedures for Consolidation of financial statements of single as well as multiple subsidiaries and prepare consolidated financial statements.
- 3 Prepare Statement of Affairs, Draw Deficiency Account and prepare liquidators final statement of account.
- 4 Understand the provisions of Insurance Act requiring preparation of financial statements for the insurance business and maintenance of records of policies.
- 5 To obtain knowledge on International Financial Reporting Standards and need to converge to IFRS from Ind-AS

Medium of Instructions –

English

Instructions as to study and examinations –

- 1 This subject shall be studied in English medium
- 2 The question paper shall be set in English, and the students shall answer the paper in English medium only.
- 3 Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Course Content –

UNIT 1 - Accounting Standards – Elementary study and Disclosure Lectures: 08
requirements of the following Accounting Standards – (Theory only)

- a) AS – 20 Earning per Share
- b) AS – 21 Consolidated Financial Statement
- c) AS – 22 Accounting for Taxes on Income
- d) AS – 23 Accounting for Investments in Associates in Consolidated Financial Statement

UNIT 2 - Value Added Accounting & Reporting

Lectures: 10

- a) Concepts of value addition - Meaning, Utility, and Disclosure of Value Added Statement (VAS)
- b) Concept and Computation of -
 1. Economic Value Added (EVA)
 2. Gross Value Added (GVA)
 3. Net Value Added (NVA)
 4. Market Value Added (MVA) (Theory and Practical Problems)

UNIT 3 - Financial Statements Of Holding Companies**Lectures: 12**

- a) Consolidated Financial Statements of Holding Companies – Consolidation with adjustments of - Inter-company transaction
- b) Issue of Bonus Shares, Revaluation of fixed Assets, Debentures and Preference Shares of subsidiary Company and dividend.
- c) Refer to the Accounting Standard AS 21 “Consolidated Financial Statements”,
- d) Refer Ind-AS 27 – “Consolidated and Separate Financial Statements”
- e) Holding company with one or two subsidiaries to be studied (Theory and practical problems)

UNIT 4 - Liquidation Of Companies**Lectures: 10**

- a) Introduction, Meaning and Definition
- b) Types of Liquidation
- c) Accounting Treatment for Liquidation of Companies
- d) Preparation of Statements of affairs including deficiency/surplus account as per the provisions of the company law (Theory and practical problems)

UNIT 5 - Financial Statements Of Insurance Companies**Lectures: 12**

- a) Brief Introduction General Insurance Business
- b) Preparation of final accounts of Insurance companies carrying on General Insurance business, as per the forms prescribed by the Insurance Regulatory and Development Authority Regulations 2002
- c) Revenue Accounts in Form B- RA
- d) Profit and Loss Account in Form B- PL
- e) Balance Sheet in Form B- BS
(Theory and practical problems)

UNIT 6 -International Financial Reporting Standards (IFRS) and - Indian Accounting Standards (Ind-AS) (Theory only)**Lectures: 08**

- a) Introduction to IFRS and Ind-AS
- b) Need for convergence of Ind-AS to IFRS
- c) Ind-AS 27 Consolidated and Separate Financial Statement
- d) Ind-AS 28 - Investments in Associates

Books Recommended –

- ❖ Advanced Accounting – II, Dr. S. N. Maheshwari & Dr. S. K. Maheshwari, Vikas Publishing House, New Delhi
- ❖ Corporate Accounting, Dr. S. N. Maheshwari, Viakas Publishing House Pvt. Ltd. New Delhi
- ❖ Advanced Accounting, Dr. Ashok Sehgal& Dr. Deepak Sehgal: Taxmann, New Delhi
- ❖ Advanced Accountancy – Vol. II , R. L. Gupta & M. Radhaswamy, Sultan Chand & Sons
- ❖ Advanced Accounts, M. C. Shukla, T. S. Grewal & S.C. Gupta, S. Chand & Co Ltd.
- ❖ Advanced Accounts - Jain and Narang - Kalyani Publishers, Ludhiana
- ❖ Accountancy, Volume-I and II, Sr. K. Paul , New Central Book Agency, Kolkata
- ❖ Accounting Theory, R. K. Lele and Jawaharlal, Himalaya Publishers
- ❖ Accounting Theory, Dr. L. S. Porwal, Tata McGraw Hill.
- ❖ Accounting Text & Cases, Robert Anthony, D. F. Hawkins & K. A. Merchant- Tata McGraw
- ❖ Accounting - Including Applicable Accounting Standards [CA-Intermediate (IPC – Group I)] (4th Edition, June 2016) – written by D. G. Sharma, publisher Taxmann Publications
- ❖ Advanced Accounting - Including Applicable Accounting Standards [CA-Intermediate (IPC)] (4th Edition, June 2016) – written by D. G. Sharma, publisher Taxmann Publications
- ❖ Students Guide to Accounting Standards (CA/CMA Final) written by D S Rawat, published by Taxmann Publications 30th Edition 2017

- ❖ Taxmann's "Indian Accounting Standards and IFRSs for Non-finance Executives" – written by T. P. Ghosh– publisher Taxmann Publications
 - ❖ A Complete Guide for Converged Indian Accounting Standards IND-ASs & IFRS (Book + CD) Author : Amit Gupta (FCA)
 - ❖ A Complete Guide for Converged Indian Accounting Standards IND-ASs & IFRS (Book + CD) Author : Dr. A.L.Saini Publisher – Snow White
 - ❖ Accounting Standards & IFRS with Power-point Presentations on Accounting Standards, IFRS & Indian GAAP (Book + Free web-Download) Author : Kamal Garg (C.A) – Bharat Publications
 - ❖ Accounting Standards (for CA-IPCC) Author : D. G. Sharma (for Taxmann) Edition : 2nd edition, 2014 Taxmann
 - ❖ Accounting Standards (for CA Final) D. G. Sharma (for Taxmann) Edition : 2nd edition, 2014 Taxmann
 - ❖ Taxmann's "IFRSs Simplified" – written by T. P. Ghosh – publisher Taxmann Publications
 - ❖ Taxmann's "Illustrated Guide to Indian Accounting Standards and IFRSs" – written by Amitabh Mukherjee– publisher Taxmann Publications
 - ❖ Taxmann's "Guide to Indian Accounting Standards converged with IFRSs" – written by T. P. Ghosh and CA Shrinivasn Anand – publisher Taxmann Publications
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

104 B – ADVANCED COST ACCOUNTANCY

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To acquaint with the subject of Cost Accounting and its significance.
- To give knowledge of Standards applicable to Cost Accounting.
- To understand the concepts of materials, labour and overheads as elements of costs, and the accounting procedure for these elements of costs.
- To help students to assign overhead and indirect costs to products and services.
- To enable students comprehend how goods are valued when transferred among division, and associate companies.

Course Outcome -

- Compute the elements of cost.
- Apply Cost Accounting Standards to Cost Accounting.
- Allocate overheads and indirect costs to products and services.
- Calculate transfer prices.

Medium of Instructions –

English

Instructions as to Study and Examinations –

1. This subject shall be studied in English medium.
2. The question paper shall be set in English, and the students shall answer the paper in English medium only.
3. Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems.

Course Content –

Unit 1 – Introduction of Cost Accounting

Lectures: 10

- a) Cost Accountancy – Concept of Cost, Costing, Cost Accounting and Cost Accountancy – Objectives, Importance, Scope, Advantages, Limitations of Cost Accounting
- b) Essential Qualities of a good Cost Accounting System, Factors to be Considered for Installing a Cost Accounting System
- c) Methods of Costing – Job Costing, Batch Costing, Contract Costing, Single/Output Costing, Process Costing, Operating Costing
- d) Techniques of Costing - Historical Costing, Standard Costing, Direct Costing, Absorption Costing, Marginal Costing, Uniform Costing

[Theory Only]

Unit 2 – Cost Accounting Standards

Lectures: 08

- a) Introduction, Objectives and Disclosure Requirements
- b) CAS 1 Classification of Cost
- c) CAS 3 Production and Operation Overheads
- d) CAS 6 Material Cost
- e) CAS 7 Employee Cost
- f) CAS 13 Cost of Service Cost Centre
- g) CAS 15 Selling and Distribution Overheads

[Theory Only]

Unit 3 – Elements of Cost I – Material and Labour

Lectures: 10

- a) Material
 1. Importance and Objectives of Materials Control, Purchase procedure, Duties of Storekeeper, Perpetual Inventory System and Continuous Stock Taking
 2. Accounting Treatment of the following items in materials cost accounting – Carriage Inward on raw materials, Cash Discount received on purchase of materials, Insurance Costs on stocks of raw materials, Storage Losses namely waste, scrap, spoilage, and defectives
- b) Labour
 1. Importance and Objectives of Control of labour cost – concepts of time keeping and time booking and their objectives
 2. Qualities of Sound Wage Payment System, and Scheme of Incentives to Workers
 3. Methods of Wage Payment – Taylor’s Differential Piece Rate Plan, Merrick’s Multiple Piece Rate Plan, Gantt’s Task and Bonus Plan and Emerson Efficiency Plan

[Theory and Advanced practical problems on wages computation under different methods of wage payment stated above; labour turnover rate using separation method, replacement method, and flux method]

Unit 4 – Elements of Cost II – Overheads

Lectures: 10

- a) Meaning and Classification of Overheads by Function and by Nature
- b) Accounting and Control of Manufacturing Overheads – Collection, Allocation, Apportionment, Primary and Secondary Distribution, Absorption of Overheads; Under-Absorption and Over-Absorption of Overheads
- c) Accounting and Control of Administrative Overheads and Selling & Distribution Overheads
- d) Treatment of following items in Cost Accounting – Interest and Financial Charges, Depreciation, Packing-Expenses, Fringe Benefits, Bad-Debts, Training Expenses, Canteen Expenses, Expenses of Welfare Activities, Night-Shift Allowance

[Theory and Advanced problems on primary and secondary distribution, absorption of overheads]

Unit 5 – Activity Based Costing (ABC)

Lectures: 12

- a) Concept, Meaning and Features of ABC
- b) Activity Based Costing Vs Traditional Costing
- c) Benefits and Limitations of ABC
- d) Concept of Cost Drivers
- e) Process of Activity Based Costing
- f) Preparation of Cost Statement
- g) Income statement on the basis of ABC and Absorption Costing

[Theory and simple practical problems to be solved on Activity Based Costing]

Unit 6 – Transfer Pricing

Lectures: 10

- a) Meaning of Transfer Pricing, Transactions Subject to Transfer Pricing
- b) Purpose and Importance of Transfer Pricing
- c) Transfer Pricing Methodologies –
 1. Comparable Uncontrolled Price (CUP) Method
 2. Resale Price Method or Resale Minus Method
 3. Cost Plus Method
 4. The Comparable Profits Method

[Theory and simple practical problems to be solved on Transfer Pricing]

Book Recommended –

- ❖ Basics of Cost Accounting by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
- ❖ Cost Accounting – Problems and Solutions - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
- ❖ Fundamentals of Cost Accounting by S.N. Maheshwari – Sultan Chand & Sons, New Delhi
- ❖ Principles and Practice of Cost Accounting by N.K. Prasad
- ❖ Cost Accounting by Jawaharlal – Tata McGraw Hill Publishing company Limited New Delhi

- ❖ Cost Accounting Principles & Practice by Nigam & Sharma
 - ❖ Cost Accounting Principles & Practice by S.P. Iyenger
 - ❖ Cost Accounting Principles & Practice by P.K. Ghosh
 - ❖ Cost Accounting Principles & Practice by B.S. Khanna
 - ❖ Practical Costing (Self-Tutor) by Gauri Shankar – Himalaya Publishing House, Mumbai
 - ❖ Cost Accounting by Jain & Narang
 - ❖ Practical Costing by Ahuja, Khanna & Pandey
 - ❖ Cost Accounting by B.K. Bhar
 - ❖ Cost & Management Accounting [For CS Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost & Management Accounting [For Stage II of ICWA Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost and Management Accounting (Theory Problems and Solutions) by M.N. Arora – Himalaya Publishing House, Mumbai
 - ❖ Cost Accounting by Ravi M. Kishore – Taxmann Allied Services Pvt Ltd
 - ❖ A Text Book (with in-built Compiler) on Cost Accounting by S.K. Aggarwal, Abha Aggarwal – Reliance Publications Ltd, Gurgaon
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

104 C - HUMAN RESOURCE MANAGEMENT

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To endow the student with a broad perspective on themes and issues of Human Resource Management.
- To apply theories of social science disciplines to work place issues.
- To understand the importance of training and morale.
- To know the role of Ethics in HRM.

Course Content –

Unit 1 – Human Resource Management and Its Environment

Lectures: 10

- a) Meaning, objectives, function and importance of HRM.
- b) Process, Approaches and Challenges of HRM.
- c) Human Resource Policies and Environment in India. (equality & diversity)
- d) Issues of Personnel administration & HR Management.
- e) Role, Qualities and Functions of HR Manager.

Unit 2 – Workers Participation in Management

Lectures: 10

- a) Meaning and need of Participation.
- b) Forms of Participation.
- c) Consultative Supervisions, Democratic Supervision.
- d) Multiple Management, Labour Management Co-operation.
- e) Causes of Failure of Joint Management Councils, Suggestions, Programme, Employee Director, Labour Management Association.
- f) The new scheme of participation, Its Limitation, Collective bargaining, Features of collective bargaining, Labour Legislation of collective bargaining.

Unit 3 – Employee Morale

Lectures: 10

- a) Concept, objective, importance of training.
- b) Determination of morale.
- c) Effects of low and high morale.
- d) Measures for improvement in morale.
- e) Morale and productivity.

Unit 4 – Counselling in Human Resource Management

Lectures: 10

- a) Concept, Meaning, Importance counsellor.
- b) Requirements of effective counselling
- c) Techniques of counselling.
- d) Types of counselling
- e) Problems needing counselling, SWOT analysis.

Unit 5 – Ethical issue in HRM

Lectures: 10

- a) Ethics- Nature and need.
- b) Ethical issue cash and incentive plans, privacy issues, Safety and health issue, Restructuring and layoff issue.
- c) Corporate culture and Ethical climate.
- d) Sources of resolving ethical issues.
- e) Managing ethics.

Unit 6- Computer Application in Human Resource Management

Lectures: 10

- a) Role of computers in HRM
- b) Data and Information.

- c) Decision support System, Data Base Management system.
- d) Management Information system, Managements need and information system.
- e) Computer use in HRM

Books Recommended –

- ❖ Dynamics of Industrial Relations in India- C. B. Mammoria, S. Mamoria, Himalaya Publishing House.
 - ❖ Strategic HRM- Dr.RamakanthaPatra, Himalaya Publishing House.
 - ❖ Human Resource Management- Dr. P. C. Pardeshi, 3rd Revised Edition, NiraliPrakashan.
 - ❖ Human Resource Management- Micheal Muller & others, Jaico Book House, Bangalore.
 - ❖ Human Resource Management- R. S. Dwividi, Vikas Publishing House, Pvt. Ltd.
 - ❖ Human Resource Management- Anjali Ghanekar, Everest Publishing House 20.
 - ❖ Human Resource Management- K. Ashwathappa- TMH.
 - ❖ Human Resource Management- C. B. Gupta, Sultan Chand & Co.
 - ❖ Human Resource Management- Dr. S. L. Shiragave, Success Publication.
 - ❖ Human Resource Management- Sharp Publisher.
 - ❖ Personnel & Human Resource Management- S. R. Robins, Hall of INDIA.
 - ❖ Personnel & Human Resource Management- P. SubbaRao, Himalaya Publishing House.
 - ❖ Personnel Management- Edvin Flippo, McGraw Hill, International Edition.
 - ❖ Personnel Management and Industrial Relation- Dr. T. N. Bhagoliwal, SahityaBhavan, Agra.
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M.Com. I (W.E.F.: June – 2021)

104 D – MARKETING MANAGEMENT

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To facilitate understanding of the conceptual framework of marketing.
- Students able to define and analyze the marketing problems through the formulation of marketing objectives, policies, programmes and strategies.
- To help students comprehend various situations and marketing terminologies.
- To help students understand various marketing tools/models for solving marketing problems.
- To understand effective marketing strategies to achieve organizational objectives.

Course Content –

Unit 1 – Service Marketing

Lectures: 12

- a) Introduction
- b) Marketing Concept & Orientation
- c) Different Service Marketing Activities
- d) Contributions of SCM
- e) Service Marketing Philosophy & Definition

Unit 2 – Rural Marketing

Lectures: 10

- a) Meaning and Definition
- b) Rural Marketing Environment - Population , Occupation Pattern, Income Generation
- c) Expenditure Pattern, Literacy Level, Infrastructure Facilities, Land Use Pattern

Unit 3 – Rural Market Segmentation and Pricing

Lectures: 10

- a) Rural market Segmentation: Occupational, Sociological
- b) Thomson Rule Market Index, Lin-Quest and MICA Rating
- c) Pricing: Marketing Costs, Price Structure, Selecting price method
- d) Achieving Strategic Fit
- e) Trends in Agricultural Price Policies, Small farmers and Procurement prices
- f) Consumer Price- Producer Price Differences

Unit 4 – International Marketing

Lectures: 10

- a) Definition and Scope
- b) Motives of International Marketing
- c) Global Marketing Environment: Demographic, Socio-economic, Cultural, Political, Technological, Government.
- d) International Trading Environment

Unit 5 – International Market Selection and Pricing

Lectures: 08

- a) International Market Selection
- b) Market Selection Process, Market Profiling, Market Segment Selection
- c) International Pricing: Exporters Cost, Pricing Objectives, Factors Affecting Pricing
- d) Pricing Methods - Transfer Pricing, Dumping, Steps in Pricing
- e) Export Price Structure, Export Price Quotations and Inco Terms

- a) Introduction
- b) Marketing environment in covid - 19
- c) Impact of covid on retail marketing
- d) Factors influencing marketing in covid era
- e) Effect of lockdown situation on marketing
- f) Solution to growth marketing sector after covid - 19

Book Recommended –

- ❖ Varshney and Bhattacharya, International marketing Management – An Indian Perspective, Sultan Chand & Sons, New Delhi.
 - ❖ Keegan, Global Marketing Management, Prentice Hall of India, New Delhi.
 - ❖ Philip Cateora and John Graham, International Marketing, Tata Mc Graw Hill, New Delhi.
 - ❖ D.C.Kapoor, Export Management, Vikas Publishing House, New Delhi.
 - ❖ Francis Cherunilam, International Marketing, Himalaya Publishing House, Mumbai
 - ❖ C B Mamoria, R K Suri, Satish Mamoria, Marketing Management, Kitab Mahal, Allahbad.
 - ❖ Services Marketing – S. M. Jha – Himalaya Publishing House 13
 - ❖ Services Marketing – C. Bhattacharjee – Excel Books
 - ❖ Service Marketing – Christopher Lovelock, JochenWirtz, JayantaChatterjee – Pearson Education
 - ❖ Services Marketing – Ravi Shankar – Excel Books
 - ❖ R V Badi, N V Badi, Rural Marketing, Himalaya Publishing House, Mumbai
 - ❖ T P Gopalswamy, Rural marketing, Vikas Publishing House
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M.Com. I (W.E.F.: June – 2021)

104 E – SUPPLY CHAIN MANAGEMENT

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept and role of SCM
- To understand the relationship between marketing channels, logistics and supply chain
- To Align supply chain integration strategy with the uncertainty conditions of supply and demand
- To know how to Manage inventory efficiently and products, channels, and geography.
- To understand the key functions in a supply chain Management.
- To describe how a company's supply chain aligns with its marketing strategy.

Course Content –

Unit 1 – Overview of Supply Chain Management

Lectures: 10

- a) Concept and Definition
- b) Evolution of SCM
- c) Nature of SCM
- d) Contributions of SCM
- e) Issues and Challenges for SCM
- f) SCM in India

Unit 2 – Understanding the Supply Chain

Lectures: 10

- a) Concept and Objectives of Supply Chain
- b) Importance of Supply Chain Decisions
- c) Decision Phases in Supply Chain
- d) Process View of Supply Chain - 1) Cycle View of Supply Chain Processes
2) Push/Pull View of Supply Chain Processes

Unit 3 – Managing the Supply Chain

Lectures: 10

- a) The Development Chain
- b) Global Optimization
- c) Managing uncertainty and risk
- d) The Complexity
- e) Key Issues in Supply Chain Management

Unit 4 – Supply Chain Strategy

Lectures: 10

- a) Introduction
- b) Competitive and Supply Chain
- c) Achieving Strategic Fit
- d) Expanding Strategic Scope
- e) Corporate Strategy
- f) Strategic role of SCM

Unit 5 – Supply Chain Performance

Lectures: 10

- a) Drivers of Supply Chain Performance
- b) Components of Facility Decisions
- c) Framework of Supply Chain Drivers
- d) Obstacles to Achieving Fit

Unit 6 – Supply Chain Planning Strategy

Lectures: 10

- a) Introduction and Concept
- b) Levels of Planning and Major Planning Areas
- c) Timing of Planning
- d) Guidelines of Strategy Formulation

e) Measuring Supply Chain Planning Strategy

Book Recommended –

- ❖ Supply Chain Management- K Shridhar Bhatt- Himalaya Publishing House
 - ❖ Supply Chain Mangement- Sunil Chopra, Peter Mendl- Prentice Hall of India
 - ❖ Supply Chain and Logistics Management- Donal Bowersox, David Closs- Tata Macgraw Hill
 - ❖ Exploring the Supply Chain- Upendra Kachru, Excel Books
 - ❖ Supply Chain Management- D K Agrawal, Macmillan Publishers
 - ❖ Logistics Management- V. V Sople, Pearson Education
 - ❖ Supply Chain Management- Concept and Cases, Rahul V Altekar- Prentice Hall of India
 - ❖ Supply Chain Management- Janat Shah, Pearson Education
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M.Com. I (W.E.F.: June – 2021)

201 – ECONOMICS OF INDUSTRIES-II

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Objectives –

- To study the basic concepts of Industrialization
- To study the performance and problems of Indian Industry
- To study the impact of industrialization on Indian Economy
- To study the government regulation of firm and industry
- To update the students about changes brought by liberalization, Privatization and Globalization
- To prepare students for good performance in competitive exams

Course Outcomes –

- Student will be able to understand Industrialization and Industrial sector in India
- Students will understand Problems in Industrial Development in India
- Students will understand role of globalization and its impact on Indian industry
- Students will understand role of Industrial Labor Policy and Social Security

Course Content –

Unit 1 – Industrialization & Industrial Sector in India

Lectures: 10

- a) The Role of Industrialization
- b) Review of Industrial Development in India.
- c) Phases of Industrial Development in India
- d) Pattern of Industrial Development In India
- e) Private Sector in India : Role, Private Sector Corporate Giants, Role, Performance
- f) Public Sector in India: Role, Important Public Sector Enterprises & Performance.
- g) Large And Small Scale Industries: Role and Performance
- h) Some Major Industries In India

Unit 2 – Performance & Problems of Indian Industry

Lectures: 12

- a) Performance & Problems of Industrial Development in India
Economic Crisis and Structural Changes in Industries after 1991
- b) Problems of Private Sector Enterprises in India
- c) Problems of Public Sector Enterprises in India
- d) Performance & Problems of Small, Scale Industries in India
- e) Industrial Sickness: Definition, Magnitude, Causes, Consequences and Remedial Measures.
Problems of Dispersal and Decentralization of Industries.
Need of Balanced Regional Development of Industries
Government Measures towards Balanced Regional Development of Industries

Unit 3 – Government Regulation of firms and Industry

Lectures: 08

- a) Regulation: Meaning, Need and Tools of Regulation
- b) Government Regulation of Industry
- c) Advantages and Disadvantages of Deregulation
- d) Regulation of Firms with Market Power under Symmetric Information.
- e) Regulation Under Asymmetric Information
- f) The Industries(Development and Regulation) Act, 1951
- g) Industrial Regulation Authorities in India: Objectives, Role & Functions

Unit 4 – Government Deregulation of firms and Industry

Lectures: 08

- a) Deregulation: Meaning and Its Rationale
- b) Deregulation , Liberalization, Privatization & *Globalization*
- c) Privatization :Evolution of Privatization Policy In India & Its Methods
- d) Critique of Privatization & Disinvestment
- e) Competition Policy: Objectives , Difficulties & Policy In Practice

Unit 5 – Globalization and the Indian Industry

Lectures: 10

- a) Globalization: Meaning & Steps Towards Globalization in India
- b) Effects of Globalization On Indian Firms & Industries
- c) Foreign Capital , Foreign Direct Investment & Multinational Corporations In India
- d) A Critical Appraisal of MNCs Operations In India
- e) Control Over MNCs
- f) Foreign collaborations in India
- g) Debate over Nationalism V/S Globalization.

Unit 6 – Industrial Labor Policy, Social Security

Lectures: 12

- a) Features of Indian Industrial Labor.
- b) Productivity of Industrial Labor
- c) Demand For Labor & Supply of Labor & Determination of Wages
- d) Labour Welfare & Social Security
- e) Labor Wage Policy in India
- f) **social security instruments**
- g) Current Trends in Collective Bargaining.
- h) Growth, Pattern, Structure and Achievements of Labor Union in India
- i) Magnitude & Causes of Industrial Disputes
- j) Settlement of Industrial Disputes : Policy of Government
- k) Social Security Measures In India,
- l) Exit Policy and Right To Strike

Books Recommended –

- ❖ Indian Economy- Mishra & Puri (30th Ed) Himalaya publishing house
 - ❖ Indian Economy: Gaurav Datta & Ashwini mahajan ,66th r. ed. S.chand .
 - ❖ Industrial Economics – Donald H. Hay, Oxford
 - ❖ Industrial Economics - R.R.Barthwal,Wiley.
 - ❖ Industrial Economics- Francis Cherunilam,Himalaya
 - ❖ Industrial Economics- Singh & Siddu, Himalaya.
 - ❖ Industrial Economics- Shrivastav, S Chand. New Delhi
 - ❖ An Introduction To Industrial Economics P.J.Divine, R. M. Jones, N.Lee,W.J.Tyson, George Allen & Unwin (1976)
 - ❖ The Indian Journal of Industrial Relations- A Review of Economic & Social Development, Shree Ram Center For Industrial Relation & Human Resources
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202 – CASE STUDIES IN STRATEGIC MANAGEMENT

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the different environment of business organisation through practical cases
- To solve the situational problem and understand the importance
- To observe real life situation through cases

Course Content –

Comprehensive cases on various strategic situations based on application of strategic management must be discussed and solved, based on topics covered in Paper No-102. At least three cases on each topic are expected and a maximum 16 cases in all shall be studied during the semester.

Books Recommended –

- ❖ Cases in Strategic Management - Anjali Mittal, Tata McGraw Hill, New Delhi
 - ❖ Cases in Strategic Management - AzarKazmi, Tata McGraw Hill, New Delhi
 - ❖ Business policy - Strategic Management by L. M. Prasad, Sultan Chand and sons, New Delhi
 - ❖ Business policy and Strategic Management by Gupta, GollakotaShrinivasan - Prantice Hall India, New Delhi
 - ❖ Marketing strategy and competitive positioning by Hooley - Pearson education, New Delhi
 - ❖ Strategic Management – P. Subbarao, Himalaya Publication, New Delhi
 - ❖ Strategic Management - Hunger
 - ❖ Strategic Management – Concept & cases by Upendrakachru, Excel Book, New Delhi
 - ❖ Strategic Management - Francis cherumilan, Himalaya Publishing house, New Delhi
 - ❖ Strategic Management - B. Hiriappa, New age International, New Delhi
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M.Com. I (W.E.F.: June – 2021)

203 A – INVESTMENT AND WEALTH MANAGEMENT

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To Understand the concept of Investment and Wealth Management
- To Obtain inside between Portfolio Management and Types of Investment
- To Overview the Risk and Return Components of Investment
- To study the valuation of Investment and Yield Curve
- To Overview the Wealth Management Components
- To Understand the Personal Financial Planning and its process

Course Content –

Unit 1 – Introduction to Investment Management

Lectures: 10

- a) Investments: Meaning, types and characteristics
- b) Objectives of Investment
- c) Types of Investor
- d) Investment vs Speculation
- e) Meaning of portfolio management

Unit 2 – Risk and Return Concepts

Lectures: 10

- a) Introduction
- b) Returns on Financial Assets
- c) Risk in Holding Securities
- d) Risk Measurement
- e) Capital Asset Pricing Model
- f) Security Market Line

Unit 3 – Investment Alternatives

Lectures: 10

- a) Introduction
- b) Equity Shares
- c) Fixed Income Securities
- d) Money Market Instruments
- e) Mutual Funds
- f) Deposits
- g) Tax Sheltered Saving Schemes
- h) Financial derivatives
- i) Real estate

Unit 4 – Valuation of Investment

Lectures: 10

- a) Introduction
- b) Bond Valuation-Terminology
- c) Valuation Model
- d) Bond Return
- e) Price-Yield Relationship
- f) The Term Structure of Interest Rate (yield curve)
- g) Riding the yield curve

Unit 5 – Introduction to Wealth Management

Lectures: 10

- a) Meaning, Scope, Components, Process of Wealth Management
- b) Needs and Expectations of Clients, Code of Ethics for Wealth Manager
- c) Personal Financial Statement Analysis: Financial Literacy, Financial Goals and Planning, Cash Flow Analysis, Building Financial Plans, Life Cycle Management.
- d) Economic Environment Analysis: Interest Rate, Yield Curves, Real Return, Key Indicators – Leading, Lagging, Concurrent.

Unit 6 – Personal Financial Planning

Lectures: 10

- a) Meaning of Financial Planning and Personal Financial Planning
- b) Need for Personal Financial Planning
- c) Misconceptions about Personal Financial Planning
- d) Benefits of Personal Financial Planning
- e) Various Milestones in One's Life
- f) Financial Planning Process
- g) Personal Financial Goals

Books Recommended –

- ❖ Dr. Preeti Singh, Investment Management: New Delhi. Himalaya Publishing House
 - ❖ Dr. V A Avadhani, Investment Management, Himalaya Publishing House
 - ❖ Jack R Kapoor, Les R Dlabay, Robert J Hughes, Personal Finance, Tata McGraw – Hill Publishing Co. Ltd.
 - ❖ Preeti Singh, Investment Management – Security Analysis and Portfolio Management, Himalaya Publishing House
 - ❖ Prasanna Chandra, Investment Analysis and Portfolio Management
 - ❖ Narat Charupat, Huaxiong Huang, Moshe A. Milevsky Strategic Financial Planning over the Life Cycle, Cambridge University Press
 - ❖ Jeff Madura, Personal Finance, Pearson Education
 - ❖ Security Analysis & Investment Management: Directorate of Distance Education, Guru Jambheshwar University of Science and Technology, HISAR
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203 B – INTERNATIONAL BUSINESS

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept and International Business.
- To know the International Business Environment.
- To study the India's International Business.
- To know the concept of Foreign Collaboration and Joint Venture.
- To understand the International Strategic Alliances.
- To study the role of institutions towards International Business.

Course Content –

Unit 1 – Introduction

Lectures: 10

- a) Meaning and concept of International Business, Significance, features, Nature and recent trends in International Business.
- b) International Business Environment, Effects of International Business Environment. International Potential spectrum and management Decision.
- c) International Potential spectrum and management Decision.
- d) Basis of International trade/ Business : Views of Adam Smith, David Ricardo, Heckscher and Ohlin.
- e) Gains from International trade: Meaning nature, sources, factor determining size of gains.

Unit 2 – Balance of Payments and Foreign Exchange Rate

Lectures: 10

- a) Meaning and components of Balance of Payment, Causes of disequilibrium in Balance of Payment, adjustment mechanism of Balance of Payment.
- b) Foreign Exchange rate : Meaning, instruments, determinants of Exchange rate (Balance of payment theory).
- c) Types of Exchange Rate : Spot and forward Exchange Rate , fixed and flexible exchange Rate, Convertibility.
- d) Foreign Investment Institutions: GDR and ADR.

Unit 3 – International Capital movement and Foreign capital

Lectures: 10

- a) Capital Movement : Meaning, Classification and factor governing International Capital Movement.
- b) Need of Foreign Capital for LCDs.
- c) Sources and types of Foreign Capital.
- d) FDI and FII (Meaning, Objective, Importance Merits & Demerits of FDI).
- e) Multinational Corporation (Definition, Features, Spread, reasons for the growth of MNCs, Role of MNCs in developing countries drawbacks of MNCs).

Unit 4 – Globalization and India

Lectures: 10

- a) Meaning of Globalization, Essential conditions for globalization Advantage and disadvantages of globalization.
- b) Globalization and India : Economic crisis in India (1990).
- c) India's steps towards globalization.
- d) Obstacles to globalization in India.
- e) Effects of globalization on Indian Economy.

Unit 5 – International finance Institution and Economic Cooperation

Lectures: 10

- a) IMF, World Bank, World bank group, ADB and BRICS Bank: Objectives, Functions, organization, structure, achievements & Critical appraisal.
- b) Problems of international liquidity.

- c) Euro Dollar Market.
- d) Economic Cooperation: Meaning, Forms and Benefits.
- e) Origin, Objectives, Organization, Functions and Failures of EEC, UNCTAD, OECD, OPEC, GATT, WTO, SAARC and BRICS.

Unit 6 – New International Economic Order (NIEO) & Global Crisis Lectures: 10

- a) Origin, Definition, needs, Objectives and basis of new international economic order.
- b) Main proposal crisis difficulties and efforts to solve the crisis in NIEO.
- c) Advantage towards NIEO.
- d) International debt problems and Global financial crisis.
- e) Sub-prime Crisis in America and there impacts on world economy.

Books Recommended –

- ❖ Joshi, Rakesh Mohan, International Business, Oxford University Press.
 - ❖ Francis Cherunilam, International Business, Printice Hall of India Pvt. Ltd. New Delhi.
 - ❖ K. Aswathappa , International Business, Tata McGraw Hill Publishing Co. Ltd. New Delhi.
 - ❖ Charles W.L. Hill, International Business, Tata McGraw Hill Publishing Co. Ltd. New Delhi.
 - ❖ Daniels, International Business, Pearson.
 - ❖ Jaiswal, International Business, Himalaya Publishing House, Bombay.
 - ❖ Krugman P.R. & Obstfeld M. (2009), International Economics (theory and Policy), Pearson (Indian Edition).
 - ❖ Mithani D.M., (2010), International Economics, Himalaya Publishing House, Mumbai.
 - ❖ Zingan M.L., (2008), International Economics, Vrinda Publications Pvt. Ltd., New Delhi.
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Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- Understand the advanced aspects of banking
- Understand the financial system of banks.
- Understand the banking procedure of various banking activities.
- Understand the structure and working of banking system in India.
- Know the role of banking system in economic development in India
- Learn regarding development of banks and recent trends in banking.

Course Content –

Unit 1 – Banking Sector Reforms in India

Lectures: 12

- a) History of Banking Sector Reforms in India
- b) Structure of Banking System in India
- c) Objectives of Banking Sector Reforms in India
- d) Banking Sector Reforms Since 1992
 1. Prudential Regulation & Supervision, effects
 2. Rehabilitation of Public Sector banks (PSBs)
 3. Assets Securitization
 4. Reduction in CRR & SLR
 5. Deregulation of Interest Rates
 6. Phasing Out Directed Credit
 7. Promoting Competition
 8. Banking Laws Amendments
- e) Operations and Performance of Scheduled Commercial Banks after Reform Era
- f) Role of Banks and Economic Development

Unit 2 – Risks Management in Indian Banking

Lectures: 12

- a) Meaning & Types of Risks Management
- b) Risks Management: the Banking Perspective
- c) Risk Management in Banking Sector – Role of RBI
- d) Identification & Measurement
- e) Basel III / the Third Basel Accord: 3 pillars
 1. Pillar 1: Minimum Capital Requirement
 2. Pillar 2: Supervisory Review Process
 3. Pillar 3: Market Discipline & Disclosures
- f) Basel III Implementation- Challenges for Indian Banking System
- g) Fundamental Principles for the Management and Supervision of Liquidity Risk

Unit 3 – Mergers & Acquisition of Indian Banking

Lectures: 10

- a) Concepts of Mergers & Acquisition
- b) Evolution of Mergers & Acquisition in Indian Banking System
- c) Merger During Liberalization Period
- d) Recent Mergers Of Banks In India
- e) Motives, Advantages Risks and Evils of M&A
- f) Issues in M&A
- g) Need for Merger Review Process
- h) methods of financial mergers and capital budgeting decision

- i) Impacts of M&A On Various Stakeholders Like Bank Customers, Employees, Government, Equity Holders etc.
- j) Challenges & Opportunities of M & A in Indian Banking

Unit 4 – Money Market & Capital Markets Reforms in India

Lectures: 10

- a) Structure & Growth of Money Market in India
- b) Money Market Reforms Since 1992
- c) Structure & Growth of Capital Market in India
- d) Significance of money market and Capital Market in economic development
- e) Problems of Indian Capital Market
- f) Strengthening of Indian Capital Market
- g) SEBI and Capital Market Reforms
- h) SEBI's Role in the Capital Market Development

Unit 5 – World Financial Crisis & the Indian Economy

Lectures: 08

- a) Origin of The Crisis
- b) Chronology Impact On Various Economies
- c) Causes of World Financial Crisis
- d) Impact of World Financial Crisis on the Indian Economy
- e) The role of Indian banks in facing the global financial crisis
- f) Stimulus Measures
- g) Protectionism

Unit 6 – Financial Sector Supervision & Financial Stability

Lectures: 08

- a) Definition and Importance of Financial Stability
- b) Genesis & Need of Banking & Financial institutions Supervision
- c) Review of Supervisory Regulations
- d) Financial Regulation & Supervision: Global Initiative
- e) Evaluation of the Role International Financial Architectures in Financial Stability of the World
- f) Evaluation of the Role of the Reserve Bank of India (R.B.I) in Financial Stability
- g) Bank For International Settlement (BIS)

Books Recommended –

- ❖ Financial Services & System: K.Sasidharan & Alex K.Mathews: Mc-Grahill, New Delhi
 - ❖ Indian Economy: V.K.Puri & S.K.Mishra, Himalaya Publishing, 31st Ed.
 - ❖ World Financial Crisis: K.R.Gupta, Atlantic
 - ❖ Legal & Regulatory Aspects of Banking: 2nd ed, Indian Institute of Banking & Finance' Macmillan
 - ❖ Global liquidity Crisis: B.R.Gupta, Bhaskar publication
 - ❖ Banking reforms & Globalization : Mohan p.Shrivastava & others, A.P.H. Publishing Corporation: New Delhi
 - ❖ Politics of The Global Crisis: Shreeram Chaulia, 2014, Routledge, New Delhi,
 - ❖ Bajpai, G.N., Speech on 'Banking, Insurance and Financial Sector: A vision of the Future'
 - ❖ Information Technology in Indian Banks – Changing Trends'
 - ❖ Leeladhar, V., 'Contemporary and future issues in Indian banking'
 - ❖ Prof. Prakash Singh, 'Global Competitiveness of Indian Banks: A study of select banking indicators, issues of concern and opportunities'
 - ❖ Dr. C. Rangarajan, 'The Indian Banking System – Challenges Ahead''
 - ❖ Basel III Implementation- Challenges for Indian banking system- (Shri N.S. Vishwanathan, Executive Director – August 31, 2015 – Associated Chambers of Commerce & Industry of India and National Institute of Bank Management)
 - ❖ Liquidity Risk Management by Banks
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

204 A – ADVANCED ACCOUNTANCY

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- 1 Understand elementary knowledge about Accounting Standard
- 2 Understand the accounting procedure for goods of small value under hire- purchases transactions
- 3 Understand the advanced aspects of accounting relating to Foreign branch
- 4 Understand the method of presenting financial statements under Double Accounts System
- 5 Understand the manner of recognizing profit on construction Contract
- 6 Know the developments in accounting

Course Outcome –

- 1 To obtain knowledge about Disclosure requirements of AS 7,11,16 & 17.
- 2 Journalise the hire purchase entries in books of both parties as well as learn about various methods of accounting for hire purchase transactions
- 3 Prepare Contract Account and carry out Accounting for Construction businesses
- 4 Learn the techniques of foreign currency translation for foreign branches and incorporate foreign branch balances in head office books.
- 5 Obtain theoretical understanding of Environmental accounting and Forensic Accounting

Medium of Instructions –

English

Instructions as to study and examinations –

- 1 This subject shall be studied in English medium
- 2 The question paper shall be set in English, and the students shall answer the paper in English medium only.
- 3 Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Course Content –

UNIT 1 - Accounting Standards – Elementary study and Disclosure Lectures: 08
requirements of the following Accounting Standards – (Theory only)

- a) AS – 7 Construction Contract (Revised 2002)
- b) AS – 11 The Effect of Changes in Foreign Exchange Rules (Revised 2003)
- c) AS – 16 Borrowing Cost
- d) AS – 17 Segment Reporting

UNIT 2- Accounting For Goods Of Small Value Under Hire- Purchases Lectures: 10
Transactions

- a) Introduction
- b) Preparation of Hire Purchase Trading Account in the books of hire vendor under
 1. Debtors Method
 2. Stock and Debtors Method(Theory and practical problems)

UNIT 3 – Accounting For Construction Contract

Lectures: 12

- a) Introduction - Accounting Treatment - Percentage of completion method - completed contract

method - Provisions for unforeseeable factors - Principles to be followed while taking credit for profit on incomplete Contracts

- b) Valuation and disclosure of work in progress - Escalation clause
- c) Preparation of Contract Account within the framework of AS-7
- d) Refer to the requirements of AS-7 “Construction Contracts (Revised)
- e) Refer Ind AS-11 “Construction Contracts
(Theory and practical problems)

UNIT 4 - Accounting For Foreign Branches

Lectures: 10

- a) Introduction
- b) Converting Trial Balance of a Foreign Branch in reporting currency
- c) Preparation of Foreign Branch Final Accounts for incorporating its results in Head Office books
- d) Refer to the AS 11 “The Effects of Changes in Foreign Exchange Rates (revised)
- e) Ind-AS 21 “The Effects of Changes in Foreign Exchange Rates
(Theory and practical problems)

UNIT 5 - Double Accounts System And Financial Statements Of Electricity Companies

Lectures: 12

- a) Double Accounts System
- b) Meaning, Features, Advantages and Limitations of Double Accounts System
- c) Revenue Account, Net Revenue Account, Capital Account and Balance Sheet under the Double Accounts System
- d) Financial Statements of Electricity companies
- e) Presentation of Financial Statements of Electricity companies in accordance with the requirements of Schedule III under the Companies Act, 2013. Refer to the provisions of the Electricity Act, 2003 (Theory and practical problems on preparation of Revenue Account, Net Revenue Account, Capital Account, Profit & Loss Account and Balance Sheet under the Double Accounts System)

UNIT 6 - Developments In Accounting (Theory only)

Lectures: 08

- a) **Environmental Accounting**
 - 1. Meaning and significance of Environmental accounting
 - 2. Corporate environmental reporting in India
- b) **Forensic Accounting**
 - 1. Meaning, Features, and Scope of Forensic accounting
 - 2. Role of Forensic accountant, and essential skills required for a forensic accountant

Books Recommended –

- ❖ Advanced Accounting – II, Dr. S. N. Maheshwari & Dr. S. K. Maheshwari, Vikas Publishing House, New Delhi
- ❖ Corporate Accounting, Dr. S. N. Maheshwari, Viakas Publishing House Pvt. Ltd. New Delhi
- ❖ Advanced Accounting, Dr. Ashok Sehgal& Dr. Deepak Sehgal: Taxmann, New Delhi
- ❖ Advanced Accountancy – Vol. II , R. L. Gupta & M. Radhaswamy, Sultan Chand & Sons
- ❖ Advanced Accounts, M. C. Shukla, T. S. Grewal & S.C. Gupta, S. Chand & Co Ltd.
- ❖ Advanced Accounts - Jain and Narang - Kalyani Publishers, Ludhiana
- ❖ Accountancy, Volume-I and II, Sr. K. Paul , New Central Book Agency, Kolkata
- ❖ Accounting Theory, R. K. Lele and Jawaharlal, Himalaya Publishers
- ❖ Accounting Theory, Dr. L. S. Porwal, Tata McGraw Hill.
- ❖ Accounting Text & Cases, Robert Anthony, D. F. Hawkins & K. A. Merchant- Tata McGraw
- ❖ Accounting - Including Applicable Accounting Standards [CA-Intermediate (IPC – Group I)] (4th Edition, June 2016) – written by D. G. Sharma, publisher Taxmann Publications
- ❖ Advanced Accounting - Including Applicable Accounting Standards [CA-Intermediate (IPC)] (4th Edition, June 2016) – written by D. G. Sharma, publisher Taxmann Publications

- ❖ Students Guide to Accounting Standards (CA/CMA Final) written by D S Rawat, published by Taxmann Publications 30th Edition 2017
 - ❖ Taxmann’s “Indian Accounting Standards and IFRSs for Non-finance Executives” – written by T. P. Ghosh– publisher Taxmann Publications
 - ❖ A Complete Guide for Converged Indian Accounting Standards IND-ASs & IFRS (Book + CD) Author : Amit Gupta (FCA)
 - ❖ A Complete Guide for Converged Indian Accounting Standards IND-ASs & IFRS (Book + CD) Author : Dr. A.L.Saini Publisher – Snow White
 - ❖ Accounting Standards & IFRS with Power-point Presentations on Accounting Standards, IFRS & Indian GAAP (Book + Free web-Download) Author : Kamal Garg (C.A) - Bharat Publications
 - ❖ Accounting Standards (for CA-IPCC) Author : D. G. Sharma (for Taxmann) Edition : 2nd edition, 2014 Taxmann
 - ❖ Accounting Standards (for CA Final) D. G. Sharma (for Taxmann) Edition : 2nd edition, 2014 Taxmann
 - ❖ Taxmann’s “IFRSs Simplified” – written by T. P. Ghosh – publisher Taxmann Publications
 - ❖ Taxmann’s “Illustrated Guide to Indian Accounting Standards and IFRSs” – written by Amitabh Mukherjee– publisher Taxmann Publications
 - ❖ Taxmann’s “Guide to Indian Accounting Standards converged with IFRSs” – written by T. P. Ghosh and CA Shrinivasn Anand – publisher Taxmann Publications
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

204 B – ADVANCED COST ACCOUNTANCY

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the nature of cost accounting records maintained by manufacturing companies.
- To figure out how to reconcile Cost and Financial Accounts.
- To enable students to gain knowledge the nature of Cost Information System for presenting the cost data to the management.
- To know the legal requirements regarding maintaining the cost accounting records and audit thereof.

Course Outcome –

- Maintain cost accounting records of manufacturing companies.
- Reconcile Cost and Financial Accounts.
- Present cost data to management.
- Maintain cost records as per legal requirements and will be able to help in cost audit.

Medium of Instructions –

English

Instructions as to Study and Examinations –

1. This subject shall be studied in English medium.
2. The question paper shall be set in English, and the students shall answer the paper in English medium only.
3. Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems.

Course Content –

Unit 1 – Non-Integrated Cost Accounts

Lectures: 10

- a) Books of Accounts in Cost Accounting - Books of Original Entry – Various Subsidiary Ledgers – Purpose of Control Accounts – their nature and procedures of posting from subsidiary ledgers to control accounts
- b) Double-entry Accounting System as used in cost accounts – Passing journal of entries, and preparation of ledger control accounts from a given set of transactions

[Theory and advanced practical problems on passing of journal entries and preparation of ledger accounts under Non-integrated system]

Unit 2 – Integrated Accounts / Integral Accounts

Lectures: 10

- a) Meaning and Nature of Integrated accounts, Necessity of Preparing Integrated accounts – Process followed in preparation of Integral accounts
- b) Double-entry Accounting System as used in integrated accounts – Passing journal of entries, and preparation of ledger control accounts from a given set of transactions

[Theory and advanced practical problems on passing of journal entries and preparation of ledger under integrated accounting system]

Unit 3 – Reconciliation of Profits under Cost Accounts and under Financial Account

Lectures: 10

- a) Need for Reconciliation of Profits ascertained as per financial accounts and as per Cost accounts
- b) Procedures to be adopted in preparation of profit reconciliation statements
- c) Ascertainment of Profits as per financial accounts and Cost accounts, and reconciliation thereof

[Theory and advanced practical problems on ascertainment of profits as per financial accounts and Cost accounts, and reconciliation thereof]

Unit 4 – Cost Information Systems and Reporting

Lectures: 08

- a) Cost Information Needs at Different Levels of Management – Requisite of an Effective Information System

b) Forms of Presentation – various reports – graphs, charts, tables, diagrams

[Theory and advanced practical problems preparation of graphs, charts, tables, diagrams]

Unit 5 – Uniform Costing and Inter-firm Comparison

Lectures: 12

- a) Meaning of Uniform Costing, Reasons for Differences in Costs and Costing Practices from firm to firm, Application of Uniform Costing System, Objectives, Advantages and Limitations of Uniform Costing system, Essentials for success of Uniform Costing System, Fields for Uniformity, Uniform Cost Manual
- b) Inter-firm Comparison – Meaning, Objectives, Advantages and Limitations of Inter-firm Comparison – is it the same as that of comparative statements

[Theory and advanced practical problems on uniform costing]

Unit 6 – Introduction to Cost Accounting Record Rules and Cost Audit

Lectures: 10

Companies (Cost Records and Audit) Rules, 2014

- a) Concepts of Cost Accountant in practice, Cost auditor, Cost Audit Report, Cost Records
- b) Application of Cost Records – Provisions pertaining to inclusion of cost records in the books of accounts
- c) Categories of companies required to maintain cost records
- d) Provisions pertaining to manner of maintenance of cost records
- e) Applicability for Cost Audit – Provisions pertaining to getting the cost records audited

[Theory only]

Books Recommended –

- ❖ Basics of Cost Accounting by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost Accounting – Problems and Solutions - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
 - ❖ Fundamentals of Cost Accounting by S.N. Maheshwari – Sultan Chand & Sons, New Delhi
 - ❖ Principles and Practice of Cost Accounting by N.K. Prasad
 - ❖ Cost Accounting by Jawaharlal – Tata McGraw Hill Publishing company Limited New Delhi
 - ❖ Cost Accounting Principles & Practice by Nigam & Sharma
 - ❖ Cost Accounting Principles & Practice by S.P. Iyenger
 - ❖ Cost Accounting Principles & Practice by P.K. Ghosh
 - ❖ Cost Accounting Principles & Practice by B.S. Khanna
 - ❖ Cost Accounting by Jain & Narang
 - ❖ Practical Costing (Self-Tutor) by Gauri Shankar – Himalaya Publishing House, Mumbai
 - ❖ Practical Costing by Ahuja, Khanna & Pandey
 - ❖ Cost Accounting by B.K. Bhar
 - ❖ Cost & Management Accounting [For CS Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost & Management Accounting [For Stage II of ICWA Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost and Management Accounting (Theory Problems and Solutions) by M.N. Arora – Himalaya Publishing House, Mumbai
 - ❖ Cost Accounting by Ravi M. Kishore – Taxmann Allied Services Pvt Ltd
 - ❖ A Text Book (with in-built Compiler) on Cost Accounting by S.K. Aggarwal, Abha Aggarwal – Reliance Publications Ltd, Gurgaon
 - ❖ Companies (Cost Records and Audit) Rules, 2014, as amended upto one year before the academic year of examination
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

204 C - HUMAN RESOURCE MANAGEMENT

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To endow the student with a broad perspective on themes and issues of Human Resource Development.
- To know the importance of various theories of motivation.
- To evaluate a company's implementation of a performance based pay system.
- To know the new concepts in HRM.

Course Content –

Unit 1 – Human Resource Development

Lectures: 10

- a) Meaning, Nature, Role and Importance of Human Resource in Business Organization.
- b) Concept, Scope and features, Operative functions of HR Departments.
- c) Difference between concepts- HR administration, HR management and HR development.
- d) Needs, Objectives and Importance of HRM and HRD, HRP and HRIS.
- e) Strategic HRM and role of HR in change and competition.
- f) Issues related to female employees in the workforce, Employee leasing, contract labour, Employee engagement, Workforce diversity.

Unit 2 – Financial issues of HR Management

Lectures: 10

- a) Meaning, Objectives and components of compensation, Types of incentives.
- b) Needs and importance of sound salary administration, some wage issues in India.
- c) Concept and Objectives of Labour Welfare, Functions and Duties of Labour Welfare Officer.
- d) Role and functions of Trade Union in financial problems and decision making.
- e) Types of Fringe benefits, Non monetary rearwards.

Unit 3 – Human Relation and Motivation

Lectures: 10

- a) Meaning, Importance and Theories of Motivation, Motivating factors.
- b) Human Relation constraint-Types of human relations, factors affecting good organizational relations.
- c) Problems and measures to improve human relations in organizations.
- d) Employer and Employee relations- contribution to Hawthorne Experiment- Pittsburgh Experiment.

Unit 4 – International Human Resource Management

Lectures: 10

- a) Global Recruitment ,Global selection approach
- b) Types of International Business ,International adjustment, Cross Culture training
- c) Perspective of International HRM
- d) Practices in International HRM
- e) Woman in International HRM
- f) Domestic HRM and International HRM- Compared

Unit 5 – New Concept in Human Resource Management

Lectures: 10

- a) Techniques of Downsizing and upsizing, Modern Retrenchment Strategies.
- b) Concept of E-Recruitment and E-Training and Development, E-HRP.
- c) Concept of Talent Management.
- d) TQM and HR strategies.
- e) Employee empowerment strategies.
- f) Balance and Quality of work life.
- g) Leadership and Teamwork in competitive environment.

Unit 6 – Technological HR Trends

Lectures: 10

- a) Artificial Intelligence- Meaning, Application, Benefits, Risks
- b) Virtual team building- Meaning, Benefits, Types, Principles.
- c) Data driven strategy- Meaning, Importance, Data driven culture.

- d) Caregiver benefits- Meaning, Impacts, Benefits.
- e) Mobile Friendly Recruitment- Meaning, Benefits, Types, Advantages.

Books Recommended –

- ❖ Personnel & Human Resource Management- P. Subba Rao, Himalaya Publishing House.
 - ❖ Personnel Management- Edvin Flippo, McGraw Hill, International Edition.
 - ❖ Personnel & Human Resource Management- S. R. Robins, Hall of INDIA.
 - ❖ Human Resource Management- C. B. Gupta, Sultan Chand & Co.
 - ❖ Human Resource Management- Dr. P. C. Pardeshi, 3rd Revised Edition, Nirali Prakashan.
 - ❖ Human Resource Management- R. S. Dwivedi, Vikas Publishing House, Pvt. Ltd.
 - ❖ Human Resource Management- Anjali Ghanekar, Everest Publishing House 20.
 - ❖ Human Resource Management- K. Ashwathappa- TMH.
 - ❖ Human Resource Management- C. B. Mamorai, Himalaya Publishing House.
 - ❖ Human Resource Management- Dr. S. L. Shiragave, Success Publication.
 - ❖ Human Resource Management- Sharp Publisher.
 - ❖ Human Resource Management- Micheal Muller & others, Jaico Book House, Bangalore.
 - ❖ Modern Business Organization and Management- S. A. Sherlekar, Himalaya Publishing House.
 - ❖ Strategic Human Resource Management- Anuradha Sharma, Anuradha Khandekar, Sage Publication.
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M.Com. I (W.E.F.: June – 2021)

204 D – MARKETING MANAGEMENT

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept of Market, Marketing, Consumer
- To understanding Consumer Behaviour and Buying Roles
- To know the Consumer Psychology
- To overview the concept of Individual Buyer
- To understand the Industrial and Business Buyer
- To describe Buyer Behavior Models and Customer Value

Course Content –

Unit 1 – Introduction

Lectures: 10

- a) Definitions and Basic Concept: Market, Marketing, Selling, Buying, Purchasing
- b) Need, Wants and Demand, Products, Value, Cost and Satisfaction, Customer and Consumer
- c) Difference between Customer and Consumer
- d) Major Types of Customers
- e) Environment and Consumer Behavior- Demographic, Socio-economic, Cultural, Political & Technological

Unit 2 – Consumer Behavior

Lectures: 10

- a) Buying Roles: Initiator, Influencer, Decider, Buyer, User
- b) Definition of Behavior, Types of Buying Behavior
- c) Complex Buying Behavior
- d) Dissonance - Reducing Buying behavior
- e) Habitual Buying Behavior
- f) Variety – Seeking Buying behavior

Unit 3 – Consumer Psychology

Lectures: 10

- a) Consumer Learning, Consumer perception
- b) Formation of Attitude and Change in Attitude
- c) Consumer Education & Motivation

Unit 4 – Individual Buyer Behavior

Lectures: 10

- a) Major Factors influencing Individual Buyer Behavior
- b) Cultural Factors, Social Factors, Personal Factors, Psychological Factors
- c) Consumer Buying Decision Process: Need Recognition, Information Search, Evaluation of Alternatives
- d) Post purchase Behavior
- e) Consumer Decision Rules: Compensatory Rules, Non Compensatory Rules

Unit 5 – Industrial Buyer Behavior

Lectures: 10

- a) Definition of Industrial and Business Buyer
- b) Buying Decision Process of Business Buyer
- c) Participation in Buying Decision
- d) Factors affecting Buying Decision
- e) Institutional Buyer and Government Buyer

Unit 6 – Buyer Behavior Models and Customer Value

Lectures: 10

- a) The Five Stage Model, Howard-Sheth Model
- b) The Nicosia Model, EKB Model, Webstar and Wind Model
- c) Customer Perceived Value, Total Customer Satisfaction
- d) Maximizing Customer Lifetime Value
- e) Customer Relationship and Loyalty

Book Recommended –

- ❖ Kotler, Keller, Joshi, Jha – Marketing Management- 8th Edition- Pearson Education
 - ❖ Kumar: Conceptual Issues in Consumer Behaviour: The Indian Context, Pearson Education
 - ❖ Jay D Lindquist and M Joseph Sirgy, Shopper, Buyer and Consumer Behaviour, Second Edition, Biztantra, New Delhi
 - ❖ David L Loudon and Albert J Della Bitta, Consumer Behaviour, 4/e, TMH, New Delhi
 - ❖ Schiffman, L.G and Kanuk L.L, Consumer Behaviour, 8/e, Pearson Education, New Delhi
 - ❖ Roger D. Black Well et al, Consumer Behaviour, 9/e Thomson, New Delhi
 - ❖ K.K.Srivastava, Consumer Behaviour, Galgotia Publishing Co. New Delhi
 - ❖ Henry Assael, Consumer Behaviour, 6/e, Thomson, New Delhi
 - ❖ Michael R. Solomon, Consumer Behaviour, 5/e, PHI, New Delhi
 - ❖ Consumer Behaviour in Indian Perspective – Suja Nair – Himalaya Publishers, 2004
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Faculty of Commerce and Management

M.Com. I (W.E.F.: June – 2021)

204 E – SUPPLY CHAIN MANAGEMENT

SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept of Customer Service Dimensions
- To understand the relationship between Customer
- To Align Supply Chain Relations
- To know how to Manage Transport System
- To understand the Inventory Decision Making
- To describe International Supply Chain Management

Course Content –

Unit 1 – Customer Service Dimensions

Lectures: 10

- a) Marketing and Supply Chain Interface
- b) Delivering Customer Value
- c) Customer Service and Customer Retention
- d) Service Driven and Logistic System
- e) Setting Customers Service Priorities
- f) Setting Service Standards

Unit 2 – Managing the Customer Relationship

Lectures: 10

- a) Understanding Customer Segmentation
- b) Relationship with Customers
- c) Management of Business Relations
- d) Customer Satisfaction

Unit 3 – Management of Supply Chain Relations

Lectures: 10

- a) Introduction
- b) Types of Suppliers relationships
- c) Management of service supply chains
- d) Managing through intermediaries
- e) Supply Partnerships

Unit 4 – Transport System

Lectures: 10

- a) Role of Transport in Supply Chain
- b) Transportation Selection Decision
- c) Basic Models of Transportation
- d) Legal Classification of Carriers
- e) Intermodal Transportation
- f) Indirect and Special Carrier

Unit 5 – Inventory Decision Making

Lectures: 10

- a) Fundamental approaches to managing inventory
- b) Inventory Cost
- c) A Generalised inventory model
- d) Fixed order quantity approach

- e) Fixed order interval approach
- f) Additional approaches to inventory management
- g) Inventory at Multiple Locations-square root law

Unit 6 – International SCM

Lectures: 10

- a) Definition of International Logistics and SCM
- b) Historical development of International logistics
- c) Emphasis on Customer Satisfaction - Just in Time, Computer Based Tools
- d) Strategic Advantage
- e) Elements of International Logistics
- f) Economic Importance of International Logistics

Book Recommended –

- ❖ Supply Chain Management- K Shridhar Bhatt- Himalaya Publishing House
 - ❖ Supply Chain Mangement- Sunil Chopra, Peter Mendl- Prentice Hall of India
 - ❖ Supply Chain and Logistics Management- Donal Bowersox, David Closs- Tata Macgraw Hill
 - ❖ Exploring the Supply Chain- Upendra Kachru, Excel Books
 - ❖ Supply Chain Management- D K Agrawal, Macmillan Publishers
 - ❖ Logistics Management- V. V Sople, Pearson Education
 - ❖ Supply Chain Management- Concept and Cases, Rahul V Altekar- Prentice Hall of India
 - ❖ Supply Chain Management- Janat Shah, Pearson Education
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Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

301 – MANAGEMENT ACCOUNTING

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- 1 Understand the nature, mechanics and tools of management accounting and their managerial implications.
- 2 Understand the philosophy and rationale of the financial analysis
- 3 Understand the techniques of analysis and interpretation of financial statements
- 4 Develop an appreciation about the utility of techniques of financial analysis for management information and decision making process.
- 5 Evaluate the implications of cash flow and fund flow on financial position of an industrial organisation.

Course Outcomes –

- 1 Get the insight of the philosophy and framework of financial analysis.
- 2 Know the important inter-linkages among the items in the financial statements
- 3 Get equipped with the tools used in analysis, interpretation, and evaluation of performance, profitability and efficiency of the business entities
- 4 Make an in-depth analysis of the financial performance and financial position of business entities, and get hands-on experience in financial analysis
- 5 Equip them with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation.
- 6 Pursue their career in the arena of accounting information system

Medium of Instructions –

English

Instructions as to study and examinations –

- 1 This subject shall be studied in English medium
- 2 The question paper shall be set in English, and the students shall answer the paper in English medium only.
- 3 Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Course Content –

UNIT 1 - Introduction to Management Accounting (Theory Only)

Lectures: 08

- a) Meaning, Nature and Scope of Management Accounting.
- b) Tools and techniques of Management Accounting
- c) Merits and Demerits of Management Accounting
- d) Financial Accounting, Cost Accounting and Management Accounting and their inter-relationship
- e) Role / Functions of Management Accountants

UNIT 2 - Analysis and interpretation of financial statements (Conceptual framework)

Lectures: 12

- a) Introduction to the Tools and techniques of financial analysis - Comparative financial Statement, Common-size Statements and Statements showing trend-analysis
- b) Preparation of Comparative Financial Statements
- c) Preparation of Common-size Financial Statements,
- d) Preparation of Statements showing Trend
- e) Inter-firm comparison – requirements, advantages and limitation.

[Advanced practical problems to be solved on these above topics, including their analysis and Interpretation]

UNIT 3 - Ratio Analysis

Lectures: 10

- a) Ratio – Nature, interpretation, classification of ratios. (Detailed study using the techniques of Ratio analysis)

- b) Advantages, role and limitations of Ratio analysis, Du-Pont Analysis
- c) Computation of Ratios for study of Liquidity, Profitability, Activity / Turnover, Solvency of a Company
- d) Solving practical problems on preparation of Financial Statements of an organization, from the given ratios and available information after finding out the missing figures.

[Advanced practical problems to be set on preparation of financial statements based on the given information about ratios and other details]

UNIT 4 - Management of Working Capital

Lectures: 10

- a) Concept and definition of working capital; Types of working capital;
- b) Significance of working capital; Factors determining working capital requirement; Sources of working capital
- c) Components of working capital; Assessment of working capital needs - Calculating operating cycle period and estimation of working capital requirements
- d) Financing of working capital and Maximum permissible bank finance as per the norms of bank finance – Tandon Committee recommendations
- e) Decision Making using marginal costing – Computation of BEP and Sales planning; Profitable Sales-mix

[Advanced practical problems to be solved on management of working capital]

UNIT 5 - Fund Flow Analysis

Lectures: 10

- a) Detailed study using the techniques of **Fund Flow analysis**
- b) Concept and Meaning of Fund Flow Statement (FFS) or Statement of sources and application of funds
- c) Significance, uses and limitations of Fund Flow Statement
- d) Preparation of Fund Flow Statement – procedure for preparing FFS
- e) Solving Practical Problems of Fund Flow Analysis

[Advanced practical problems to be set on preparation of Fund Flow statement, Schedule of changes in working capital, and related statements, based on the given information]

UNIT 6 - Cash Flow Analysis

Lectures: 10

- a) Detailed study using the techniques of Cash Flow analysis
- b) Concept and Meaning of Cash Flow Statement (CFS)
- c) Significance and uses of Cash Flow Statement; Limitations of Cash Flow Statement
- d) Difference between Cash Flow Analysis and Funds Flow Analysis
- e) Preparation of Cash Flow Statement – procedure for preparing CFS as per the requirements of the Accounting Standard “AS-3 (Revised) - Cash Flow Statement” issued by the ICAI
- f) Solving Practical Problems using Direct method and Indirect Method

[Advanced practical problems to be set on preparation of Cash Flow statement using Direct method and Indirect Method as per the requirements of the Accounting Standard “AS-3 (Revised) - Cash Flow Statement”]

Books Recommended –

- ❖ Principles of Management Account – By S. N. Maheshwari, Sultan Chand and Sons
- ❖ Management Account and Financial Control – By S. N. Maheshwari, Sultan Chand and Sons.
- ❖ Advanced Cost And Management Accounting – By V. K. Saxena and C. D. Vashist, Sultan Chand and Sons.
- ❖ Cost Accounting and Financial Management – By Ravi M. Kishore, Taxmann Pub. Pvt. Ltd.
- ❖ Financial Management – By Dr R. M. Srivastava, Pragati Prakashan Meerut.
- ❖ Financial Management Principles and Practice – By G. Sudarsana Reddy, Himalaya Publishing House
- ❖ Financial Management – By P. V. Kulkarni, Himalaya Publishing House.
- ❖ Cost and Management Accounting – By M. E. Thukaram Rao, New Age International (P) Ltd.
- ❖ Management Accounting - M.Y. Khan & P.K. Jain – TMH
- ❖ Principal of Management accounting – Manmohan and Goyal
- ❖ Management Accounting - Murthy – TMH
- ❖ Anthony, Robert : Management Accounting, Tarapore wala, Mumbai
- ❖ Barfield, Jessie, Ceily A. Raiborn and Micheal R. Kenny : Cost Accounting, Traditions and Innovations,

South Western College Publishing, Cincinnati, Ohio

- ❖ Decoster, Don T. and Elden L. Schater : Management Accounting, a decision emphasis, John Wiley and Sons Inc, New York
 - ❖ Garrison, Ray.H and Eric W Noreen : Management Accounting, Richard D Erwin, Chicago
 - ❖ Hansen, Don R and Maryanne M Morren : Management Accounting South Western College Publishing, Cincinnati, Ohio
 - ❖ Homgran, C.T.Gary L.Sundem and William O Stratton: Introduction to Management Accounting, Prentice Hall, Delhi
 - ❖ Homgren, Charles T George Foster and Srikant M Daliar: Cost Accounting, a managerial emphasis, Prentice Hall, Delhi
 - ❖ Lall, B.M and I.C Jain: Cost Accounting: Principles and Practice, Prentice Hall, Delhi
 - ❖ Pandey, I.M : Management Accounting, Vani Publication, Delhi
 - ❖ Welsch Glenn A, Ronald W Hilton and Paul N Gorden: Budgeting, Profit Planning and Control, Prentice Hall, Delhi
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com.II (W.E.F.: June - 2022)

302 – ENTREPRENEURSHIP MANAGEMENT

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To encourage and inspire the students to become an Entrepreneur
- To acquaint the students with the challenges to start a new venture
- To provide theoretical foundation for executing various projects.
- To highlight the support system for Entrepreneurship Management
- To understand the Entrepreneurship Development and Project Management
- To know the support system behind entrepreneur

Course Content –

Unit 1 – Introduction to Entrepreneurship & Entrepreneur Lectures: 10

- a) Entrepreneurship: Meaning
- b) Concept and Definition – Nature
- c) Entrepreneur: Concept and Definition – Functions - Pros and cons of being entrepreneur
- d) Entrepreneurial Competencies, Objectives of a modern entrepreneur
- e) Entrepreneur's Risks- Entrepreneurial Motivation

Unit 2 – Development of Entrepreneurship Lectures: 12

- a) External Influences on Entrepreneurship Development- Socio-Cultural, Political, Economical and Personal
- b) Corporate Entrepreneurship
- c) Entrepreneurial Success and Failure: Reasons and Remedies.
- d) Entrepreneurial Ethics, Factors influencing Entrepreneurial Ethics
- e) Entrepreneurial Culture: Elements, Maintaining Entrepreneurial culture

Unit 3 – Project Formulation and Project Implementation Lectures: 8

- a) Project: Meaning- Definition- Classification; Criteria for selecting a particular Project
- b) Project formulation and Implementation: Meaning – Importance
- c) Stages involved in Project formulation and Implementation

Unit 4 – Project Appraisal and Project Report Lectures: 8

- a) Project Appraisal: Meaning – Definition - Steps involved in project appraisal
- b) Project Report: Meaning – Scope - Contents

Unit 4 – Location of an Enterprise Lectures: 10

- a) Introduction, Need and Importance
- b) Factors influencing Location Decision
- c) Steps involved in enterprise location
- d) Factors influencing the choice of a suitable form of Organization

Unit 6 – Support system for Entrepreneurship Management Lectures: 12

- a) Role of Government : Regulatory role - Promotional role - Entrepreneurial role-Planning role
- b) Role of Financial Institutions: IDBI, SIDBI, SFC, IFCI, Venture capital fund, Mutual fund
- c) Role of other Supportive Institutions : EDII, SISI, NIESBUD, IIE, NI-MSME

Book Recommended –

- ❖ G R Basotia & K K Sharma - Handbook of Entrepreneurship Development, Mangal Deep Publications, Jaipur.
 - ❖ Gupta and Srinivasan- Entrepreneurial Development, Sultan Chand, New Delhi.
 - ❖ Bholanath Dutta, Entrepreneurship Management - Excel Books, New Delhi.
 - ❖ Vasant Desai, Entrepreneurial Development, Himalaya Publishing House, Mumbai
 - ❖ Vasant Desai- Dynamics of Entrepreneurial Development and Management- Himalaya Publications, New Delhi
 - ❖ C. B. Gupta & N. P. Srinivasan- Entrepreneurship Developments in India, Sultan Chand
 - ❖ D.F.Kuratko & R.M.Hodgetts - Entrepreneurship: Theory, Process and Practice, Thomson Press
 - ❖ P. Charantimath, Entrepreneurship Development: Small Business Enterprises, Pearson Ed.
 - ❖ A.P.Sarode & D.D.Bhakkad – Business Entrepreneurship, Prashant Publication
 - ❖ A.D.Yewale, D.B.Patil & D.D.Bhakkad – Entrepreneurship Development, Prashant Publication
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

303 – ORGANIZATIONAL BEHAVIOUR

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To get an overview of organizational behaviour and the challenges and opportunities.
- To understand the concept of behaviour – individual and Organizational Behaviour.
- To know about perception, learning, attitude, values and emotions.
- To gain knowledge of Motivation and Leadership and its various theories.
- To acquire basic knowledge of organizational change and development.

Course Content –

Unit 1 – Organisational Behaviour: An Overview.

Lectures: 10

- a) Concept, Definition, Features, Scope and importance of Organisational Behaviour.
- b) Approaches and Models of OB (Different models of OB i.e. autocratic, custodial, supportive, collegial and SOBC).
- c) Historical Development of Organizational Behaviour.
- d) Disciplines contributing to the field of Organizational Behaviour.
- e) Organisational Culture and Organisational Climate – Concept, Types, Impact.

Unit 2 – Individual Behaviour.

Lectures: 10

- a) Meaning and concept of Individual Behaviour.
- b) Factors influencing Individual Behavior, Determinants of Individual Behaviour.
- c) Attitude: Meaning & Definition, Types of Attitude, work related attitude, barriers to attitudinal change, attitude formation and attitude Change, measure to attitudinal change.
- d) Personality: Determinates, Traits and Methods and nature.
- e) Perception: Concept, Perceptual Process, Factors influencing Perception– Internal & External and Causes of Perception Fail.

Unit 3 – Group Dynamics and Group Behaviour.

Lectures: 10

- a) Group: Meaning and Definition, Objectives and principles.
- b) Importance and Advantages of group.
- c) Group Dynamics – Stages and Types.
- d) Factor Influencing Group Behaviour and Team Effectiveness.
- e) Elements of Group Dynamics.

Unit 4 – Motivation and Leadership.

Lectures: 10

- a) Motivation – Meaning and Definition
- b) Theories of Motivation – Maslow’s Need Hierarchy, Herzberg’s Two factor theory; Contemporary theories of motivation (ERG, Cognitive evaluation, goal setting, equity, Intrinsic Motivation Theory by Ken Thomas), expectancy model; Motivational Processes ,Process Theories , Learning and Reinforcement Theory.
- c) Leadership – Meaning and Definition.
- d) Leadership Theories and Approaches (Traits) –Behavioural approach(Managerial Grid), Situational approach, – Contingency (Feilder, Path goal), Tri-dimensional – Inspirational approaches.
- e) Leadership Styles.

Unit 5 – Power, Politics and Conflict.

Lectures: 10

- a) Power – Meaning and Definition, Sources (bases) of Power and Power tactics.
- b) Characteristics of Power; Individual Versus Organisational Power.

- c) Politics: Meaning and Definition, Types of organizational politics.
- d) Factors Influencing/contributing to Political Behaviour.
- e) Conflict: Meaning and Definition, Causes (sources) and Types, Conflict Management – Strategies for resolving destructive conflict.

Unit 6 – Organizational Change and Organizational Development.

Lectures: 10

- a) Meaning of Change, Need for Change, and Process of Change.
- b) Strategies to overcome resistance.
- c) Meaning and definition of Organizational Development, Phases of Organizational Development.
- d) Approaches to Organizational Development.
- e) Challenges of Change before organizations.

Books Recommended –

- ❖ Bodhankar and Kanetkar: Organization Behavior, Sainath Prakashan.
 - ❖ Fred Luthans: Organizational Behaviour, McGraw-Hill, New Delhi.
 - ❖ K. Aswathappa: Organizational Behavior, Himalaya Publisher, New Delhi.
 - ❖ K. Singh: Organizational Behaviour: Text and Cases, Pearson.
 - ❖ Nelson & Quick: Organization Behavior, Cenage Learning.
 - ❖ Robbins, Stephen P. and Timothy A. Judge: Organizational Behaviour, Prentice -Hall, New Delhi.
 - ❖ Sharma VVS: Organisational Behaviour, Jaico Publication, Chennai.
 - ❖ Shashi Gupta & Rosy: Organisation Behaviour—Kalyani Publications, New Delhi.
 - ❖ S.S. Khanka: Organization Behavior, S. Chand& Sons, New Delhi.
 - ❖ Suja R. Nair: Organization Behavior, Himalaya Publications.
 - ❖ Uma Sekaran: Organisational Behaviour: Text and Cases, Tata McGraw-Hill Publishing Co. Ltd., New Delhi.
 - ❖ U. Pareek and S. Khanna: Understanding Organizational Behaviour, Oxford University Press.
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

304 A – ADVANCED ACCOUNTANCY

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- 1 Understand basic knowledge about Accounting Standard
- 2 Understand the basics of Price Level Change, like Inflation Accounting, etc
- 3 Understand the advanced aspects of accounting for Lease
- 4 Understand the method of presenting Financial Statement of Credit Cooperative Societies
- 5 Understand the Accounting for Service Sector especially Hospital, Transportation and Hotels
- 6 Know the basic concepts of Government Accounting and related concepts

Course Outcome –

- 1 To obtain knowledge about Disclosure requirements of AS 19,22,24 & 25.
- 2 To Carry out Inflation Accounting Using CPP/ CPA Methods.
- 3 Obtain an understanding of various types of leases and perform accounting treatment for Operating and Finance Leases
- 4 Prepare Final Statements of Cooperative Credit Societies taking into consideration various accounting adjustments applicable to Cooperative Credit Societies.
- 5 Obtain Understanding of special accounting procedures to be followed while accounting for service sector entities like Hotels, Hospitals and transporters
- 6 Obtain a theoretical understanding of Government Accounting System and Role, Power and functions of Comptroller and Auditor General of India.

Medium of Instructions –

English

Instructions as to study and examinations –

- 1 This subject shall be studied in English medium
- 2 The question paper shall be set in English, and the students shall answer the paper in English medium only.
- 3 Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Course Content –

UNIT 1 - Accounting Standards – Elementary study and Disclosure Lectures: 08
requirements of the following Accounting Standards – (Theory only)

- a) AS – 19 Lease
- b) AS – 22 Accounting for Taxes on Income
- c) AS – 24 Discontinuing Operations
- d) AS – 25 Interim Financial Reporting

UNIT 2 – Accounting for Price Level Changes

Lectures: 10

- a) Introduction, Inflation Accounting, Need for inflation accounting
- b) Methods of accounting for changing prices -
 1. Current Purchasing Power method
 2. Current Cost Accounting
- c) Preparation of Profit & Loss Account and Balance Sheet as per the Current Cost Accounting Method (Theory and practical problems)

UNIT 3 – Accounting For Lease**Lectures: 12**

- a) Meaning, Concept and Important steps in Leasing
- b) Advantages and Disadvantages of Leasing
- c) Types of Lease - Operating Lease- Finance Lease
- d) Accounting treatment of Operating Lease and Finance Lease
(Theory and practical problems)

UNIT 4 – Accounting for Co-operative Societies (Credit Societies Only)**Lectures: 10**

- a) Introduction of Co-operative Societies
- b) Legal Provisions of Co-operative Societies Act 1960
- c) Types of Cooperative Societies (Brief)
- d) Preparation of financial statements - Trading Account , Profit and Loss Account , Balance Sheet
- e) Adjustments for Preparation of Final Accounts

UNIT 5 – Accounting for Service Sector**Lectures: 12**

- a) Hotels - Hotel accounting – introduction - visitors' ledger.
- b) Transportation - Introduction – preparation of final accounts – Accounting of Roadways Preparation of final accounts (problems on roadways) Log Book.
- c) Hospital - Introduction– capital and revenue expenditure OPD & IPD Register.

UNIT 6 – Government Accounting System (Theory Only)**Lectures: 08**

- a) Meaning, Objects, Classification of Accounting heads, Procedure
- b) Role of CAG of India
- c) Public Accounts Committee

Books Recommended –

- ❖ Advanced Accounting – II, Dr. S. N. Maheshwari & Dr. S. K. Maheshwari, Vikas Publishing House, New Delhi
- ❖ Corporate Accounting, Dr. S. N. Maheshwari, Viakas Publishing House Pvt. Ltd. New Delhi
- ❖ Advanced Accounting, Dr. Ashok Sehgal& Dr. Deepak Sehgal: Taxmann, New Delhi
- ❖ Advanced Accountancy – Vol. II , R. L. Gupta & M. Radhaswamy, Sultan Chand & Sons
- ❖ Advanced Accounts, M. C. Shukla, T. S. Grewal & S.C. Gupta, S. Chand & Co Ltd.
- ❖ Advanced Accounts - Jain and Narang - Kalyani Publishers, Ludhiana
- ❖ Accountancy, Volume-I and II, Sr. K. Paul , New Central Book Agency, Kolkata
- ❖ Accounting Theory, R. K. Lele and Jawaharlal, Himalaya Publishers
- ❖ Accounting Theory, Dr. L. S. Porwal, Tata McGraw Hill.
- ❖ Accounting Text & Cases, Robert Anthony, D. F. Hawkins & K. A. Merchant- Tata McGraw
- ❖ Accounting - Including Applicable Accounting Standards [CA-Intermediate (IPC – Group I)] (4th Edition, June 2016) – written by D. G. Sharma, publisher Taxmann Publications
- ❖ Advanced Accounting - Including Applicable Accounting Standards [CA-Intermediate (IPC)] (4th Edition, June 2016) – written by D. G. Sharma, publisher Taxmann Publications
- ❖ Students Guide to Accounting Standards (CA/CMA Final) written by D S Rawat, published by Taxmann Publications 30th Edition 2017
- ❖ Taxmann's "Indian Accounting Standards and IFRSs for Non-finance Executives" – written by T. P. Ghosh– publisher Taxmann Publications
- ❖ A Complete Guide for Converged Indian Accounting Standards IND-ASs & IFRS (Book + CD) Author : Amit Gupta (FCA)
- ❖ A Complete Guide for Converged Indian Accounting Standards IND-ASs & IFRS (Book + CD) Author : Dr. A.L.Saini Publisher – Snow White
- ❖ Accounting Standards & IFRS with Power-point Presentations on Accounting Standards, IFRS & Indian GAAP (Book + Free web-Download) Author : Kamal Garg (C.A) - Bharat Publications
- ❖ Accounting Standards (for CA-IPCC) Author : D. G. Sharma (for Taxmann) Edition : 2nd edition, 2014 Taxmann

- ❖ Accounting Standards (for CA Final) D. G. Sharma (for Taxmann) Edition : 2nd edition, 2014 Taxmann
 - ❖ Taxmann's "IFRSs Simplified" – written by T. P. Ghosh – publisher Taxmann Publications
 - ❖ Taxmann's "Illustrated Guide to Indian Accounting Standards and IFRSs" – written by Amitabh Mukherjee– publisher Taxmann Publications
 - ❖ Taxmann's "Guide to Indian Accounting Standards converged with IFRSs" – written by T. P. Ghosh and CA Shrinivasn Anand – publisher Taxmann Publications
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

304 B – ADVANCED COST ACCOUNTANCY

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the various methods of determining costs of goods produced and services rendered by different organizations.
- To prepare the costs accounts of various goods and services having regard to the nature their manufacturing processes.
- To gain knowledge about cost control and reduction and their difference as well as the concept of productivity.

Course Outcome –

- Find out the cost of manufacturing goods by the manufacturing organisations and of providing services by the service organisations.
- Know the nature of process costing and the role of spoilage/scrap and rework and apply these concepts in practice.
- Compare and apply cost allocation methods.
- Know about cost control and reduction.

Medium of Instructions –

English

Instructions as to Study and Examinations –

1. This subject shall be studied in English medium.
2. The question paper shall be set in English, and the students shall answer the paper in English medium only.
3. Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems.

Course Content –

Unit 1 – Single or Output Costing

Lectures: 10

- a) Single or Output Costing – Meaning, Features, Methodology Used
- b) Advantages, Limitations of these methods of Costing

[Theory and advanced practical problems on preparation of cost sheet and quotations using Single Costing]

Unit 2 – Job and Batch Costing

Lectures: 10

- a) Preparing Cost Sheets and Price Quotations for Jobs/ Batches, Computing Economic Batch Quantity
- b) Meaning and features of Batch Costing, Economic Batch Quantity (EBQ)

[Theory and advanced practical problems on preparation of cost sheet and quotations using Job Costing]

Unit 3 – Contract Costing

Lectures: 12

- a) Contract Costing - Meaning and features of Contract costing, Methodology used in Contract Costing – Comparison of Job Costing and Contract Costing
- b) Special aspects of Contract Account: Work certified, Work uncertified, Treatment of Profit on incomplete Contract, Special Points in Contract : Cost Plus Contracts, Target-price contracts, Escalation Clause, Materials lost or destroyed
- c) Preparing Contract Accounts with the important aspects including Work certified, Work uncertified, Treatment of Profit on incomplete Contract, Cost Plus Contracts, Target-price contracts, Escalation Clause, Materials lost or destroyed

(Refer AS-7 on Construction Contracts for issues of Accounting treatment – Percentage of Completion method, Completed contract method, provision for foreseeable losses, principles to be followed while taking credit for profit of incomplete contracts.)

[Theory and advanced practical problems on preparation of Contract Account and other related accounts]

Unit 4 – Process Costing-I

Lectures: 10

- a) Meaning and Features of Process Costing, Methodology used in Process Costing – Comparison of Job Costing and Process Costing
- b) Advantages and Limitations of Process Costing
- c) Special aspects of Process Costing: Normal Process Loss, Abnormal Process Loss, Abnormal Process, Gain, Inter-Process Profits

[Theory only]

Unit 5 – Process Costing-II

Lectures: 10

- a) Concept of Equivalent Production – Methods of Pricing used for valuing the equivalent units – First In First Out Method [FIFO]: Average Method: Weighted Average Method
- b) Preparing Process Cost Accounts with the important aspects including Normal Process Loss, Abnormal Process Loss, Abnormal Process Gain, Inter-Process Profits, Equivalent Production

[Theory and advanced practical problems on preparation of Process Cost Accounts, and other related statements and accounts]

Unit 6 – Cost Control, Cost Reduction & Productivity

Lectures: 08

- a) Cost Control and Cost Reduction – Meaning, Areas Covered by Cost Reduction, Tools
- b) Essential for Successful Cost Control, Distinction Between Cost Control and Cost Reduction
- c) Meaning of productivity, measurement of productivity, improving productivity

[Theory only]

Books Recommended –

- ❖ Basics of Cost Accounting by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost Accounting – Problems and Solutions - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
 - ❖ Fundamentals of Cost Accounting by S.N. Maheshwari – Sultan Chand & Sons, New Delhi
 - ❖ Principles and Practice of Cost Accounting by N.K. Prasad
 - ❖ Cost Accounting by Jawaharlal – Tata McGraw Hill Publishing company Limited New Delhi
 - ❖ Practical Costing (Self-Tutor) by Gauri Shankar – Himalaya Publishing House, Mumbai
 - ❖ Cost & Management Accounting [For CS Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost & Management Accounting [For Stage II of ICWA Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost and Management Accounting (Theory Problems and Solutions) by M.N. Arora – Himalaya Publishing House, Mumbai
 - ❖ Cost Accounting by Ravi M. Kishore – Taxmann Allied Services Pvt Ltd
 - ❖ A Text Book (with in-built Compiler) on Cost Accounting by S.K. Aggarwal, Abha Aggarwal – Reliance Publications Ltd, Gurgaon
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

304 C - HUMAN RESOURCE MANAGEMENT

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- Understand the value and importance of human resources in an organization.
- Become innovative in managing human resource aspects & Industrial Relations.
- Make the students aware about mechanisms of Industrial Dispute and friendly interventions to deal with employee-employer problems.
- Impart the students with the knowledge of laws & how law affects the industry & labour.

Course Content –

Unit 1 – Introduction to Industrial Relations

Lectures: 10

- a) Meaning, Scope, Importance of Industrial Relations.
- b) Approaches and Parties to Industrial Relations.
- c) Causes for Poor Industrial Relations.
- d) Developing Sound Industrial Relations.
- e) Pattern and Policies Adopted in Industrial Relations in India.
- f) International Labour Organization and Industrial Relations.

Unit 2 – Industrial Health and Safety Aspects

Lectures: 10

- a) Meaning and Importance of Health.
- b) Occupational hazards and diseases, protection against hazards.
- c) Statutory provisions concerning health in India.
- d) Types and causes of accidents.
- e) Meaning and importance of safety.
- f) Safety measures / program's.
- g) Statutory provisions for industrial safety in India.

Unit 3- Stress Conflict and Industrial disputes.

Lectures: 10

- a) Stress- Meaning, Causes, Consequences of stress.
- b) Stress reduction strategies.
- c) Conflict- meaning, causes, conflict management
- d) Industrial disputes – meaning forms.
- e) Causes of Industrial disputes, Settlement of industrial disputes.

Unit 4 – Industrial Discipline and Grievances

Lectures: 10

- a) Meaning, Objectives and Types of Discipline.
- b) Causes of indiscipline.
- c) Guidelines of a disciplinary action.
- d) Procedure of disciplinary action, Types of punishment.
- e) Grievances- Meaning, Nature, Causes.
- f) Grievances Procedure, Steps in grievance settlement.

Unit 5 – Settlement Machinery

Lectures: 10

- a) Mediation- Meaning, Types and Essentials of Mediation.
- b) Conciliation- Meaning, Types, Preliminary steps towards Conciliation.
- c) Conciliation Officer- Qualities and Role
- d) Conciliation Procedure.
- e) Arbitration- Meaning, Types and Procedure
- f) Adjudication- Meaning, Three tier system of adjudication.

Unit 6 – Human Resource Records, Audit and Research

Lectures: 10

- a) Human Resource Records- Meaning, Types, Importance.

- b) Human Resource Audit- Meaning, Scope, Objectives and Process
- c) Human Resource Research- Meaning, Approaches and Process.
- d) Human Resource Information system- Need, Uses, Designing, Limitations.
- e) E-HR records, E-HR information, E-HR audit.

Books Recommended –

- ❖ Human Resource Management by K. Aswathappa- Tata- McGraw Hill Publishing Co. Ltd.
 - ❖ Human Resource Management- text and cases by Dr. S. S. Khanka- S. Chand Company Ltd.
 - ❖ Personnel and Human Resource Management by P. SubbaRao- Himalaya Publishing House.
 - ❖ Essentials of Human Resource Management and Industrial relations by P. SubbaRao- Himalaya Publishing House.
 - ❖ Human Resource Management by Anjali Ghanekar, Everest Publishing House.
 - ❖ Human Resource Development and Management- A. M. Shaikh.
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

304 D – MARKETING MANAGEMENT

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand various concepts and theoretical aspect of internet marketing
- To know the mechanism of internet marketing
- To study the strategies of internet advertising
- To overview the concept of Internet Retailing, Strategy and Promotion
- To understand the Emerging issue & Development In International Marketing

Course Content –

Unit 1 – Introduction	Lectures: 08
a) Concepts and Difference between: world wide web, Intranet, Extranet, Internet	
b) Internet: Benefits, Limitations	
c) Virtual Marketing: Concept, Importance	
Unit 2 – E-Commerce	Lectures: 10
a) Concept, Definition, Development & Future of E-Commerce	
b) Different Commercial Models: Vanity, Billboard, Advertising, Subscriptions, Storefront-sites	
c) Diverse Roles of Websites	
Unit 3 – Factors Affecting Internet Consumer Behaviour	Lectures: 08
a) Internet Consumer Behaviour	
b) Internet Branding: Internet and Relationships;	
c) Internet and Brand Loyalty	
d) Internet Communities	
Unit 4 – Internet Retailing	Lectures: 10
a) Merchandising Process for e-retailers: Assortment, Planning, Pricing	
b) The Product: Procedure for Payment, Physical Delivery	
c) Online Shopping: Concept, Precautions in online shopping	
Unit 5 – Internet Strategy and Promotion	Lectures: 14
a) Virtual Value Chain: Concept, Meaning, Definition, History	
b) Intermediation; Concept, Elimination of Intermediaries	
c) Transaction Cost Theory (TCT)	
d) Internet Promotion: Classifications, Forms of Paid Advertising	
e) Affiliation Marketing: Concept, Benefits, Methods, CPM & CPA	
f) Model Pay per Click Publishers and distributors	
Unit 6 – Emerging issue & Development In International Marketing	Lectures: 08
a) Ethical and Social issues	
b) International Marketing of Services	
c) Information Technology and International Marketing	
d) Impact of Globalization and World Trade Organization	

Book Recommended –

- ❖ Varshney and Bhattacharya, International marketing Management – An Indian Perspective, Sultan Chand & Sons, New Delhi.
 - ❖ Keegan, Global Marketing Management, Prentice Hall of India, New Delhi.
 - ❖ Philip Cateora and John Graham, International Marketing, Tata Mc Graw Hill, New Delhi.
 - ❖ Kotler, Keller, Joshi, Jha – Marketing Management- 8th Edition- Pearson Education
 - ❖ K.K.Srivastava, Consumer Behaviour, Galgotia Publishing Co.New Delhi
 - ❖ Henry Assael, Consumer Behaviour,6/e,Thomson,New Delhi
 - ❖ D.C.Kapoor, Export Management, Vikas Publishing House, New Delhi.
 - ❖ Francis Cherunilam, International Marketing, Himalaya Publishing House, Mumbai
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

304 E – SUPPLY CHAIN MANAGEMENT

SEMESTER – III

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept and role of SCM
- To understand the relationship of Network design in Supply Chain
- To know how to Demand Forecasting works in SCM.
- To describe Aggregate Planning in Supply Chain.
- To review Planning and Demand in Supply Chain

Course Content –

Unit 1 – Designing Distribution Networks and Applications **Lectures: 10**

- a) The Role of Distribution in the Supply Chain
- b) Factors Influencing Distribution Network Design
- c) Design Options for a Distribution Network
- d) E-Business and the Distribution Network
- e) Distribution Networks in Practice

Unit 2 – Network Design in the Supply Chain **Lectures: 10**

- a) The Role of Network Design in the Supply Chain
- b) Factors Influencing Network Design Decisions
- c) Framework for Network Design Decisions
- d) Models for Facility Location and Capacity Allocation
- e) The Role of IT in Network Design
- f) Making Network Design Decisions in Practice

Unit 3 – Network Design in an Uncertain Environment **Lectures: 10**

- a) The Impact of Uncertainty on Network Design
- b) Discounted Cash Flow Analysis
- c) Representations of Uncertainty
- d) Evaluating Network Design Decisions Using Decision Trees
- e) AM Tires: Evaluation of Supply Chain Design Decisions Under Uncertainty
- f) Risk Management and Network Design
- g) Making Supply Chain Decisions Under Uncertainty in Practice

Unit 4 – Demand Forecasting in a Supply Chain **Lectures: 10**

- a) The Role of Forecasting in a Supply Chain
- b) Characteristics of Forecasts
- c) Components of a Forecast and Forecasting Methods
- d) Basic Approach to Demand Forecasting
- e) Time-Series Forecasting Methods
- f) Measures of Forecast Error
- g) Forecasting Demand at Tahoe Salt
- h) The Role of IT in Forecasting
- i) Risk Management in Forecasting

j) Forecasting in Practice

Unit 5 – Aggregate Planning in a Supply Chain

Lectures: 10

- a) The Role of Aggregate Planning in a Supply Chain
- b) The Aggregate Planning Problem
- c) Aggregate Planning Strategies
- d) Aggregate Planning Using Linear Programming
- e) Aggregate Planning in Excel
- f) The Role of IT in Aggregate Planning
- g) Implementing Aggregate Planning in Practice

Unit 6 – Planning Supply and Demand in a Supply Chain

Lectures: 10

- a) Managing Predictable Variability
- b) Responding to Predictable Variability in a Supply Chain
- c) Managing Supply
- d) Managing Demand
- e) Implementing Solutions to Predictable Variability in Practice

Book Recommended –

- ❖ Supply Chain Management- K Shridhar Bhatt- Himalaya Publishing House
 - ❖ Supply Chain Management- Sunil Chopra, Peter Mendl- Prentice Hall of India
 - ❖ Supply Chain and Logistics Management- Donal Bowersox, David Closs- Tata Macgraw Hill
 - ❖ Exploring the Supply Chain- Upendra Kachru, Excel Books
 - ❖ Supply Chain Management- D K Agrawal, Macmillan Publishers
 - ❖ Logistics Management- V. V Sople, Pearson Education
 - ❖ Supply Chain Management- Concept and Cases, Rahul V Altekar- Prentice Hall of India
 - ❖ Supply Chain Management- Janat Shah, Pearson Education
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

401 – MANAGEMENT ACCOUNTING

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Objectives –

- 1 Understand the concept and techniques of financial control used in management accounting
- 2 Imbibe knowledge about the control techniques namely budgetary control and standard costing.
- 3 Develop the skill to analyse the cost-variance for effective cost control.
- 4 Familiarise with the concept, role, and utility of marginal costing, and its implications and utility for managerial decision making process.
- 5 Acquaint themselves with the concept and significance of working capital and its implications in managing the funds.
- 6 Familiarise with the concept, role, and utility of marginal costing, and its implications in decision making
- 7 Provide necessary inputs in form of concepts, theories and appraisal techniques related to capital
- 8 Expenditure decisions, and develop an integrated approach to capital-expenditure decision-making process.

Course Outcomes –

- 1 Get the insight of the philosophy and techniques of cost control and decision making.
- 2 Get equipped with the techniques of budgetary control and standard costing, and to familiarize with the macro as well as micro level techniques of cost control.
- 3 Make an in-depth analysis of causes of variation in actual cost from the standard cost, and to decide on the necessary action so as to increase the efficacy of the business entities
- 4 Get equipped with the ability to make managerial decision by applying the principles of marginal costing.
- 5 Know the important inter-linkages among the components of working capital essential for smooth running of a business organization.
- 6 Get the insight of an integrated approach to capital expenditure decision process and to apply their skills and knowledge effectively in future while dealing with the issues relating to capital expenditure.
- 7 Prepare them with the ability to face intricacies in real life and to apply their skills and knowledge while dealing with real life business situation using the techniques of management accounting.
- 8 Pursue their career in the field of managerial decision making and control.

Medium of Instructions –

English

Instructions as to study and examinations –

- 1 This subject shall be studied in English medium
- 2 The question paper shall be set in English, and the students shall answer the paper in English medium only.
- 3 Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems

Course Content –

UNIT 1 - Budget & Budgetary control

Lectures: 12

- a) Meaning, definition of Budget and Budgetary Control
- b) Objective, advantages, limitations of Budgetary Control
- c) Requirement of a sound budgetary control system
- d) Types of budget

According to time - (i) Long term budget (ii) Short-term Budget

According to function - (i) Sales Budget, (ii) Production Budget, (iii) Cost of Production Budget (iv) Purchase Budget, (v) Personnel Budget, (vi) Research Budget, (vii) Cash Budget (viii) Capital Budget,

(ix) Master Budget

According to flexibility - (i) Flexible Budget (ii) Fixed Budget.

e) Solving practical problems of Flexible Budget and Cash Budget

[Advanced practical problems to be solved on the above topics]

UNIT 2 - Standard Costing (Theory Only)

Lectures: 08

a) Meaning and Definition of standard cost and standard costing

b) Objectives and Significance of standard costing

c) Advantages, Limitation of standard costing

d) Types of standards, and setting of standards for elements of costs, Establishment of standard costing System

e) Difference between standard costing and budgetary control

UNIT 3 - Variance analysis

Lectures: 12

a) Introduction, Meaning and Types of Variances

b) Material Variances

c) Labour Variances

d) Variable and Fixed Overhead Variance

e) Sales Variances and Market Variance (Theory only)

[Advanced practical problems to be solved on Material, Labour, Variable and Fixed Variances]

UNIT 4 Marginal Costing (Theory & Practical Problems)

Lectures: 10

a) Concept of Marginal Cost, Marginal Costing, Contribution, Variable Cost, Fixed Cost, Semi-Variable Cost, Margin of Safety, PV Ratio

b) Features, Assumptions, Significance, and Limitations of Marginal Costing

c) Marginal costing and absorption costing

d) Break-even Analysis or Cost-Volume-Profit Analysis [CVP analysis], and applications of Marginal Costing – BEP, Break-even Chart, Angle of incidence, Key factor

e) Decision Making using marginal costing – Computation of BEP and Sales planning; Profitable Sales-mix

f) Exploring new markets; introducing a new product; Alternative use of production facilities; Make or buy; Continue or Shut down; Pricing decision etc.

[Advanced practical problems to be solved on these above topics]

UNIT 5 - Capital Budgeting Decision I

Lectures: 08

a) Meaning and nature of capital budgeting, Importance of capital budgeting

b) Study of nature, merits and demerits of methods of appraisal of Capital expenditures

c) Traditional Method: Introduction

1. Pay Back Period and its variants

2. Accounting rate of return

UNIT 6 - Capital Budgeting Decision II

Lectures: 10

a) Study of nature, merits and demerits of methods of appraisal of Capital expenditures

b) Discounted Cash Flow methods: Introduction

1. Net Present Value, 2. Internal Rate of Return, 3. Profitability Index

c) Capital Rationing

Books Recommended –

❖ Principles of Management Account – By S. N. Maheshwari, Sultan Chand and Sons

❖ Management Account and Financial Control – By S. N. Maheshwari, Sultan Chand and Sons.

❖ Advanced Cost And Management Accounting – By V. K. Saxena and C. D. Vashist, Sultan Chand and Sons.

❖ Cost Accounting and Financial Management – By Ravi M. Kishore, Taxmann Pub. Pvt. Ltd.

❖ Financial Management – By Dr R. M. Srivastava, Pragati Prakashan Meerut.

❖ Financial Management Principles and Practice – By G. Sudarsana Reddy, Himalaya Publishing House

❖ Financial Management – By P. V. Kulkarni, Himalaya Publishing House.

- ❖ Cost and Management Accounting – By M. E. Thukaram Rao, New Age International (P) Ltd.
 - ❖ Management Accounting - M.Y. Khan & P.K. Jain – TMH
 - ❖ Principal of Management accounting – Manmohan and Goyal
 - ❖ Management Accounting - Murthy – TMH
 - ❖ Anthony, Robert : Management Accounting, Tarapore wala, Mumbai
 - ❖ Barfield, Jessie, Ceily A. Raiborn and Micheal R. Kenny : Cost Accounting, Traditions and Innovations, South Western College Publishing, Cincinnati, Ohio
 - ❖ Decoster, Don T. and Elden L. Schater : Management Accounting, a decision emphasis, John Wiley and Sons Inc, New York
 - ❖ Garrison, Ray.H and Eric W Noreen : Management Accounting, Richard D Erwin, Chicago
 - ❖ Hansen, Don R and Maryanne M Morren : Management Accounting South Western College Publishing, Cincinnati, Ohio
 - ❖ Homgran, C.T.Gary L.Sundem and William O Stratton: Introduction to Management Accounting, Prentice Hall, Delhi
 - ❖ Homgren, Charles T George Foster and Srikant M Daliar: Cost Accounting, a managerial emphasis, Prentice Hall, Delhi
 - ❖ Lall, B.M and I.C Jain: Cost Accounting: Principles and Practice, Prentice Hall, Delhi
 - ❖ Pandey, I.M : Management Accounting, Vani Publication, Delhi
 - ❖ Welsch Glenn A, Ronald W Hilton and Paul N Gorden: Budgeting, Profit Planning and Control, Prentice Hall, Delhi
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

402 – MODERN RETAIL MANAGEMENT

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100(Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To acquaint the students with the various concepts and theoretical aspect of retail management
- To introduce the most modern techniques and practices of retailing for employment opportunity
- To understand dynamics of modern organised retail trade
- To overview Retail Development in India and Modern Retail Format
- To understand the Merchandise Management and Retail Franchising
- To know the Application of Information Technology in Retailing

Course Content –

Unit 1 – Introduction to Retail Management

Lectures: 10

- a) Concept of Retailing and organized Retail
- b) Scope and Importance of Retailing
- c) Retail Management
- d) Theory of Retail Development
- e) Recent Trends in Retailing: Modern Retail format, Mall System, etc

Unit 2 – Retail in India

Lectures: 10

- a) Development of Retailing in India
- b) Rural Retailing and the size of retail in different sector in India
- c) Importance of retailing in the Economy
- d) Factors attracting global Retailers to India
- e) FDI in Retailing in Indian Context
- f) Challenges to retail development in India

Unit 3 – Store Location and Store Design

Lectures: 10

- a) Store location: Meaning and Importance
- b) Types of Retail location
- c) Step involved in choosing a Retail location
- d) Store design: Concept & Elements of store design
- e) Steps involved in of store design
- f) Importance of store layout

Unit 4 – Merchandise Management

Lectures: 10

- a) Meaning and Definition
- b) Evolution of Merchandising
- c) Factors Affecting Merchandising Function
- d) Merchandiser: Role and Responsibilities
- e) The Concept of Life Style Merchandising

Unit 5 – Retail Franchising

Lectures: 10

- a) Meaning and Definition
- b) Features of Franchising
- c) Advantages and Limitations of Franchising

- d) Evolution of Franchising, Types of Franchising
- e) Franchising in India

Unit 6 – Application of Information Technology in Retailing

Lectures: 10

- a) Introduction and Definition
- b) Outstanding Features of Information Technology
- c) Contribution and Importance of Information Technology in Retailing
- d) Indian Scenario of Information Technology
- e) Campaign Management and Objectives
- f) Bar Coding Technique
- g) E-Retailing: Format, Challenges

Books Recommended –

- ❖ Arif Sheikh, Kaneez Fatima - Retailing Management, Himalaya Publishing House
 - ❖ Swapna Pradhan - Retailing Management, Tata MC.Graw Hill Education
 - ❖ Suja Nair-Retail Management, Himalaya Publishing House
 - ❖ Gibson G.Vedamni – Retail Management, Third Edition, Pearson Education
 - ❖ S.K.Baral & S.C.Bihari – Retail Management: Text & Cases, AITBS Publishers
 - ❖ Retailing Environment and Operation, Thomson learning
 - ❖ Fundamental of Retailing, Tata MC.Graw Hill Education.
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

403 A – INFORMATION SYSTEMS FOR BUSINESS

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- Develop conceptual understanding about latest developments in the field of Information Technology and the impact of I.T. in Managing aBusiness.
- Learn to use Information Technology to gain competitive advantage in business
- Develop students as Cyber Security experts , ERP domain experts and Data Analysts

Course Outcome –

- Analyze and model the flow of information through business processes.
- Formulate plans and architectures for the capture, storage and retrieval of data
- Develop computer programs to support or automate business processes.
- Apply networking concepts and technologies to support business needs
- Align information systems and services with business strategy and formulate plans for the retrieval and analysis of supporting data
- Document, monitor and assess the effectiveness of IT controls
- Clearly understand application of Data Science in Business
- Use various Data Analytics tools

Course Content –

Unit 1 – Introduction To Information Systems-I

Lectures: 10

- a) Introduction to Organization – Decision levels – Managerial roles – Information needs of Management Information System
- b) Definition – Features – System concepts – Framework for Information Systems Strategic uses of Management Information Systems
- c) Future of IS in an Organization
- d) Business Process Reengineering

Unit 2 – Introduction To Information Systems-II

Lectures: 10

- a) Hardware – Input and Output devices
- b) Computer Memory (Primary, Secondary & Cache) – Memory Access Time – File Structures – Network Components.
- c) Software – Operating System software – Application software – Groupware – Multiprogramming – Multitasking.
- d) RDBMS : Database – Definition -Data Capture – Data Integrity – Components of Database Management Software Types and Software Development Life Cycle

Unit 3 – Information Technology Infrastructure: Information Systems Architecture

Lectures: 10

- a) Mainframe, Client Server, Web Based, Distributed, Grid, Cloud
- b) Requirements of Hardware and Software, Storage and Networking Devices
- c) Networks Types - Topologies of Networks
- d) Components of Cloud Computing Infrastructure
- e) Intellectual Property Rights as related to IT Services / IT Products

Unit 4 – Data Science and Data Analytics for Business

Lectures: 10

- a) Basic principles of Data Science, Basic principles of Data Analytics, Understanding Role of Data Analyst, Data Science Applications for business. Tools and Technologies with respect to data

science

- b) Data Analysis tools, Data extraction using SQL. SQL commands. MS-Office, MS- Visio, IBM-SPSS or PSPP for Data Analysis. Examples of Data Analysis, Steps for Data Analysis results

Unit 5 – Digital Firm Perspective and Cyber Security for Business

Lectures: 10

- a) MIS Model for a digital firm, Organization structure for digital firm – e-Business Models and Applications
- b) Call Centers, BPO,KPO, Benefits of Digital firm, key features of a digital firm.
- c) Creating Business Blogs
- d) Cyber security for business- Introduction to Cyber Security-Concept, Impact of cyber-attack on your business- Economic cost of cyber-attack, Reputational damage, Cyber Crime and its effects on Business; Secured password schemes

Unit 6 – Enterprise Resource Planning (ERP) and Software as a Service (SaaS)

Lectures: 10

- a) ERP Concept, need of ERP, advantages of ERP, Life Cycle of ERP implementation, ERP Products, ERP Software modules, Skills for ERP consultant an domain expert.
- b) Software as a Service (SaaS) concept, SaaS Examples, SaaS Advantages. Basic concepts of Big Data, IOT and Machine Learning.

Books Recommended –

- ❖ Management Information Systems – The Manager’s View, Robert Schulthesis, Mary Summer. Tata McGraw Hill Publications
 - ❖ Management Information Systems – Gerald V Post David, L Anderson, Tata McGraw Hill.
 - ❖ Management Information Systems – Jaiswal S.
 - ❖ Management Information Systems – O Brien, Tata McGraw Hill
 - ❖ IT The Breaking Wave –Denis P Curtin.
 - ❖ Enterprise Resource Planning,- Alex Leon ,McGraw Hill, Fourth Edition (2019)
 - ❖ MIS, - Managing the digital firm – Landon & Gendom, Pearson Prentice Hall.
 - ❖ O Brien, Introduction to IS, TMH. 8. Management Information System – Jaiswal & Mittal, Oxford University Press
 - ❖ Management Information Systems by Jaiswal and Mittal, Oxford UniversityPressDecisionSupport Systems and Intelligent Systems by Turban and Aronson, Pearson EducationAsia
 - ❖ Data Analytics by Anil Maheshwari, McGraw Hill
 - ❖ Data Science for Business Professionals: A Practical Guide for Beginners, BPB (2020)
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

403 B – FOREIGN TRADE

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept and Foreign Trade.
- To know the Structure of India's Foreign Trade.
- To study the India's Foreign Trade Policy.
- To know the concept of Foreign Collaboration and Joint Venture.
- To understand the International Strategic Alliances.
- To study the role of institutions towards foreign trade.

Course Content –

Unit 1 – International Trade

Lectures: 10

- a) Need and Importance of International Trade.
- b) Nature and Scope of International Trade.
- c) Divers of International Business.
- d) Benefits of International Trade.
- e) Globalization and International Trade.

Unit 2 – Structure of India's Foreign Trade

Lectures: 10

- a) Introduction and Concept of Structure of India's Foreign Trade.
- b) Composition and Direction of India's Foreign Trade.
- c) EXIM bank and EXIM Policy of India.
- d) Regulation and Promotion of Foreign Trade.
- e) Role of GDRs, ADRs and FIIs in Indian capital market.

Unit 3 – India's Foreign Trade Policy

Lectures: 10

- a) Foreign Trade Policy 2009-14.
- b) New Initiatives and Export Promotion.
- c) Import Policy and Control.
- d) Foreign Investment Policy.
- e) Policy Framework for FDI in India.

Unit 4 – Foreign Collaboration and Joint Venture

Lectures: 10

- a) Foreign Collaboration meaning and concept, Examples of Foreign Collaboration.
- b) Features and Objectives of Foreign Collaboration.
- c) Foreign Collaboration in India.
- d) Reason for Forming a Joint Venture.
- e) Basic Elements of Joint Venture and Joint Venture Agreements, Structure and Advantages of Joint Venture.

Unit 5 – International Strategic Alliances

Lectures: 10

- a) Nature and Scope of International Strategic Alliances.
- b) Alliance Development Process.
- c) Making Alliance Work.
- d) Economic Consideration for Strategic Alliances.
- e) ASEAN, SAARC, SAPTA, SAFTA.

Unit 6 – Institutional Support for Foreign Trade

Lectures: 10

- a) United Nations and World Bank- Objectives, organizational structure and functions.
- b) International Monetary Fund - Objectives, organizational structure and functions.
- c) International Labour Organization - Objectives, organizational structure and functions.
- d) WTO- Functions, - Objectives, organizational structure and functions.

e) UNCTAD, WIPO, UNIDO - Objectives, organizational structure and functions of each.

Books Recommended –

- ❖ International Business- K Aswathappa - Tata Macgraw Hill.
 - ❖ International Business- Sonia Gupta - McGraw Hill EducationPvt.Ltd.
 - ❖ Basics of International Business- Neelankavil and AnoopRai
 - ❖ International Business: Text and Cases- Francis Cherunilam, PHI Learning Pvt.Ltd.
 - ❖ International Business- Frank McDonald and Fred Burton, Thomson.
 - ❖ International Business- Mike Peng and Klaus Meyer, Cengage Learning.
 - ❖ International Business- K Aswathappa - Tata Macgraw Hill.
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

403 C - CORPORATE SOCIAL RESPONSIBILITY

SEMESTER IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the Concept, Philosophy and Mechanics of Corporate Social Responsibility.
- To know the provisions of the Companies Act, 2013 relating to the Corporate Social Responsibilities of companies in India.
- To know the concept of business ethics in relation to CSR.
- To study the relationships of stability and equality with stakeholders related to the company, mainly shareholders, employees, providers, distributors, clients and society.
- To understand as to how the CSR aims at ensuring the companies conduct their business in an ethical way.

Course Content –

- Unit 1 – Introduction to Corporate Social Responsibility(CSR) Lectures: 10**
- a) Meaning, Concept, Definition and scope of CSR.
 - b) Stakeholder: Advantages to stakeholders (Customers, Community, Employees, Shareholders, Vendors, Entrepreneurs, Managers, NGO, Govt. officers, Bank).
 - c) Performance of above stakeholders toward CSR.
 - d) Stakeholder Theory.
 - e) Role of Government in CSR.
- Unit 2 – CSR and Companies Act 2013 Lectures: 10**
- a) Provisions for CSR in companies Act 2013.
 - b) Significance of CSR to sustainability of business.
 - c) Development of CSR in India.
 - d) Development of CSR in foreign countries.
 - e) Challenges before development of CSR.
- Unit 3 – CSR and Governance Lectures: 10**
- a) Meaning, Definition and Need of Governance.
 - b) Theoretical perspectives, corporate citizenship, Business practices of Governance.
 - c) Evaluation of Governance, its practices and regulations structure and development boards.
 - d) Role of Capital market and govt. Governance ratings.
 - e) Future of Governance.
- Unit 4 – Business Ethics in CSR Lectures: 10**
- a) Meaning and Definition Business ethics.
 - b) Importance of Business ethics in CSR.
 - c) Various aspects of CSR.
 - d) Problems of CSR.
 - e) Recent guidelines in CSR.
- Unit 5 –CSR Models and Business Environment Lectures: 10**
- a) Meaning and concept of CSR Models
 - b) CSR Models: Economic model, Pyramid model, Legal model and Ethical model.
 - c) Meaning and definition of Business Environment.
 - d) Various aspects of Business Environment.
 - e) Importance of environmental CSR.
- Unit 6 – CSR and Green Industries Lectures: 10**
- a) Meaning and concept of Green Industries.
 - b) Importance, advantages and limitation of Green Industries.

- c) Challenges for development for Green Industries in India.
- d) Role of CSR in Green Industries.
- e) Various Sectors of Green Industries.

Books Recommended –

- ❖ A.C.Fernando (2006), Corporate Governance Principles, policies and practices, Pearson Education, Delhi
 - ❖ Ahmad Ashfaq and Amna Khatoon (2013), Prevention of Environmental Degradation by Means of Solid Waste Management. Journal of Industrial Pollution Control, 29(1) (2013) pp1-6. EMINTERNATIONAL.
 - ❖ Dr. Ankita Neeru (2011) Social Entrepreneurship and Corporate Social Responsibility, Signature Books International, Delhi.
 - ❖ Dr. Avirupa Dutta Chatterjee (2013), a Ph.D. Thesis on “A Study Of The Concept Of Sustainable
 - ❖ Dr. Neeru Vasishth and Dr. Namita Rajput, Business Ethics and Values with Case Studies, Taxmann’s Publications.
 - ❖ Dr. Neeru Vasishth and Dr. Namita Rajput, Business Ethics and Values with Case Studies, Taxmann’s Publications.
 - ❖ Dr. Sushma S. Patil and Prof. Nitin S. Kharche (March 2013) research paper of “An Empirical Study of Small and Medium Scale Industrial Units towards Corporate Social Responsible Activities, with special reference to Jalgaon MIDC.”
 - ❖ NIIR BOARD, Modern Technology of Waste Management: Pollution Control, Recycling, Treatment & Utilization, Asia Pacific Business Press Inc. Delhi.
 - ❖ R.K. Khitoliya (2004), Environmental Pollution Management & Control for Sustainable Development, S. CHAND & COMPANY, New Delhi.
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Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

404 A – ADVANCED ACCOUNTANCY

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- 1 Know audit skills required for audit of Banks and Co-operative Societies
- 2 Understand the legal framework governing the audit of various forms of business entities and non-business entities
- 3 Understand the proper way of making examination of the financial statements of various business entities, and form opinion thereon
- 4 Understand the way of auditing of different units of service sector
- 5 Understand the advanced concept of Information System Auditing and Management Audit
- 6 Understand the proper way of making examination of the financial reports of limited companies

Course Outcome –

- 1 To Understand the legal framework of Bank Audit and to gain knowledge of financial statements of banks in brief.
- 2 To Understand the audit procedures to be followed at the time of audit of Cooperative Societies
- 3 To Understand the special considerations and audit procedures to be followed while conducting Audit of Hospitals, Hotels, Cinema Halls and Hire Purchase and Leasing Companies
- 4 To Learn how to perform an understanding of Computerized environment and documenting the same. To Identify various risks involved in Information System and controls to be used to overcome such risks
- 5 To Obtain the Theoretical Understanding of Management Audit, difference between management audit and statutory audit and role played by the management auditor.
- 6 To Understand different types of Audit reports and identify different aspects of reporting as per Standards of Auditing

Medium of Instructions –

English or Marathi

Course Content –

UNIT 1 – Audit of Banks

Lectures: 12

- a) Salient features of enactments affecting Banks – Provisions of the Banking Regulation Act, 1949, which are relevant for the purpose of audit,
- b) Bank Audit; its approach - Concept of Balance Sheet Audit
- c) Steps in Bank Audit
- d) Audit of the Assets and Liabilities of a bank – Verification of –
 1. Cash in hand and with the RBI and other banks; Money at call and short notice; and Investments;
 2. Loans and Advances given to the borrowers; their types, documentations, sanction, and performance; Concept of Non-Performing Assets (NPAs); their definition; provisions required for NPAs
 3. Fixed assets and other non-banking assets
 4. Share Capital and Reserves and Surplus
 5. Deposits, Unclaimed deposit of depositors
 6. Other Liabilities and provisions; Contingent liabilities
- e) Audit of the items debited and credited to the Profit & Loss Account of a bank –
 1. Interest income and other incomes

2. Recognition of Income on NPAs
3. Transfer of profit to Reserve Fund
4. Appropriations and Payment of dividend

f) Audit Reports of Banks

UNIT 2 – Audit of Co-operative Societies

Lectures: 08

- a) Special features of Audit of Co-operative Societies
- b) Provisions pertaining to audit of co-operative societies under the Maharashtra State Co-operative Societies Act, 1960
- c) Audit Report of Co-operative Societies.

UNIT 3 Audit of Specialized Units

Lectures: 10

- a) Audit procedure for the audit of a Hospital
- b) Audit procedure for the audit of a Hotel
- c) Audit procedure for the audit of a Cinema Hall
- d) Audit procedure for the audit of a Hire-purchase and Leasing company

UNIT 4 Information System Auditing (IS Auditing) -

Lectures: 10

- a) Concept of Information System Auditing
- b) Objectives of Information System Auditing
- c) Need for Audit of Information Systems
- d) Plan of Information System Audit
- e) Information System Audit Process - Evaluation of adequacy of controls - Management Controls, Operational Controls, Organizational Controls, Application Controls
- f) Steps involved in conducting IS Audit

UNIT 5 Management Audit

Lectures: 08

- a) Meaning, nature, objective, scope & importance
- b) Merits and Limitation of management Audit.
- c) Difference between Management Audit and Statutory audit.
- d) Qualification, duties and role of the management auditor.
- f) Drafting reports for managerial effectiveness.

UNIT 6 Audit report of Limited Companies –

Lectures: 12

- a) Nature of audit report, Importance of audit report
- b) Contents of audit report –
 1. Contents as required by the Companies Act, 2013
 2. Contents as required by the Companies (Audit and Auditors) Rules, 2014
 3. Contents as required by the CARO 2016
- c) Nature of opinion expressed by the auditor in his audit report
- d) Notes on accounts / Notes to accounts, Requirements of the IAS-1 ‘Presentation of Financial Statements’ as regards the Notes to Accounts
- e) Distinction between notes and qualification
- f) Elementary study of
 1. SA 700 - The Auditor's Report on Financial Statements
 2. SA 800 - Special Considerations- Audits of Financial Statements prepared in accordance with special purpose framework

Books Recommended –

- ❖ Taxmann – Students’ guide to Standards on Auditing by D. S. Rawat
- ❖ The Institute of Chartered Accountants of India: Standards on Auditing
- ❖ George Koshi : Tax Audit Manual (Taxmann, New Delhi)
- ❖ The Institute of Chartered Accountants of India “Guidance note on Tax Audit U/s 44 AB of the

Income Tax Act”

- ❖ T. V. Rao: HRD Audit, Sage Publications, New Delhi.
 - ❖ Dinkar Pagare: Principles and Practice of Auditing. Sultan chand and Sons, Educational Publishers New Delhi.
 - ❖ R. G. Saxena: Principles and Practice of Auditing. Himalaya Publishing House. New Delhi.
 - ❖ CA Final Study Module of Auditing published by the ICAI, New Delhi
 - ❖ Gordon Davis : Management Information System, TMH, New Delhi.
 - ❖ P. Mohar : Management Information System, HPH, New Delhi.
 - ❖ Elies Award : System Analysis & Design, Galgotia Publishers, New Delhi.
 - ❖ Uma G. Gupta : Management Information System, Galgotia Publ. New Delhi
 - ❖ C.S.V. Murthy : Management Information System, HPH, New Delhi.
 - ❖ Taxmann’s “Law & Practice Relating to Income Computation & Disclosure Standards”, written by B.D. Chatterjee and Chintan N Patel
 - ❖ Taxmann’s “Guide To Income Computation & Disclosures Standards” written by Srinivasan Anand
 - ❖ Income Computation and Disclosure Standards 2nd Edition - Ready Reckoner in Q & A format (English, Paperback), by CA (Dr) N. Suresh, publisher Bloomsbury India
 - ❖ Standards on Auditing for CA Students by Anshul Mittal, publisher Arya Publishing Company
 - ❖ Kamal Gupta : Contemporary Auditing, TMH – New Delhi.
 - ❖ Stettler Howord – Auditing Principles, PHI – New Delhi.
 - ❖ Saxena & Saravaravel – Practical Auditing – Himalaya Publishing House, Mumbai.
 - ❖ Saxena & Reddy – Essentials of Auditing - Himalaya Publishing House, Mumbai
 - ❖ B.N. Tondon: A Handbook of Practical Auditing
 - ❖ Stettler Howord – Auditing Principles, PHI – New Delhi.
 - ❖ L. K. Shukla – Auditing – Principles & Practice – Taxmann law’s New Delhi.
 - ❖ Auditing by Vinod Kumar Agrawal & Abhishek Porwal – A. S. Foundation, Pune.
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Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

404 B – ADVANCED COST ACCOUNTANCY

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100(Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the cost control techniques, and cost budgeting.
- To grasp the modern techniques of costing and pricing used by different organizations.
- To absorb the process of decision making amidst the scenario of cost differences, and to make proper short-term decisions by distinguishing between fixed cost and variable costs.
- To familiarize with the process of decision making related to the capital investment proposal on the basis of different project evaluation techniques.

Course Outcome –

- Prepare budgets for various functional areas of the business activities of the manufacturing organisations.
- Exercise control over the various elements of cost at macro level and micro level with the help of the techniques of budgetary control.
- Project the required level of business activities to be achieved for earning the desired level of profits.

Medium of Instructions –

English

Instructions as to Study and Examinations –

1. This subject shall be studied in English medium.
2. The question paper shall be set in English, and the students shall answer the paper in English medium only.
3. Out of the total marks in question paper, 40% marks will be allotted for theory questions and 60% marks will be for the practical problems.

Course Content –

Unit 1 – Operating Costing / Service Costing

Lectures: 10

- a) Meaning and Features of Operating Costing, Methodology Used in Operating Costing
- b) Special aspects of Process Costing – Determination of Unit of Cost, Collection of Costing Data, Cost Classification – Fixed Charges, Maintenance Charges, Running Charges
- c) Preparation of Operating cost statement for Transport Service, Canteen Service, Hotels, Hospital Service, Theaters

[Theory and advanced practical problems on preparation of Operating Cost Sheet/ Statement, arriving at rate to be charged]

Unit 2 – Multiple or Composite Costing

Lectures: 10

- a) Multiple Costing – 3 Alternative Meanings: (i) Costing by combining cost of components, (ii) Multiplicity of methods and (iii) Multiplicity of product from the same process
- b) Combination of job costing and process costing
- c) Applicability
- d) Collection of Cost under Multiple Costing

[Theory only]

Unit 3 – Differential Cost Analysis

Lectures: 10

- a) Concept of Differential Costs, its Essential Features
- b) Marginal Costing Vs. Differential Cost Analysis
- c) Application of Differential Cost Analysis
- d) Determination of Differential Cost
- e) Problems related to Differential Costing

[Theory and advanced practical problems on differential costing]

Unit 4 – Budget and Budgetary Control

Lectures: 12

- a) Concept of Budget, Budgeting & Budgetary Control, Steps involved in the Process of Preparation of a Budget, Budget Manual, Organisation for Budgetary Control, Principal Budgeting Factor
- b) Preparation of Budgets – Master Budget, Capital Expenditure Budget, Performance Based Budgeting, Personnel Budgeting
- c) Zero-Base Budgeting, Nature, procedure, Advantages and Limitations of ZBB

[Theory and advanced practical problems on preparation of budgets including Capital Expenditure Budget, Master Budget, Performance Based Budgeting, Personnel Budgeting]

Unit 5 – Capital Budgeting Decision

Lectures: 08

- a) Meaning, Importance of Capital Budgeting Decision
- b) Various Types of Capital Investment Decisions (i) Replacement and Modernization Decisions, (ii) Expansion Decisions, (iii) Diversification Decisions (iv) Accept-Reject Decisions

[Theory only]

Unit 6 – Recent Developments in Cost Accounting

Lectures: 10

- a) Life Cycle Costing – Meaning, Characteristics, Benefits, Elements of Life Cycle Cost, Purpose of Life Cycle Costing Analysis, Process, Phases
- b) Target Costing – Origin of Target Costing, Meaning, Features, Objectives, Advantages, Steps in Target Costing, Difference between Target Costing and Standard Costing, Cost Accountant's Role
- c) Value Chain Analysis (VCA) – Meaning, Porter's Value Chain Model, Basic Concepts of VCA, Conducting VCA
- d) Enterprise Resource Planning (ERP) – Introduction, Meaning, Features, Benefits

[Theory only]

Book Recommended –

- ❖ Basics of Cost Accounting by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost Accounting – Problems and Solutions - V. K. Saxena and C. D. Vashist - Sultan Chand & Sons, New Delhi
 - ❖ Fundamentals of Cost Accounting by S.N. Maheshwari – Sultan Chand & Sons, New Delhi
 - ❖ Principles and Practice of Cost Accounting by N.K. Prasad
 - ❖ Cost Accounting by Jawaharlal – Tata McGraw Hill Publishing company Limited New Delhi
 - ❖ Cost Accounting Principles & Practice by Nigam & Sharma
 - ❖ Cost Accounting Principles & Practice by S.P. Iyenger
 - ❖ Cost Accounting Principles & Practice by P.K. Ghosh
 - ❖ Cost Accounting Principles & Practice by B.S. Khanna
 - ❖ Practical Costing (Self-Tutor) by Gauri Shankar – Himalaya Publishing House, Mumbai
 - ❖ Cost Accounting by Jain & Narang
 - ❖ Practical Costing by Ahuja, Khanna & Pandey
 - ❖ Cost Accounting by B.K. Bhar
 - ❖ Cost & Management Accounting [For CS Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost & Management Accounting [For Stage II of ICWA Inter] by V.K. Saxena and C.D. Vashist – Sultan Chand & Sons, New Delhi
 - ❖ Cost and Management Accounting (Theory Problems and Solutions) by M.N. Arora – Himalaya Publishing House, Mumbai
 - ❖ Cost Accounting by Ravi M. Kishore – Taxmann Allied Services Pvt Ltd
 - ❖ A Text Book (with in-built Compiler) on Cost Accounting by S.K. Aggarwal, Abha Aggarwal – Reliance Publications Ltd, Gurgaon
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Faculty of Commerce and Management

M.Com. II (W.E.F.: June – 2022)

404 C - HUMAN RESOURCE MANAGEMENT

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- Know the legal framework governing the industrial behavior and relationship at the workplace.
- Understand the basic provisions of the Acts relating to Labour, Industrial disputes, Wages and other benefits available to the workers.
- Make the students aware about mechanisms of settlement of industrial disputes.
- Impart the students knowledge of laws, and the law affects the industry and labour.

Course Content –

Unit 1 – Trade Union Act 1926

Lectures: 10

- a) Objects, Definitions, Registration of Trade Union.
- b) Rights and Liabilities of Registered Trade Union.
- c) Trade Union Movement in India
- d) Problems of Trade Union in India
- e) Measures for strengthening Trade Union
- f) Procedure and Penalties
- g) Meaning, Importance and Process of Collective Bargaining.
- h) Conditions of effective Collective Bargaining.

Unit 2 – The Industrial Disputes and Industrial Disputes Act, 1947

Lectures: 10

- a) Concept, Meaning and Causes of Industrial Disputes.
- b) Forms of Industrial disputes, Prevention of Industrial disputes.
- c) Authorities under the Industrial Disputes act.
- d) Powers and duties of Authorities, Strike and Lockout, Lay-off, Retrenchments
- e) Reference of Disputes to boards.

Unit 3 – The Factories Act, 1948

Lectures: 10

- a) Object and Definitions
- b) Provisions regarding safety and health.
- c) Provisions regarding leave and wages.
- d) Provisions regarding working hours of adults
- e) Employment of young persons
- f) The Inspecting Staff

Unit 4 – The Payment of Wages Act, 1936

Lectures: 10

- a) Object and Definitions
- b) Responsibility for the Payment of Wages.
- c) Authorities under the act.
- d) Authorized deduction
- e) Penalties for Offences under the Act.
- f) Claim and Appeal

Unit 5 – The Minimum Wages Act, 1948

Lectures: 10

- a) Aims, Object, Scope, Definitions.
- b) Fixation and Revision of Minimum Rates of Wages
- c) Fixation of Working hours and Determination of wages.
- d) Authorities under the Act.
- e) Offences and Penalties
- f) Obligations of Employers.

Unit 6 A. The Maternity Benefit Act, 1961

- a) Applications and Non Applications of the Act.
- b) Right to Maternity Benefit.
- c) Restrictions on employment.
- d) Forfeiture of Maternity benefit.
- e) Penalty for contravention of Act by Employer.
- f) Highlight of the Maternity benefit (Amendment) Bill 2016 & Bill 2017.
- g) Features of the Act, Advantages and Disadvantages of the Act.

Unit 6 B. The Child Labour (Prohibition and Regulation) Act, 1986

- a) Object, Scope and Definition
- b) Prohibition of child labour
- c) Regulation of conditions of child labour
- d) Obligations of Employers.
- e) Offences and Penalties
- f) Highlight of the Child Labour Act, 1986 Bill- 2016.

Books Recommended –

- ❖ Dynamics of Industrial Relation- Dr. C. B. Mamoria, Dr. S. Mamoria, S. V. Gankar- Himalaya Publishing House.
 - ❖ Labour Laws- B. D. Sing
 - ❖ Industrial Jurisprudence and Labour Legislation- By A. M. Sarm, Himalaya Publication.
 - ❖ Industrial Relations By ArunMonappa.
 - ❖ Labour and Industrial Law in India By S. K. Mishra, Allahabad Law Agency.
 - ❖ Industrial and Labour Law By P. L. Malik
 - ❖ Commentaries on Payment of wages Act, 1998 by K. D. Shrivastava, Eastern Book Co.
 - ❖ Law and Practice on Minimum Wages, 1999 by S. B. Rao.
 - ❖ Labour and Industrial Laws by S. K. Puri.
 - ❖ Labour Laws- Bare Act.
 - ❖ Amendment of the Child Labour (Prohibition and Regulation) Amendment Bill- 2016.
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M.Com. II (W.E.F.: June – 2022)

404 D – MARKETING MANAGEMENT

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand various concepts and theoretical aspect of marketing research
- To know the sources of marketing information and the mechanism of collecting and processing the market information for making intelligent decisions
- To study the ways in which the marketing research can be applied in business
- To overview the Marketing Information
- To understand the Application of Marketing Research
- To describe I.T. Enabled Marketing

Course Content –

Unit 1 – Introduction

Lectures: 08

- a) Marketing Research - Concept- Definition- Scope and obstacles in acceptance
- b) Impact of marketing research on marketing mix
- c) Limitations of marketing research
- d) Ethics in marketing research

Unit 2 – Market Information Lectures

Lectures: 10

- a) Quality and quantity of Market Information – value of information – types of market information.
- b) Various sources of market Information – Methods of collecting Market Information - Secondary datasources, problems of fit and accuracy
- c) Decision tree and Bayesian analysis concept, Shop and retail audits
- d) Readership surveys and viewer ship surveys, Experience surveys, Focus Groups

Unit 3 – Marketing Research Process

Lectures: 10

- a) Research process – problem formulation
- b) Hypothesis statement – characteristics of a good hypothesis, preparing research proposal
- c) Research designs – Types

Unit 4 – Marketing Intelligence

Lectures: 12

- a) Marketing intelligence – Marketing Decision Support System components
- b) Scope and Significance of Marketing Intelligence in decision making
- c) Market potential analysis, methods. Sales analysis – by territory, by product, by customer and by size order
- d) Sales forecasting – objective and subjective methods, Test marketing, Industrial vs consumer marketingresearch

Unit 5 – Application of Marketing Research

Lectures: 12

- a) Applications of Marketing Research: Cluster analysis for identifying market segments, Conjoint analysis for Product research, Multi-dimensional scaling,
- b) Discriminate analysis and perceptual mapping for Brand positioning research
- c) Advertising research

Unit 6 – I.T. Enabled Marketing

Lectures: 08

- a) Web based marketing research - using the internet for collection of data
- b) Advantages and limitations in data collection – reach – analysis – accuracy – time.

Book Recommended –

- ❖ Research for Marketing Decisions – Paul Green, Donald Tull, Gerald Albaurn
 - ❖ Marketing Research – Thomas C. Kinnear
 - ❖ Marketing Research –Aakar, Kumar, Day
 - ❖ Marketing Research – Nargundkar
 - ❖ Marketing Research – Measurement & Methods – Donald S. Tull, Del I. Hawkins
 - ❖ Marketing Research – Beri
 - ❖ Business Research Methods – Cooper
 - ❖ Marketing Research – Burns and Bush- Pearson
 - ❖ Marketing Research – Luck and Rubin – Prentice Hall Publications
 - ❖ Marketing Research – RajendraNargundkar – Tata McGraw Hill
 - ❖ Marketing Research by S.L. Gupta – Excel Books
 - ❖ Marketing Research – Suja Nair – Himalaya
 - ❖ Marketing Research by RamanujMajumdar- New age International
 - ❖ Marketing Research by D.M. Sarawte – Everest
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M.Com. II (W.E.F.: June – 2022)

404 E – SUPPLY CHAIN MANAGEMENT

SEMESTER – IV

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory Exam: 60 Marks)

Learning Objectives –

- To understand the concept and role of Cycle Environment in Supply Chain.
- To know the role of Safety Environment in SCM.
- To determine optimum level of Product Availability.
- To know sourcing decisions in Supply Chain.
- To understand Pricing and Revenue Management in Supply Chain.
- To describe role of Information Technology in SCM

Course Content –

Unit 1 – Role of Cycle Inventory in Supply Chain

Lectures: 10

- a) Introduction
- b) Economies of Scale to Exploit Fixed Costs
- c) Economies of Scale to Exploit Quantity Discounts
- d) Short-Term Discounting: Trade Promotions
- e) Managing Multiechelon Cycle Inventory
- f) Estimating Cycle Inventory-Related Costs in Practice

Unit 2 – Role of Safety Inventory in Supply Chain

Lectures: 10

- a) Introduction
- b) Determining Appropriate Level of Safety Inventory
- c) Impact of Supply Uncertainty on Safety Inventory
- d) Impact of Aggregation on Safety Inventory
- e) Impact of Replenishment Policies on Safety Inventory
- f) Managing Safety Inventory in a Multiechelon Supply Chain
- g) The Role of IT in Inventory Management
- h) Estimating and Managing Safety Inventory in Practice

Unit 3 – Determining the Optimal Level of Product Availability

Lectures: 10

- a) The Importance of the Level of Product Availability
- b) Factors Affecting Optimal Level of Product Availability
- c) Managerial Levers to Improve Supply Chain Profitability
- d) Setting Product Availability for Multiple Products Under Capacity Constraints
- e) Setting Optimal Levels of Product Availability in Practice

Unit 4 – Sourcing Decisions in a Supply Chain

Lectures: 10

- a) The Role of Sourcing in a Supply Chain
- b) In-House or Outsource
- c) Third- and Fourth-Party Logistics Providers
- d) Supplier Scoring and Assessment
- e) Contracts and Supply Chain Performance
- f) Design Collaboration
- g) The Procurement Process
- h) Sourcing Planning and Analysis

- i) The Role of IT in Sourcing
- j) Risk Management in Sourcing

Unit 5 – Pricing and Revenue Management in Supply Chain

Lectures: 10

- a) Introduction
- b) Pricing and Revenue Management for Multiple Customer Segments
- c) Pricing and Revenue Management for Perishable Products
- d) Pricing and Revenue Management for Seasonal Demand
- e) Pricing and Revenue Management for Bulk and Spot Contracts
- f) The Role of IT in Pricing and Revenue Management
- g) Using Pricing and Revenue Management in Practice

Unit 6 – Information Technology in Supply Chain

Lectures: 10

- a) The Role of IT in a Supply Chain
- b) The Supply Chain IT Framework
- c) Internal Supply Chain Management
- d) Supplier Relationship Management
- e) The Transaction Management Foundation
- f) The Future of IT in the Supply Chain
- g) Risk Management in IT and Practice

Book Recommended –

- ❖ Supply Chain Management- K Shridhar Bhatt- Himalaya Publishing House
 - ❖ Supply Chain Mangement- Sunil Chopra, Peter Mendl- Prentice Hall of India
 - ❖ Supply Chain and Logistics Management- Donal Bowersox, David Closs- Tata Macgraw Hill
 - ❖ Exploring the Supply Chain- Upendra Kachru, Excel Books
 - ❖ Supply Chain Management- D K Agrawal, Macmillan Publishers
 - ❖ Logistics Management- V. V Sople, Pearson Education
 - ❖ Supply Chain Management- Concept and Cases, Rahul V Altekar- Prentice Hall of India
 - ❖ Supply Chain Management- Janat Shah, Pearson Education
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॥अंतरी पेटवू ज्ञानज्योत॥



1990
'A' Grade
NAAC Re-Accredited
(3rd Cycle)

SYLLABUS

For

Master of Science (M. Sc.)

[Botany]

M.Sc. Part-Ist (Sem-I & II)

Choice Based Credit System

(Outcome Based Curriculum)

2021 - 2022

Program at a Glance

Name of the program (Degree)	: M. Sc. Botany
Faculty	: Science and Technology
Duration of the Program	: Two years (four semesters)
Medium of Instruction and Examination	: English
Exam Pattern	: 60: 40 (60 marks University exam and 40 marks continuous internal assessment)
Passing standards	: 40% in each exam separately (separate head of passing)
Evaluation mode	: CGPA
Total Credits of the program	: 88 (68 core credits including 4 credits of project/dissertation, 04 skill enhancement credits, 08 subject elective credits and 08 audit credits)

Summary of Distribution of Credits under CBCS Scheme for M.Sc. BOTANY

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	16	20	16	12
02	Skill based	04	--	-	-
03	Elective	-	-	04	04
04	Project	-	-	-	04
05	Audit	02	02	02	02
06	Total Credits	22	22	22	22

Subject Type	Core	Skill based	School Elective	Project	Audit	Total
Credits	64	04	08	04	08	88
Total Credits = 88						

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

M. Sc. Botany

Choice Based Credit System (Outcome Based Curriculum) with effect from 2021 -2022

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	4	8 + 8	16	1	4 + 0	4	1	2	2	22
II	4	12 + 8	20	1	0 + 0	--	1	2	2	22
III	4	8 + 8	16	1	4 + 0	4	1	2	2	22
IV	4	8 + 8	16	1	4 + 0	4	1	2	2	22
Total Credits		68			12			8		88

(T, Theory; P, Practical)

Structure of Curriculum

		First Year				Second Year				Total Credit Value
		Semester I		Semester II		Semester III		Semester IV		
		Credit	Course	Credit	Course	Credit	Course	Credit	Course	
(A)	Prerequisite and Core Courses									
	Theory	4	2	4	3	4	2	4	2	36
	Practical	4	2	4	2	4	2	4	2	28
(B)	Skill Based / Subject Elective Courses									
1	Theory /Practical	4	1	--	--	4	1	4	1	16
(C)	Audit Course (No weightage in CGPA calculations)									
1	Practicing Cleanliness	2	1							2
2	Personality and Cultural Development Related Course			2	1					2
3	Technology Related + Value Added Course					2	1			
4	Professional and Social + Value Added Course							2	1	2
	Total Credit Value	14	6	14	6	14	6	14	6	88

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV (Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201A	Soft Skills	AC-301A	Computer Skills	AC-401A	Human Rights
		AC-201B	Sport Activities	AC-301B	Cyber Security	AC-401B	Current Affairs
		AC-201C	Yoga	AC-301C	Seminar + Review Writing	AC-401C	Banana Fruit Processing
		AC-201D	Music	AC-301D	Biodiversity & Conservation	AC-401D	Intellectual Property Rights (IPR)

Semester-wise Course Structure of M.Sc. Botany

Semester I

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-101	Core	Plant Systematics-I (Algae, Fungi & Bryophytes)	4	--	4	40	--	60	--	4
BOT-102	Core	Taxonomy of Angiosperms	4	--	4	40	--	60	--	4
BOT-103	Core	Practical Based on Bot. 101	--	4+4	8	--	40	--	60	4
BOT-104	Core	Practical Based on Bot. 102	--	4+4	8	--	40	--	60	4
BOT-105	Skill Based	Applied Plant Biotechnology	4	--	4	40	--	60	--	4
AC-101	Audit Course	Practicing Cleanliness	--	2	2	--	100	--	--	2
Total Credit for Semester I: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester II

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-201	Core	Plant Systematics-II (Pteridophytes, Gymnosperm & Palaeobotany)	4	--	4	40	--	60	--	4
BOT-202	Core	Plant Physiology and Biochemistry	4	--	4	40	--	60	--	4
BOT-203	Core	Cytogenetics and Molecular Biology	4	--	4	40	--	60	--	4
BOT-204	Core	Practical based on BOT 201 & BOT 202	--	4+4	8	--	40	--	60	4
BOT-205	Core	Practical based on BOT 203	--	4+4	8	--	40	--	60	4
AC-201 A/B/C/D	Audit Course (Select any one)	AC-201 A: Soft Skills AC-201 B: Sport Activities AC-201 C: Yoga AC-201 D: Music	--	2	2	--	100	--	--	2
Total Credit for Semester II: 22 (T = Theory: 12; P = Practical:8; Skill Based:00; Audit course:2)										

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-301	Core	Plant Development & Reproduction	4	--	4	40	--	60	--	4
BOT-302	Core: Special Paper	BOT-302 A: Phycology Special Paper-I BOT-302 B: Mycology Special Paper-I BOT-302 C: Angiosperm Special Paper-I	4	--	4	40	--	60	--	4
BOT-303	Core	Practical Based on BOT 301	4		4	40	--	60	--	4
BOT-304	Core	Practical Based on BOT 302 (Special Paper)	--	4+4	8	--	40	--	60	4
BOT-305	Elective (Select any one)	BOT 305 A: Biostatistics and Bioinformatics BOT 305 B: Techniques in plant Sciences	4	--	4	40	--	60	--	4
AC-301 A/B/C/D	Audit Course (Select any one)	AC-301 A: Computer Skills AC-301 B: Cyber Security AC-301 C: Seminar and Review Writing AC-301 D: Biodiversity and Conservation		2	2		100	--	--	2
Total Credit for Semester III: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-401	Core: Special Paper	BOT-401 A: Phycology Special Paper-II BOT-401 B: Mycology Special Paper-II BOT-401 C: Angiosperm Special Paper-II	4	--	4	40	--	60	--	4
BOT-402	Core: Special Paper	BOT-402 A: Phycology Special Paper-III BOT-402 B: Mycology Special Paper-III BOT-402 C: Angiosperm Special Paper-III	4	--	4	40	--	60	--	4
BOT-403	Core	Practical based on BOT 401 & BOT 402		4+4	8	--	40	--	60	4
BOT-404	Core	Practical: Project Dissertation	--	4+4	8	--	40	--	60	4
BOT-405	Elective (Select any one)	BOT-405 A: Plant Ecology & Phytogeography BOT-405 B: Industrial Botany	4	--	4	40	--	60	--	4
AC-401 A/B/C/D	Audit Course (Select any one)	AC-401 A: Human Right AC-401 B: Currant Affairs AC-401 C: Banana Fruit Processing AC-401 D: Intellectual Property right (IPR)		2	2		100	--	--	2
Total Credit for Semester IV: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Distribution of Course papers for M. Sc. Part I (Botany)

Subject Code	Title of the Paper		Duration (Hrs./Wk)	Max. Mark	Exam. Time (Hrs.)
M.Sc. Part I					
Semester I : Theory Courses					
BOT-101	Plant Systematics-I (Algae, Fungi & Bryophytes)	Core course	04	100	03
BOT -102	Taxonomy of Angiosperms	Core course	04	100	03
BOT-105	Applied Plant Biotechnology	Skill based	04	100	03
Semester I : Practical Courses					
BOT-103	Practical Based on Bot. 101	Core course	04+04	100	06
BOT-104	Practical Based on Bot. 102	Core course	04+04	100	06
AC-101	Practicing Cleanliness	Audit Course	02	100	
Semester II : Theory Courses					
BOT-201	Plant Systematics-II (Pteridophytes, Gymnosperm & Palaeobotany)	Core course	04	100	03
BOT-202	Plant Physiology and Biochemistry	Core course	04	100	03
BOT-203	Cytogenetics and Molecular Biology	Core course	04	100	03
Semester II : Practical Courses					
BOT-204	Practical based on BOT 201 & BOT 202	Core course	04+04	100	06
BOT-205	Practical based on BOT 203	Core course	04+04	100	06
AC- 201 A/B/C/D (Select any one)	AC- 201 A: Soft Skills AC- 201 B: Sport Activities AC- 201 C: Yoga AC- 201 D: Music	Audit Course	02	100	

M. Sc. I (Botany)			
Equivalence of Papers			
Semester-I			
Code	Title (Old)	Code	Title (New)
BOT 101	Angiosperm Taxonomy	BOT 102	Taxonomy of Angiosperms
BOT 102	Environmental Botany and Biostatistics	BOT-101	Plant Systematics-I
BOT 103	Cytogenetics, and Molecular Biology	BOT-105	Applied Plant Biotechnology
BOT 104	Practical –I (Based on BOT.101)	BOT-103	Practical Based on Bot. 101
BOT 105	Practical –II (Based on BOT.102 and BOT.103)	BOT-104	Practical Based on Bot. 102
Semester-I			
Code	Title (Old)	Code	Title (New)
BOT 201	Diversity of Lower Cryptogams	BOT-203	Cytogenetics and Molecular Biology
BOT 202	Diversity of Higher Cryptogams	BOT-201	Plant Systematics-II
BOT 203	Plant Physiology and Biochemistry	BOT-202	Plant Physiology and Biochemistry
BOT 204	Practical –I (Based on BOT.201)	BOT-205	Practical based on BOT 203
BOT 205	Practical –II (Based on BOT.202 and BOT.203)	BOT-204	Practical based on BOT 201 & BOT 202

M.Sc. Part I Semester I Botany: Core Courses

Core Course	BOT - 101: Plant Systematics-I (Algae, Fungi and Bryophytes)	Lecture 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To study salient features of Algae, Fungi and Bryophytes 2. To know the diversity of Cryptogamic plants in nature. 3. To study the life cycle patterns in cryptogams. <p>Course Outcomes:</p> <ol style="list-style-type: none"> 1. Able to differentiate cryptogamic plants 2. Able to describe life cycle patterns in cryptogams 3. Higher cognitive skills will develop 		
Unit 1	<p>Introduction to Algae</p> <ol style="list-style-type: none"> 1. Introduction: Definition, Occurrence and Habitat General characters, and similarities and differences with Fungi and Bryophyte 2. Reproduction; Life cycle and Alternation of generation 3. Algae in human welfare 	03 L
Unit 2	<p>Classification of algae</p> <ol style="list-style-type: none"> 1. Basis of algal classification and nomenclature; Classification of algae According to F. E. Fritsch (1945) and Parker (1982) up to class and subclass: 2. Comparative account of the algal classes, with respect to pigments, reserve food, cell wall, chloroplast and eyespot, flagella 	03 L
Unit 3	<p>Study of importance classes of algae</p> <p>A. Cyanophyceae</p> <ol style="list-style-type: none"> i) Introduction, Ecology of Blue Green Alga, ii) Thallus organization, Ultra cell structure & Heterocyst, Heterocyst function iii) Reproduction and Economic role <p>B. Chlorophyceae</p> <ol style="list-style-type: none"> i) General characters, Range of thallus structure, Structure of Cell ii) Method of reproduction. <p>C. Phaeophyceae</p> <ol style="list-style-type: none"> i) General characters, Range of thallus structure ii) Method of reproduction <p>D. Rhodophyceae</p> <ol style="list-style-type: none"> i) General characters, Range of thallus structure ii) Method of reproduction <p>E. Introduction and General Characters of following Class</p> <ol style="list-style-type: none"> i. Bacillariophyceae ii. Euglenophyceae 	14L

	iii. Xanthophyceae	
Unit 4	<p>Fungi – Introduction:</p> <ol style="list-style-type: none"> 1. Distinguishing characters, Thallus structure, Hyphal modifications 2. Nutrition 3. Classification of fungi up to classes as per- Ainsworth et al., system (1973). 4. Economic importance- Fungi in biotechnology, fungi as food 	03 L
Unit 5	<p>A) Myxomycota:</p> <ol style="list-style-type: none"> i) Distinguishing characters ii) Structure of thallus and reproductive bodies iii) Life cycle pattern with reference to Pysarum. <p>B) Mastigomycotina:</p> <ol style="list-style-type: none"> i) Distinguishing characters ii) Thallus structure and reproduction (Asexual and sexual) iii) Life cycle pattern with reference to Plasmopara. <p>C) Zygomycotina:</p> <ol style="list-style-type: none"> i) Distinguishing characters ii) Thallus structure, Heterothallism and reproduction iii) Life cycle pattern with reference to Mucor 	09 L
Unit 6	<p>A) Ascomycotina:</p> <ol style="list-style-type: none"> i) Distinguishing characters ii) Thallus structure, structure of asci, Types of ascocarps iii) Life cycle pattern with reference to Eurotium <p>B) Basidiomycotina:</p> <ol style="list-style-type: none"> i) Distinguishing characters ii) Thallus structure, Types and Structure of basidia and basidiocarps iii) Life cycle pattern with reference to Teliomycetes <p>D) Deuteromycotina:</p> <ol style="list-style-type: none"> i) Distinguishing characters ii) Thallus structure, fructifications, Types of conidia 	08 L
Unit 7	<p>Introduction to Bryophytes</p> <p>A) Introduction: - General characteristics, habitat, reproduction, structure of gametophyte & sporophyte</p> <p>B) Classification: - Classification of Bryophytes up to orders by G.M. Smith (1955)</p> <p>C) Economic importance of Bryophytes</p> <p>D) Evolution of gametophytes & sporophytes in Bryophytes</p>	05 L
Unit 8	Distinguishing features, phylogeny & evolutionary tendencies of the following orders with their affinities	15 L

Hepaticae :(Marchantiales, Jungermannias, Metzerials and Calobryales

Anthocerotae: Anthocerotales

Musci: Polytrichales

Suggested readings:

1. Bold, H and Wynne M.J. (1978) Algal structure and reproduction. Prentice Hall of India Pri.Ltd.New Delhi, India.
2. Bony, A.D. (1978) Phytoplankton.Edward Arnold Pub.Ltd. London, U.K.
3. Chapman, V.J. and Chapman D.J. (1979) The Algae. English Language Book Society and Mc.millan,Co, London, U.K.
4. C.van den Hoek; D.G.Mann; H.M.Jahns (1988) Algae An introduction to Phycology. Cambridge University Press, UK.
5. Daws, C. J. (1981) Marine Botany. Wiley Publication Com. New York, USA.
6. F.E.Fritsh (1965) The Structure and reproduction of Algae Vol. I and II. The syndics of the Cambridge University press,London.
7. Gupta J.S (1981) A Text Book of Algae, Oxford & IBH Publishing Co. Mumbai, India.
8. Khan M. (1970) Fundamentals of Phycology Bishan Singh Mahendra Pal Singh, Dehra Dun, India.
9. Lee, R.E. (1989) Phycology. Cambridge University Press, Cambridge, U.K
10. Mahendra Perumal G and N. Anand(2009) Manual of Freshwater Algae of Tamil Nadu, Bishen Singh Mahendr Pal Singh, Dehra Dun, India
11. Morris, I (1967) An Introduction To The Algae, Hutchinson University Press, U.K.
12. Prescott, G.W. (1969). The Algae.Thomas Nelson and Sons Ltd, Nashville, USA
13. Robin G.South and Alan Whittick (1996).Phycology .Blackwell science. Oxford London Edinburg, U.K.
14. Round, F.E. (1973)The Biology of the Algae. Edward Arnold, London, U.K.
15. Sharma, O.P.(1950)A text book of Algae.TataMcGraw Hill, New Delhi, India.
16. Smith, G.M. (1950). Fresh water Algae of United States.McGrawHill Book Company, New York, USA.
17. Sambamurty A.V.S.S. (2005) A Text Book of Algae. I.K.International Mumbai, India.
18. Vashishta B.R. (2010) Botany Part- I Algae S.Chand& Company Ltd.New Delhi, India.
19. Vijayaraghavan M.R. and Sunita kumara (1995) Chlorophyta Structure Ultrastructure & Reproduction, Bishen Singh Mahendr Pal Singh, Dehra Dun, India
20. O. P.Sharma (2011) Algae. Tata Mc Graw Hill Education Private Limited, New Delhi.
21. Vashishta B.R. (2010) Botany Pa rt- I Algae S.Chand& Company Ltd.New Delhi, India.
22. Ainsworth, Sussman and Sparrow (1973) The fungi. Vol IV A & IV B. Academic Press. London, U.K. 21.
23. Alexopolous C.J., Minms C.W. and Blackwell M. (1999) (4th edn) Introductory Mycology. Willey, New York, USA.
24. Deacon J.W. (2006) Fungal Biology (4th Ed.) Blackwell Publishing, Oxford, U.K.

25. Dube H.C. (2004) *An Introduction To Fungi*. Vikas Publishers, New Delhi, India.
26. Kendrick B. (1994) *The Fifth Kingdom* (paperback), North America, New York Publisher:
27. Kirk et al. (2001) *Dictionary of fungi*, 9th edn, Wallingford: CABI.
28. Mehrotra R.S. and Aneja K.R. (1990) *An Introduction To Mycology*. New Age Publishers, New Delhi, India
29. Miguel U., Richard H., and Samuel A. (2000) *Illustrated Dictionary of the Mycology*. Elvira Aguirre Acosta, Publisher: St. Paul, Minn: APS press.
30. Sharma O.P. (2010) *A Text Book of Fungi*. S.Chand's Publication, New Delhi, India
31. Sharma, P.D. (1998) *The Fungi*. Rastogi Publications, Merrut, India.
32. Vashista, B.R. and Sinha A.K. (2008) *Botany for Degree Students –Fungi*. S.Chand and company Ltd., New Delhi, India.
33. Webster J. and Rpland W. (2007) *Introduction To Fungi* (3rd Edn) Cambridge University, Press, U.K.
34. Cavers F. (1976) *Interrelationships of Bryophytes* S.R. Technic, Ashok Rajpath, Patana.
35. Chopra R.N. & Kumar P.K. (1988) *Biology of Bryophytes* John Wiley & Sons, New York
36. Kashyap S.R. (1929) *Liverworts of the Western Himalayas and the Punjab Plains Part 1*, *Chronica Botanica*, New Delhi.
37. Kashyap S.R. (1932) *Liverworts of the Western Himalayas and the Punjab Plains (Illustrated) Part 2*, *Chronica Botanica*, New Delhi.
38. Pandey B.P. (2014) *College Botany: 1* S. Chand Publications 20th Edition.
39. Parihar N.S. (1980). *Bryophytes : An Introduction to Embryophyta Vol-I*, Central Book Depot, Allahabad.
40. Prem Puri (1981) *Bryophytes: Morphology, Growth and Differentiation*. Atma Ram and Sons , New Delhi
41. Rashid A. (1996) *An Introduction to Bryophytes* Vikas Publication House Pvt. Ltd. New Delhi
42. Sambamurty A.V.S.S. (2020) *A textbook of Bryophytes, pteridophyes gymnosperms & paleobotany*, Dreamtech Press.
43. Smith G.M. (2019) *Cryptogamic Botany, Bryophytes & Pteridophytes Vol-II* 2nd Edition, Surjeet Publications
44. Udar R. (1975) *Bryology in India*. *Chronica Botanica*, New Delhi
45. Udar R. (1970) *Introduction to Bryophytes*, Shashidhar Malaviya Prakashan, Lucknow
46. Watson E.V. (1971) *Structure and life of Bryophytes* 3rd Edn. Hutchinson University Library London.
47. Vashishta B.R., Sinha A.K., Kumar A. (2008) *Botany for degree students Bryophyta*, S.Chands Publication

Core Course	BOT-102 Taxonomy of Angiosperms	Lecture 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To study aims, principles and methods in taxonomy. 2. To study taxonomic structure of Angiosperms. 3. To study Cronquist system of classification. 4. To study recent APG system of classification and evolutionary trends. 5. To study morphological peculiarities and biological importance of plants <p>Course outcomes:</p> <ol style="list-style-type: none"> 1. Student provide with importance of classification in Angiosperms. 2. They will get the knowledge of recent system of classification in Angiosperms. 3. This course helps to make them aware of wild plants their habit and habitat from field tour. 4. Student will know biological adaption and evolutionary trends of angiosperm. 		
Unit 1	<p>Taxonomy.</p> <ol style="list-style-type: none"> 1. Aim, principles and methods in taxonomy. 2. Basic Concepts of Biosystematics and Taxonomy, Trends in biosystematics- Chemotaxonomy, Cytotaxonomy. 3. Taxonomic Tools – Floras, monographs, Herbaria, Botanical survey of India (Regional & zonal centre, activity) 	12
Unit 2	<p>System of classification.</p> <ol style="list-style-type: none"> 1. Review of Pre- Darwinian and Post Darwinian classification 2. Cronquist system of classification: Introduction, principles, Outline, Merits and demerits. 	12
Unit 3	<p>Angiosperm phylogeny group.</p> <ol style="list-style-type: none"> 1. Principles of APG – I (1998), APG- II (2003), APG- III (2009) and APG- IV (2016) system of classification. 2. APG-III (2003) system of classification: Introduction, APG III vs Bentham and Hookers classification, Outline classification. 	12
Unit 4	<p>Families of Angiosperm.</p> <p>With respect to characteristic features, interrelationships, classification (APG) and economic importance of families: ANITA grade: Nymphaeaceae, MAGNOLIIDS: Magnoliaceae, MONOCOTS: Araceae, COMMELINOIDS: Arecaceae, EUDICOTS: Papaveraceae, CORE EUDICOTS: Amaranthaceae, EUROSIDS-I: Malpighiaceae, EUROSID- II: Malvaceae, ASTERIDS: Sapotaceae, EUASTERIDS-I: Gentianaceae EUASTERID-II: Apiaceae, Asteraceae.</p>	12
Unit 5	<p>a) Biological importance and morphological peculiarities of the families. Nepenthaceae, Orobanchaceae, Balanophoraceae, Rafflesiaceae, Podostemnaceae, Orchidaceae</p> <p>b) Study of evolutionary trends in taxonomy</p> <ol style="list-style-type: none"> i) Evolution of Inflorescence ii) Evolution of floral nectaries iii) Evolution of Androecium iv) Evolution of Gynoecium 	12
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. Agashe SN (1995) Paleobotany, Oxford and IBH Publ. Co. Pvt. Ltd, New Delhi. 2. Briggs David 2009. <i>Plant microevolution and Conservation in Human-influenced Ecosystems.</i> Cambridge University Press. 3. Cook T (1903). The Flora of Presidency of Bombay, Vol. I (Indian Reprint) Bishen Singh, Mahendra Pal Singh, Dehradun 4. Cronquist, A. 1981. <i>An Integrated System of Classification of Flowering Plants</i> Columbia University Press, New York. 		

5. **Cronquist, A. 1988.***The Evolution and Classification of Flowering Plants* (2nded.) Allen Press, U.S.A.
6. **Davis, P. H. and V. H. Heywood 1991.***Principles of Angiosperm Taxonomy.*Today and Tomorrow Publications, New Delhi.
7. **Eames A J (1961).** Morphology of Angiosperms, McGraw Hill Book Co.
8. **Erdtman G (1966).** Pollen Morphology and Plant Taxonomy of Angiosperms (An introduction to Palynology I), Hafner Pub. Co. London.
9. **Hickey M and King C (2000).** The Cambridge Illustrated Glossary of Botanical Terms. Cambridge University Press, UK.
10. **Jain S. K. and Rao R. R.** Handbook of Field and Herbarium Methods, Today and Tomorrow Publishers, New Delhi.
11. **Jones S B and Luchinger A E (1986).** Plant Systematics 2nd edn, McGraw Hill Book Co.
12. **Judd et al. (2007)** Plant Systematics – A phylogenetic approach. Sinauer Pub. 3rd edition
13. **Judd W. S., Campbell, C. S., Kellogg, E. A., Stevens P. F. and M. J. Donoghue 2008.***Plant Systematics: A phylogenetic Approach.*Sunderland, Massachusetts, USA.
14. **Kubitzki K (1977).** Flowering Plants Evolution and Classification of Higher Categories. Plant Systematics – Evolution Supplement I.
15. **Kuijt J. (1969).** The biology of parasitic flowering plants. California University Press.
16. **Lawrence George H. M. 195.1** *Taxonomy of Vascular Plants.*Oxford and IBH Publ. Co. Pvt. Ltd. New Delhi.
17. **Leadlay E. and S. Jury (ed.) 2006.***Taxonomy and Plant conservation.*Cambridge University Press.
18. **Manilal, K. S. and M. S. Muktesh Kumar [ed.] 1998.***A Handbook of Taxonomic Training.* DST, New Delhi.
19. **Naik, V. N. 1984.***Taxonomy of Angiosperms.* Tata McGraw-Hill Publication Com. Ltd. New Delhi
20. **Quicke, Donald, L. J. 1993.***Principles and Techniques of Contemporary Taxonomy.* Blakie Academic & Professional, London
21. **Radford A E (1986).** Fundamentals of Plant Systematics, Harper and Row N Y.
22. **Simpson M.** Plant Systematics, Academic Press, 2nd edition.
23. **Singh G (2004).** Plant Systematics, 2nd edn, Oxford and IBH, New Delhi.
24. **Sivrajan V V (1984).** Introduction to Principles of Plant Taxonomy, Oxford and IBH, New Delhi.
25. **Smith P M (1976).** The Chemotaxonomy of Plants, Edward Arnold Pub. Ltd.
26. **Sporne K R (1974).** Morphology of Angiosperms, Hutchinson University Library, London.
27. **Stace C A (1989).** Plant Taxonomy and Biosystematics.
28. **Stewart W N and Rothwell G W (2005).** Paleobotany and the Evolution of Plants, 2nd edn, Cambridge University Press.
29. **Subrahmanyam K.** Aquatic angiosperms. BSI. India
30. **Takhtajan, A. 1962.***Flowering plants- Origin and Dispersal.*
31. **Taylor, D. V. and L. J. Hickey 1997.** *Flowering Plants: Origin, Evolution and Phylogeny.*CBS Publishers & Distributers, New Delhi.

BOT 103
Practical-I (Core Course)
(Based on BOT 101)

Algae: (08 Practicals)

Practical -1 Cyanophyta: Any two members from Each Order

Practical- 2-4 Chlorophyta: Any two members from Each Order

Practical -5 Charophyceae: *Chara, Nitella*

Practical – 6 Phaeophyta: Any five members from All Orders

Practical – 7 Rhodophyta: Any five members from All Orders

Practical – 8 Class: i. Xanthophyceae – *Vaucheria, Botrydium*

ii. Bacillariophyceae- Any Five members

iii. Euglenophyceae- Any two members

Fungi: (08 Practicals)

Representative genera belonging to following divisions and subdivisions of fungi with respect to vegetative, reproductive structures and classification with reasons according to Ainsworth et al. (1973).

Practical – 9 Myxomycota -Any four forms

Practical – 10 Mastigomycotina - Any four forms

Practical – 11 Zygomycotina - Any three forms

Practical – 12-13 Ascomycotina - Any eight forms

Practical – 14-15 Basidiomycotina- Any eight forms

Practical – 16 Deuteromycotina - Any four form

Bryophytes: (08 Practicals)

Morphological, Anatomical and Reproductive studies of the following:

Practical – 17-18 Marchantiales: *Plagiochasma, Targionia, Asterella, Dumortiera*

Practical – 19-21 Jungermanniales: *Pellia, Fossombronia, Pallavicinia, Porella, Frullania*

Practical – 22 Anthocerotales : *Anthoceros, Notothylus*

Practical – 23-24 Musci : *Polytrichum, Pogonatum*

Note:

1. Excursion tour is compulsory to observe algae, fungi and bryophytes in nature.
2. Tour report along with photographs must be submitted at the time of practical examination.
3. Duly certified journals are compulsory at the time of practical examination.

BOT 104. Practical II (Core Course) (Based on BOT.102 Taxonomy of Angiosperms)	
Practical. 1-14.	Study of families (Sensu: Bentham & Hooker System) w.r.t. morphological characters, floral formula, floral diagram and classification with reasons- Ranunculaceae, Menispermaceae, Papaveraceae, Capparidaceae, Portulaceae, Sterculiaceae, Tiliaceae, Malpighiaceae, Zygophyllaceae, Meliaceae, Rhamneae, Moringeae, Papilionaceae, Myrtaceae, Cucurbitaceae, Umbelliferae, Rubiaceae, Plumbagineae, Apocynaceae, Boraginaceae, Convulvulaceae, Scrophulariaceae, Bignoniaceae, Acanthaceae, Verbenaceae, Labiatae, Nyctagineae, Chenopodiaceae, Polygonaceae, Scitaminae, Amaryllideae, Liliaceae, Commelinaceae, Typhaceae, Cyperaceae, Graminae (Any 20 families from different series)
Practical. 15-18.	Identification of genus and species from locally available wild plants using regional and state floras (At least 20 plant species from locally available families).
Practical. 19-20.	Preparation of artificial bracketed/indented dichotomous keys based on vegetative & reproductive characters from different families, genera and species. (Specimens from different family, same family, different genera of same family, Species from same genera.)
Practical. 21-23.	Study of morphological and biological peculiarities of the specimens from following families. Nepenthaceae, Balanophoraceae, Podostemnaceae, Orobanchaceae, Refflesiaceae, Orchidaceae.
Practical. 24.	Visit to campus & surrounding area, submission of excursion report and photographs (Any 20 wild plants)
Note: i) Excursion tour compulsory (different locality & geographical area) ii) Duly certified journals are compulsory at time of practical examination.	

M.Sc. Part I Semester I Botany: Skill Based Course

Skill Based Course	BOT 105 Applied Plant Biotechnology	Lecture 60
Course Objectives:		
<ol style="list-style-type: none"> 1. To the fundamentals of totipotency, plant tissue culture techniques. 2. To study transgenic technology for the improvement of quality and quantity of Plant and there by product. 3. To understand the advantages of in vitro propagation in various areas. 4. To understand the application and importance of plant tissue culture and transgenic plant in the field of botany 		
Unit 1	BIOTECHNOLOGY: Basic concept and brief introduction of biotechnology, History, Scope and Importance, Commercial application of biotechnology.	04 L
Unit 2	INTRODUCTION TO TISSUE CULTURE: Principle of plant tissue culture, Tissue culture laboratory, Equipment's in Tissue culture laboratory, Preparation of Media, Media composition, Cellular totipotency Plant Growth Regulators and their Role, Different type of media, Different types of explants of, Sterilization, Different methods of sterilization -Heat, Radiation and chemical	06 L
Unit 3	CELL AND ORGAN CULTURE: Plant organ culture; shoot tip, shoot apical meristem, root, leaf, embryo culture, factors influencing embryogenesis, suspension culture in stationary and stirred tank reactors, isolation of single cells and their culture, measurement of growth.	10 L
Unit 4	PRACTICAL APPROACHES OF SINGLE CELL CULTURE: Somatic embryogenesis, protoplast isolation, regeneration of protoplasts and protoplasts fusion, Synthetic seeds, generation of cybrid and hybrids, cryopreservation of plant cells.	10 L
Unit 5	RECOMBINANT DNA TECHNOLOGY: Gene cloning, Vectors, Role of Agrobacterium, Gene cloning techniques - Gene gun, Electroporation, Microinjection, Liposome mediated gene transfer, Ultra sonication and Pollen Mediated gene transfer	08 L
Unit 6	TRANSGENIC PLANTS: Transgenic crops in India, Resistance against Abiotic and biotic stress, Improved crops productivity, Nutraceutical improved crops, transgenic plants for edible vaccine and antibodies.	08 L
Unit 7	APPLICATIONS OF PLANT TISSUE CULTURE: Applications in agriculture and Horticulture, Application in Forestry, Application of Tissue culture in pharmaceutical industry. In situ and ex-situ conservation. In vitro	12 L

Suggested readings:

1. Henry, R.J. Practical application of plant molecular Biology, Champman and Hall
2. Kalyan kumar De. Introduction to Plant Tissue culture,
3. Bhojwani, Plant Tissue Culture.
4. Montell S.H. Mathews, J.A., Meker, R.A. Principles of Plant Biotechnology.
5. Glover, D.M. and Hanes, B.D. (eds.) 1995. DNA cloning 1: A practical approach, core techniques, 2nd edition, PAS, IRL press at Oxford University Press.
6. Plant cell culture protocols. Humana Press, Inc. New Jersey, USA.
7. Shaw, C.H. (ed.) 1998, Plant Molecular Biology. A practical approach IRI Press, Oxford.
8. Smith, R.H. 2000. Plant Tissue culture: Techniques and Experiments. Academic Press, New York.
9. Susan R. Barnum (1998). Biotechnology: an introduction. Thomson Brooks/cole.
10. George Acquaah (2005). Understanding biotechnology. Pearson.
11. Biotechnology; P.K. Gupta
12. B. D. Singh (2006) Plant Biotechnology, Kalyani Publishers

M.Sc. Part I Semester I Botany: Audit Course

AC-101: Practicing Cleanliness

(Compulsory; Campus-level Audit Course; Practical; 2 Credits)

Course Objectives (COs):

- To make students aware of Clean India Mission and inculcate cleanliness practices among them.

	<ul style="list-style-type: none">Awareness program on<ul style="list-style-type: none">Swachh Bharat Abhiyan (Clean India Mission)Clean Campus MissionRole of youth in Clean India MissionCleaning activities inside and surroundings of Department buildings.Tree plantation and further care of planted treesWaste (Liquid/Solid/e-waste) Management, Japanese 5-S practicesPlanning and execution of collection of Garbage from different sections of University campusRole of youth in power saving, pollution control, control of global warming, preservation of ground water and many more issues of national importance.Cleanest School/Department and Cleanest Hostel contestsPainting and Essay writing competitions	
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Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC101.1	Identify need at of cleanliness at home/office and other public places.	2
AC101.2	Plan and observe cleanliness programs at home and other places.	4
AC101.3	Practice Japanese 5-S practices in regular life.	3

M.Sc. Part I Semester II (Botany): Core Courses

Core Course	Bot. 201 Plant Systematics- II (Pteridophytes, Gymnosperms and Palaeobotany)	Lecture 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> To know the Classification, economic importance of Pteridophytes & Gymnosperms. To Know the distribution of Pteridophytes & Gymnosperms in India. To understand the biodiversity of Pteridophytes and Gymnosperms. Scope, importance, applied aspect of Palaeobotany & methods to study various fossils. To study the important fossils in different group of plants and Indian fossil record. <p>Course Learning Outcomes:</p> <ol style="list-style-type: none"> Examine the distribution, morphology, anatomy & reproduction mentioned in the syllabus Students will know about economic importance of Pteridophytes & Gymnosperms Understand the significance of Palaeobotany Familiarize the basic skills to identify Cryptogams & Gymnosperms 		
Unit 1	<p>A) Introduction of Pteridophytes</p> <p>General characteristics, Habitat, Reproduction (Vegetative & Asexual), Sporophyte, Gametophyte (Sexual reproductive phase), Fertilization & Zygote formation, Embryo development, Life cycles (Homosporous & Heterosporous), Apogamy & Apospory</p> <p>B) Classification of Pteridophytes</p> <p>Classification of Pteridophytes up to orders proposed by Reimers (1954)</p> <p>C) Economic Importance</p> <p>D) Soral Evolution</p>	05 L
Unit 2	<p>Distinguishing features, morphology, anatomy, reproduction, phylogeny, evolutionary tendencies and affinities of following orders:</p> <ol style="list-style-type: none"> Lycopodiales Isoeatales Ophioglossales Osmundales Filicales (at least 2 families) 	15 L
Unit 3	<p>Gymnosperms</p> <ol style="list-style-type: none"> Introduction, General Characters, Distinguishing features of Gymnosperms. Outline system of classification of Gymnosperms by Sporne (1965) Economic importance 	05 L
Unit 4	<p>General characters, morphology, anatomy, sporogenesis, gametogenesis, embryology, affinities, evolutionary trends and phylogeny of following orders</p> <ol style="list-style-type: none"> Ginkgoles Coniferales Gnetales (Except <i>Gnetum</i>) 	15 L

Unit 5	Palaeobotany A) Introduction, Scope and importance B) Applied aspect of Paleobotany C) Techniques for fossil study, Ground thin section, Peel method, Maceration, Indian fossil flora from Upper and Lower Gondwana	05 L
Unit 6	Study of distinctive fossil genera along with their external, internal features of following orders i) Psilophytales: <i>Rhynia</i> , ii) Lepidodendrales: <i>Lepidodendron</i> (complete reconstruction), iii) Calamitales : <i>Calamites, Annularia, Calamostachys, Paleostachya</i> iv) Sphenophyllales: <i>Sphenophyllum</i> , v) Hydropteridinae: <i>Rodeites dakshinii</i> vi) Pteridospermales: <i>Lyginopteris oldhamia</i> (Stem) , <i>Neuropteris</i> , vii) <i>Glossopteris, Vertebraria, Scutum</i> viii) Bennettitales: <i>Williamsonia sewardiana, W. spectabilis</i> ix) Pentoxylales: <i>Pentoxylon sahnii</i> (reconstruction) x) Cordaitales: <i>Cordaites</i> (Stem) xi) Fossil Angiosperms: Monocot: <i>Palmoxylon, Cyclanthodendron, Tricocites</i> Dicot: <i>Sahnipushpam, Sahnianthus, Enigmocarpon</i>	15 L

Suggested Readings:

1. Andrews, H.N. (1961) Studies in Palaeobotany, New York, London
2. Arnold, C.A. (1947) An Introduction to Palaeobotany McGraw Hill Co., New York, USA.
3. Banks, H.P. (1970) Evolution and plants of the PasT. McMillan Press Ltd. London, U.K.
4. Bierhorst, D.W. (1971) Morphology of vascular plants Mcmillan Co. New York
5. Bhatnagar, S. P. and Alok Moitra (1996) Gymnosperms, New Age International (P) Limited, Publishers, New Delhi.
6. Chamberlain, C.J. (1935) Gymnosperms: Structure And Evolution. Dover publ. INC., New York, USA.
7. Eames, A.J. (1974) Morphology of vascular plants Mc. Grow Hill Publication Co. New Delhi
8. Foster, A.S. & Gifford E.M. (1959) Comparative morphology of vascular plants San Francisco
9. Ganguli, H.C. and Kar A. K. (2001) College Botany Vol. II Book and allied Press. Ltd.

Calcutta, India.

10. Ganguly & Kar (2011) College Botany Vol-II New Central Book Agency Pvt. Ltd. 4th edition
11. John Waltan (1953) Introduction to Study of fossil Plants. Adam and Charles Black, London, UK.
12. Maheshwari, P and R.R. Konar (1971) Pinus CSIR New Delhi, India.
13. Pande B. P. (1994) Gymnosperms S. Hand and Co. New Delhi, India.
14. Pandey B.P. (2010) College Botany Vol-2: v.II S.Chand & company, 2nd edition
15. Parihar N.S. (1977) Biology & Morphology of Pteridophytes Central book Depot. Allahabad
16. Parihar N.S. (2019) An Introduction to Embryophyta, Pteridophytes, Surjeet publication 5th edition
17. Pant D. D. (1973) Cycas and the Cycadales Central Book Depot, Allahabad, India.
18. Rashid A. (1999) An Introduction to Pteridophyta, South Asia Books, II edition
19. Saxena and Sarabhai, R. M. (1972) Text Book of Botany, Vol. II,
20. Sharma O.P. (2017) Pteridophyta Mc. Grow Hill Education
21. Seward, A.C. (1969) Fossil Plants Vol.I to IV, Hafner Publ. Co. New York, USA.
22. Shukla, A. C. and S.P. Misra (1982) Essentials of Palaeobotany Vikas Publishing House Pvt. Ltd. Delhi, India.
23. Siddiqui, K.A. (2002) Elements of Paleobotany Kitab Mahal, Allahabad
24. Sporne K.R. (1966) Morphology of Pteridophyta Hutchinson Univ. Library London
25. Sporne K.R. (1967) Morphology of Gymnosperms Hutchinson Univ. Library, London, UK.
26. Surange K.R. (1966) Indian Fossil Pteridophytes CSIR, New Delhi, India.
27. Vasishta, P. C. (1983) Botany for Degree Students Vol V Gymnosperms S.Chand & Co. New Delhi, India.
28. Vashishta P.C., Sinha A.K., Anil Kumar (2010) Pteridophyta, S Chand and Company
29. Wilson N. Stewart and Gar W. Rothwell (1993) Palaeobotany and Evolution of Plants- II. Cambridge Univ. Press. Cambridge.

Core course	BOT 202 Plant Physiology and Biochemistry	Lecture 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> To understand plant-water relationships To understand the plant structures with respect to physiological functions of plants To understand physiology of photosynthesis and respiration in plants To understand lipid metabolism in plants To understand basic concepts in Biochemistry To understand the primary and secondary metabolites and their importance in the plants <p>Outcome of the course-</p> <ol style="list-style-type: none"> The students are aware about the knowledge of the process such as diffusion, osmosis and Imbibition that occurs in the plant cells Students will get the knowledge of the important process like Photosynthesis and respiration in plants. The students will able to know the stepwise reactions occur in plant process like photosynthesis, respiration and fatty acid synthesis as well as catabolic activities. Students will aware about the basic concepts of biochemistry. Students will get the structure, composition of primary and secondary metabolites 		
Unit 1	<p>Plant-Water relationships</p> <ol style="list-style-type: none"> 1.1: Properties of water. 1.2. Permeability, water potential, 1.3. Concept of apoplastic and symplastic movement 1.4. Brief account of different types of physical and physiological processes: Diffusion, Osmosis and Imbibition in plant cells. 1.5: OP, TP and WP, Types of Solutions 	15 L
Unit 2	<p>Photosynthesis and Respiration</p> <p>A) Photosynthesis-</p> <ol style="list-style-type: none"> 2.1 A brief outline of Photosynthetic pigments and the pigment organization in thylakoid membrane 2.2 Light and Dark Reaction 2.3 Regulation of PCR Cycle and C4 Pathway, RUBISCO and PEP Case, C3 – C4 intermediates. <p>B) Respiration-</p> <ol style="list-style-type: none"> 2.4 Brief account of Respiration in plants 2.5 Glycolysis and its regulation in plants 2.6 Regulation of Pentose Phosphate Pathway and TCA Cycle 2.7 Regulation of electron transport chain and role of alternate oxidase. 	20 L
Unit 3	<p>Fat Metabolism</p> <ol style="list-style-type: none"> 3.1 Introduction, Synthesis of fatty acids and glycerol, Condensation of fatty acids and glycerol 3.2 Glyoxylate cycle (C2 cycle) 	10 L

Unit 4	pH and Buffer 4.1. Hydrogen ion concentration 4.2. Buffer and its types. Importance of buffers 4.3 Brief account of Primary metabolites.	08 L
Unit 5	Secondary metabolites 5.1. Secondary metabolites –Shikimate Pathway and its role in biosynthesis of Secondary Metabolites. 5.2 Phosphorus Nutrition – Forms of phosphorus in soil. Phosphorus uptake, factors controlling ‘P’ uptake, ‘P’ fractions in plants. Role of Pyrophosphate in plant metabolism.	12 L

Suggested readings

1. Amarsingh (1977) Practical Plant Physiology. Kalyani Publishers, New Dehli, India.
2. Anand, B. K. & S. K. Manchanda (1976) Text Book of Physiology. Tata McGraw Hill Publications Co. Ltd, Dehli, India.
3. Arditt, J. (1969) Experimentl Plant Physiology, Holt Rinehrt & Winst on Inc, NewYork.
4. Bidwell, R. G. (1979) Plant Physiology. McMillan Publishing Co. Inc. NewYork 26
5. Bonner, J. and J. E. Varner (Eds.) (1976) Plant Biochemistry 3rd Eds. Academic PressLondon, UK.
6. Buchanan B. B., Gruissem W. and Jones R. L. (2000), Biochemistry and Molecular Biology of Plants, American Society of Plant Physiologists, Maryland, USA
7. Con, E. F. and P. F. Stumpf (1976) Outlines of Biochemistry Wiley Eastern Ltd., New Dehli, India.
8. De. Robertis, E. D. P. and De Robertis, E. M. T. (1987) Cell and Molecular Biology. VIII Eds. Lea & Febiger International Edition Info -Med. Hongkong.
9. Deb, A. C. (2004) Viva & Practical Biochemistry. New Central Book Agency, Kolkata, India.
10. Delvin, R. M. and F. H Whittam (1986) Plant Physiology IV eds. CBS Publishers & Distributors, New Delhi, India.
11. Grewal, R. C. (2000) Plant Physiology. Campus Books International, Darya Ganj, New Delhi, India.
12. Hess, D. (1975) Plant Physiology. Narosa Publishing House, New Delhi, India.
13. Hill, R. & C. P. Whittingham (1957) Photosynthesis. London, UK.
14. Hopkins, W. G. (1995) Introduction to Plant Physiology. John Wiley & Sons, New

Jersey, USA.

15. Jain J. L., Sunjay Jain and Nitin Jain (2008), Fundamentals of Biochemistry, S. Chand & Co Ltd.
16. [Keith Wilson](#), [John M Walker](#) and [Andreas Hofmann](#); [Samuel Clokie](#) (2018) Wilson and Walker's principles and techniques of biochemistry and molecular biology Cambridge, United Kingdom ; New York, NY : Cambridge University Press
17. Lehninger, A. L (1984) Principles of Biochemistry CBS Publishing & Distributors, New Delhi, India.
18. Mehta, S. L. Lodha, M. L. and P.V. Sane (Eds.) (1989) Recent advances in PlantBiochemistry. Pub. ICAR, New Delhi, India.
19. Mukherji, S. and A. K. Ghosh (2005) Plant Physiology. New Central Book Agency Kolkata, India.
20. Nobel, P. S. (1999) Physio-chemical and Environmental Plant Physiology (II Eds.) Academic Press, Sandiago, USA.
21. Noggle, G. R. & G. J. Frtiz (1982) Introductory Plant Physiology. Prentice Hall of India New Delhi, India.
22. Taiz, L., Zeiger, P. E. E., Mller, P. E. I. M., & Murphy, P. A. C. A. (2018). Fundamentals of plant physiology. Sinauer Associates.

Core Course	BOT 203 Cytogenetics and Molecular Biology	Lecture 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To study structural organization and variation in the chromosome as well as karyotype analysis. 2. To study extra-chromosomal inheritance in the plant system. 3. To study molecular biology about genetic material, its inheritance, modification, replication, and repair. 4. To study transcription, translation post-translation modification of a protein. 5. To study gene regulation in prokaryotes and eukaryotes 		
Unit 1	<p>Membrane Structure and Function</p> <p>Structure of model membrane, lipid bilayer and membrane protein diffusion, osmosis, ion channels, active transport, membrane pumps, mechanism of sorting and regulation of intracellular transport, electrical properties of membranes).</p>	03 L
Unit 2	<p>Structural Organization and Function of Organelles</p> <p>Nucleus, mitochondria, Golgi bodies, lysosomes, endoplasmic reticulum, peroxisomes, plastids, vacuoles, chloroplast, structure & function of the cytoskeleton and its role in motility.</p>	05 L
Unit 3	<p>Chromosomes and its Aberration</p> <p>Types of chromosomes based on centromere, Special types of chromosomes (Polytene Chromosome, Lampbrush chromosome, and B-chromosomes) Organization of chromatin and histones and nonhistone proteins, nucleosomal organization of chromatin, higher levels of chromatin organization in chromosomes. Heterochromatin and Euchromatin, Molecular structure of the Centromere and Telomere.</p> <p>Structure change in a chromosome - (Deletion, Duplication, Inversion, and Translocation), Numerical change in the chromosome (Euploidy, Aneuploidy and its types).</p>	11 L
Unit 4	<p>Cell Cycle, Cell Signalling and Cytoplasmic Inheritance</p> <p>Cell cycle, steps in cell cycle, regulation, and control of cell cycle. Cell division Mitosis and meiosis. Apoptosis – a process of programmed cell death, extrinsic and intrinsic pathways of apoptosis</p> <p>Cell communication - general principles. Signaling molecules and their receptors, external and internal signals that modify metabolism, growth, and development of plants.</p> <p>Cytoplasmic inheritance: - Cytoplasmic inheritance involving plastid inheritance and mitochondrial inheritance with suitable examples (Mirabilis jalapa, Zea mays).</p>	11 L
Unit 5	<p>Introduction to Molecular biology</p> <p>Definition, milestones of molecular biology, scope and importance molecular biology</p>	02 L
Unit 6	<p>DNA and its Replication</p> <p>Physical and chemical properties of nucleic acids, discovery, and types of nucleic</p>	07 L

	acids, various types of DNA. DNA replication, repair, and recombination (Unit of replication, enzymes involved, replication origin and replication fork, extrachromosomal replicons, DNA damage and repair mechanisms, homologous and site-specific recombination).	
Unit 7	Transcription RNA synthesis and processing(transcription factors and machinery, formation of initiation complex, transcription activator and repressor, RNA polymerases, capping, elongation, and termination, RNA processing, RNA editing, splicing, RNA transport, and polyadenylation, structure, and function of different types of RNA).	08 L
Unit 8	Translation Protein synthesis and processing (Ribosome, formation of initiation complex, initiation factors and their regulation, elongation and elongation factors, termination, aminoacylation of t-RNA, t-RNA-identity, aminoacyl t-RNA Synthetase, and translational proof-reading, translational inhibitors, Post-translational modification of proteins) Definition and Properties of Genetic Code	08
Unit 9	Gene Regulation Gene regulation in Prokaryotes (Operon concept, LAC Operon TRP Operon), Eukaryotic transcriptional regulation (promoter enhancer and silencer, Gene battery), and post-transcriptional regulation.	05 L

Suggested readings:

1. Benjamin Lewin (2009) Genes– VI, VII, VIII and IX; Oxford, Univ. Press, USA.
2. Chaudhari, B.D. (2000) Elementary Principles of plant Breeding (2nd Edt.) Oxford & IBH pub. New Delhi, India.
3. De Robertis and De Robertis (2005) Cell and Molecular Biology, 8thEd, LippincottWilliamandWilkins U.S.A.4. Eldon john Gardner,Michel J. Simmons and D. Peter Snustad(1991) Princiles ofgenetics 8thEd . Wiley India edition, New Delhi, India.
4. David E Sadava (2009). Cell biology: Organelle structure and function. CBS.
5. Gupta, P. K. (2007) Genetics: Classical to Modern. Rastogi Publications, Meerut,India.
6. 4 Gerald Karp (2008). *Cell and Molecular biology: Concepts and experiments* (V Edn). John Wiley & Sons
7. Hartl D L and Jones E W (1998) Genetics Principles and Analysis; (4thed.). Jonesand Barflett Publishers, USA.
8. Harvey Lodish, Arnold Berk, Lawrence Zipursky, Paul Matsudaira, David Baltimore, James Darnell (2000). *Molecular cell biology* (IV Edn). W H Freeman & Company.
9. HexterW and Yost Jr. H T., (1977) The Science of Genetics; Prentice Hall of IndiaPvt. Ltd., New Delhi, India.
10. Kar and Halder, (2009) Cell BiologyGeneticsMolecular Biology; New Central BookAgency (P) Ltd. Kolkata, India.
11. Karp, G. (1999) Cells and Molecular Biology concepts and Experiments; HohnWiley& Sons Inc. USA.
12. Phundan Singh, (1996) Essentials of Plant Breeding; Kalyani publication, NewDelhi,

India.

13. Powar, C. B. (1992) Cell Biology, Himalaya Publishing House Nagpur, India.
14. Powar, C. B (2003) Genetics I & II Himalaya Publishing House, Nagpur, India.
15. Swanson, C. P. T. Merz, and W.J. Young (1982) Cytogenetics; Prentice Hall of India Pvt. Ltd., New Delhi, India.
16. Russel, P.J. (1998) Genetics (5th edition); The Benjamin/ Cummings Publishing Company Inc., USA.
17. Verma, Agarwal, (2005) Cell Biology, Genetics, Molecular Biology, Evolution and Ecology: S. Chand and Company, New Delhi, India.

Bot. 204
Practical-I (Core Course)
(Based on Bot. 201 and Bot. 202)

Pteridophytes: (04 Practicals)

Morphological, anatomical and reproductive studies of the following

Practical 1: Lycopodium, Isoetes

Practical 2: Ophioglossum, Osmunda

Practical 3: Gleichenia, Lygodium

Practical 4: Pteris, Adiantum, Asplenium

Gymnosperms: (04 Practicals)

Practical 5-6: Study of External morphology, wood anatomical features, by double stained preparation by taking T. S., T. L. S. and R. L. S. of any six of the following: Pinus, Thuja, Cedrus, Cupressus, Sequoia, Araucaria, Agathis, Podocarpus, Cryptomeria, Juniperus

Practical 7: Study of External morphology of male and female cones of any six of the following: Pinus, Thuja, Cedrus, Cupressus, Sequoia, Araucaria, Agathis, Podocarpus, Cryptomeria, Juniperus

Practical 8: Study of External morphology, anatomy (T. S.) and morphology of reproductive organ of Ephedra. Study of External morphology, anatomy and morphology of reproductive organs of Ginkgo (with P. S./ Specimen)

Paleobotany: (04 Practicals)

Practical 9: Study of following fossils with P.S. or Specimens *Rhynia*, *Lepidodendron* Stem, *Lepidocarpon* *Calamites* Stem, *Annularia*, *Sphenophyllum* Stem

Practical 10: Study of following fossils with P.S. or Specimens *Lyginopteris oldhamia* (Stem), *Neuropteris*, *Glossopteris* *Vertebraria*,

Practical 11: Study of following fossils with P.S. or Specimens *Rodeites*, *Pentoxylon*, *Cordaites*

Practical 12: Study of following fossils with P.S. or Specimens: *Palmoxylon*, *Cyclanthodendron*, *Tricocites* *Sahnipushpam*, *Sahnianthus*, *Enigmocarpon*

Plant Physiology and Biochemistry (12 Practicals)

Practical 13: To Determine the DPD by suitable osmometer method.

Practical 14: To Determination of osmotic potential of plant cell any suitable method.

Practical 14-15: Demonstration Experiments:

- a. Osmosis by Curling experiments
- b. To demonstrate the presence of photosynthate in leaves
- c. R.Q. (Respiratory Quotient)
- d. Kuhne's tube experiments

Practical 16-17: To study the effect of light intensity and bicarbonate concentration on rate of photosynthesis

Practical 18: To determine the rate of respiration by using Ganong's Potometer

Practical 19-20: Preparation of solutions and buffers

Practical 21-21: Biochemical test from suitable material for.

- a. Tannins
- b. Alkaloids
- c. Phenols

Practical 23-24 Biochemical test from suitable material for.

- a. Carbohydrates
- b. Proteins
- c. Lipids

Bot. 205
Practical-II (Core Course)
(Based on Bot. 203)

Practical 1 -2 To Study any four-cell organelles as per syllabus (SEM/TEM Photographs/Image.)

Practical 3: Demonstration- principle working and uses of following equipments.

- 1) Research microscope,
- 2) Camera lucida,
- 3) Digital camera,
- 4) Micrometry Ocular and stage micrometer or software measurement technique

Practical 4-5 Karyomorphological studies from slide/photograph.

Practical 6: Preparation of Cytological fixative (Carnoy's fluid I, II, Navashin' s fluid etc.)

Practical 7: Preparation of stains, Aceto-carmine, Haematoxyline, and Feulgen Stain.

Practical 8: Techniques of preparation of permanent and semi permanent slides.

Practical 9-10: Study of Mitosis in pretreated root tips of *Alium cepa*, *Alium sativum*, *Medicago falcate* (*Methi*), *Zea mays*

i)By Acetocarmine squash preparation

ii)By Haematoxyline squash technique

iii)By Feulgen squash technique

Practical 11-12: i) Study of Meiosis by anther squash and smear technique in *Aloe vera*, *Alium cepa*, *Tradescantia*, *Zea mays*, *Rhoeo discolor* flower buds

ii) Study of stages of Meiosis division by Permanent slides.

Practical 13: Determination of Mitotic index and Metaphase frequency in *Allium cepa* or other plant material.

Practical 14: Isolation and purification of nuclei and their staining with feulgen Stain.

Practical 15: Demonstration of salivary gland chromosome preparations (*Chironomus* larvae/*Drosophila*).

Practical 16-17: Isolation and estimation of DNA from suitable plant material.

Practical 18: Study of chromosomal aberrations with the help of permanent slides or in plant (*Rhoeo discolor*).

Practical 19: Isolation and Janus green staining of mitochondria.

Practical 20: Isolation of chloroplasts to study.

Practical 21: Demonstration of blotting techniques.

Practical 22: Study of polyploidy in onion root tips.

Practical 23: Restriction digestion of plant DNA, its separation by agarose gel electrophoresis, and visualization by ethidium bromide staining.

M.Sc. Part I Semester II Botany: Audit Courses

AC-201(A): Soft Skills (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional)		
Unit 1	Introduction to soft skills Formal definition, Elements of soft skills, Soft vs. Hard skills, Emotional quotient, Goal setting, life skills, Need for soft skills, Communication skills, Etiquettes & Mannerism.	2 h
Unit 2	Self-Assessment Goal setting, SWOT analysis, attitude, moral values, self-confidence, etiquettes, non-verbal skills, achievements, positive attitude, positive thinking and self-esteem. Activity: The teacher should prepare a questionnaire which evaluate students in all the above areas and make them aware about these aspects.	4 h
Unit 3	Communication Skills Types of communication: Verbal, Non-verbal, body language, gestures, postures, gait, dressing sense, facial expressions, peculiarity of speaker (habits). Rhetoric speech: Prepared speech (topics are given in advance, students get 10 minutes to prepare the speech and 5 minutes to deliver, Extempore speech (students deliver speeches spontaneously for 5 minutes each on a given topic), Storytelling (Each student narrates a fictional or real-life story for 5 minutes each), Oral review (Each student orally presents a review on a story or a book read by them) Drafting skills: Letter, Report & Resume writing, business letters, reading & listening skills Activity: The teacher should teach the students how to write the letter, report and build resume. The teacher should give proper format and layouts. Each student will write one formal letter, one report and a resume.	8 h
Unit 4	Formal Group Discussion, Personal Interview & Presentation skills Topic comprehension, Content organization, Group speaking etiquettes, driving the discussion & skills. Preparation for personal interview: dress code, greeting the panel, crisp self-introduction, neatness, etiquettes, language tone, handling embarrassing & tricky questions, graceful closing. Activity: Each batch is divided into two groups of 12 to 14 students each. Two rounds of a GD for each group should be conducted and teacher should give them feedback. Mock interview are to be conducted.	4 h
Unit 5	Aptitude and analytical skills Quantitative aptitude, Numerical reasoning, verbal reasoning, diagrammatic test, situational tests, logical thinking. Analytical skills: Definition, Types, problem solving	8 h
Unit 6	Life skills Time management, critical thinking, sound and practical decision making by dealing with conflicts, stress management, leadership qualities Activity: The teacher can conduct a case study activity to train students for decision making skills. The teacher should conduct a session on stress management and guide students on how to manage stress. The teacher may conduct a stress relieving activity in the class. He/she may counsel students individually to know their problems and guide them on dealing with them effectively.	4 h
Suggested readings:		
<ol style="list-style-type: none"> 1. Basics of Communication In English: Francis Sounderaj, MacMillan India Ltd. 2. English for Business Communication: Simon Sweeney, Cambridge University Press 3. An Introduction to Professional English and Soft Skills: Das, Cambridge University Press 4. Quantitative Aptitude: R.S. Agrawal 		

AC-201(B): Practicing Sports Activities				
(Personality and Cultural Development Related Audit course; Practical; 2 Credits)				
(Optional: Campus-level)				
SR NO.	NAME OF THE SPORT/GAME (Select ONE of the Following)	SYLLABUS OF THE COURSE	TIMING (02 Hours in a Week)	SEMESTER
1	Volleyball	<ul style="list-style-type: none"> • General Fitness • Basic Fitness • Specific Fitness • History of the Game • Basic Skill of the Game • Major Skill of the Game • Technique & Tactics of the Game • Game Practice 	<p style="text-align: center;">Morning: 07 to 09 AM</p> <p style="text-align: center;">OR</p> <p style="text-align: center;">Evening: 05 to 07 PM</p>	Total 30 Hours in Each Semester
2	Athletics			
3	Badminton			
4	Cricket			
5	Basketball			
6	Handball			
7	Kabaddi			
8	Kho-Kho			
9	Table-Tennis			
10	Swimming			

AC-201(C): Practicing Yoga (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional)	
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To motivate students towards yoga and provide them required training.
	<ul style="list-style-type: none"> • Yog: Meaning, Definition & Introduction, Objectives • Primary Introduction of Ashtanga Yoga • Preparation of Yogabhyas • Omkar Sadhana, Prayer, Guru Vandana • Sukshma Vyayamas • Suryanamaskar (12 Postures) • Asanas : <ul style="list-style-type: none"> ▪ Sitting (Baithaksthiti) - Vajrasana, Padmasan, Vakrasan, Ardha-Pashchimotanasanan ▪ Supine (Shayansthiti) - Uttan Padaasan(Ekpad/Dwipad), Pavanmuktasana, Viparitakarani Aasan, Khandarasan, Shavasana ▪ Prone (Viparitshayansthiti) - Vakrahasta, Bhujangasana, Saralhasta Bhujangasana, Shalabhasana(Ekpad/Dwipad), Makarasana ▪ Standing (Dhandsthiti) - Tadasana , TiryakTadasana, Virasana, Ardh Chakrasana • Primary Study of Swasana: Dirghaswasana, Santhaswasana, JaladSwasana - 6 Types • Pranayama : Anuloma-viloma, Bhramari

AC-201(D): Introduction to Indian Music
(Personality and Cultural Development Related Audit course; Practical; 2 Credits)
(Optional: Campus-level)

	<p>Course Objectives:</p> <ul style="list-style-type: none">• To motivate students towards Indian music and provide them minimum required training.
	<ul style="list-style-type: none">• Definition and brief about generation of Swar, Saptak, Thaata, Raaga, Aavartan, Meend, Khatka, Murkee, Taal, Aalaap etc.• Taal and its uses - Treetaal, Daadraa, Zaptaal, Kervaa.• Information of Badaakhyaal, Chhotaakhyaal (one), Sargam, Lakshangeet (information)• Detailed information of Tambora• Detailed information of Harmonium and Tablaa.• Five filmy songs based on Indian Classical Music (Theory and Presentation)• Sound Management - Basic information of Sound Recording (including Practicals)• Composition of Music as per the Story• Preparing news write-ups of the Seminars, Library Musical Programmes held at the nearest Akashwani, by personal visits.





'A' Grade
NAAC Re-Accredited
(3rd Cycle)

**KAVAYITRI BAHINABAI CHAUDHARI
NORTH MAHARASHTRA UNIVERSITY, JALGAON**

**Academic Curriculum
(For Affiliated Colleges of KBC NMU)**

**M. Sc. Part-1
CHEMISTRY
(Semester I and II)**

**Choice Based Credit System (60:40 Pattern)
(Outcome Based Curriculum)
As Per U.G.C. Guidelines**

**To Be Implemented From
Academic Year 2021-22**

SYLLABUS
M. Sc. Part-1
CHEMISTRY (Semester I and II)

Summary of Distribution of Credits under CBCS Scheme
[at affiliated colleges w.e.f. academic year 2021-22]

Sr. No.	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	12	12	12	08
02	Core Skill Based	02	20	-	12
03	Elective	-	-	04	04
04	Project	-	-	-	06
05	Audit	02	02	02	02
06	Total Credits	16	34	18	32

Subject Type	Core	Core Skill Based	Elective	Project	Audit	Total
Credits	44	34	08	06	08	100

Total Credits = 100

Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

M. Sc. Part-1 Chemistry (Sem-I and II) [at affiliated colleges w.e.f. academic year 2021-22]

Choice Based Credit System (Outcome Based Curriculum)

Course credit scheme

Semester	(A) Core Courses			(B) Core Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	3	12	12	1	2 + 0	02	1	2	2	16
II	3	12	12	4	2 + 18	20	1	2	2	34
III	3	12	12	1	4 + 0	04	1	2	2	18
IV	2	08	08	4	4 + 18	22	1	2	2	32
Total Credits		44			48			8		100

(T, Theory; P, Practical)

Structure of Curriculum

		First Year				Second Year				Total Credit Value	
		Semester I		Semester II		Semester III		Semester IV			
		Credit	Course	Credit	Course	Credit	Course	Credit	Course		
		Prerequisite and Core Courses									
(A)	Theory	14	4	14	4	12	3	08	2	48	
	Practical	-	-	18	3	-	-	18	3	36	
(B)	Core Skill Based / Subject Elective Courses										
1	Theory /Practical	-	-	-	-	4	1	4	1	08	
(C)	Audit Course (No weightage in CGPA calculations)										
1	Practicing Cleanliness	2	1							2	
2	Personality and Cultural Development Related Course			2	1					2	
3	Technology Related + Value Added Course					2	1			2	
4	Professional and Social + Value Added Course							2	1	2	
	Total Credit Value	16	5	34	8	18	5	32	7	100	

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV (Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201A	Soft Skills	AC-301A	Computer Skills	AC-401A	Human Rights
		AC-201B	Practicing Sport Activities	AC-301B	Cyber Security	AC-401B	Current Affairs
		AC-201C	Practicing Yoga	AC-301C	Molecular Docking	AC-401C	Technical Report Writing
		AC-201D	Introduction to Indian Music	AC-301D	Seminar on Review of Research Paper	AC-401D	Intellectual Property Rights (IPR)

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Syllabus under CBCS for M. Sc. Part-I Chemistry

Syllabus Structure (w.e.f. 2021-22)

Semester-I

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th (L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
CH-110	Core	Physical Chemistry-I	04	--	04	40	--	60	--	100	--	04
CH-130	Core	Inorganic Chemistry-I	04	--	04	40	--	60	--	100	--	04
CH-150	Core	Organic Chemistry-I	04	--	04	40	--	60	--	100	--	04
CH-190	Core Skill Based	Industrial Safety and Good Laboratory Practices	02	--	02	20	--	30	--	50	--	02
AC-101	Audit Course	Practicing Cleanliness	--	02	02	--	100	--	--	--	100	02

Semester-II

Course Code	Course Type	Title of the Course	Contact hours/week			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th (L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
CH-210	Core	Physical Chemistry-II	04	--	04	40	--	60	--	100	--	04
CH-230	Core	Inorganic Chemistry-II	04	--	04	40	--	60	--	100	--	04
CH-250	Core	Organic Chemistry-II	04	--	04	40	--	60	--	100	--	04
CH-290	Core Skill Based	Instrumentation and Analysis	02	--	02	20	--	30	--	50	--	02
*CH-P-1	Core Skill Based	Physical Chemistry Practical-I	--	06	06	--	40	--	60	--	100	06
*CH-I-1	Core Skill Based	Inorganic Chemistry Practical-I	--	06	06	--	40	--	60	--	100	06
*CH-O-1	Core Skill Based	Organic Chemistry Practical-I	--	06	06	--	40	--	60	--	100	06
AC-201 (A)/ (B)/(C)/(D)	Audit Course	Choose one out of four (AC-201 A/B/C/D) (Personality and Cultural Development Related)	--	02	02	100	--	--	--	100	--	02

*** To be started from Semester-I & evaluated at the end of Semester-II**

List of elective courses to be offered in Semester-II:

AC-201 (A): Soft Skills	AC-201 (C): Practicing Yoga
AC-201 (B): Practicing Sports Activities	AC-201 (D): Introduction to Indian Music

Syllabus for M.Sc. Part-I Chemistry
(Semester - I & II)
Course Structure for First Year

Course Code	Course Type	Title of the Course
Semester – I		
CH-110	Core	Physical Chemistry-I
CH-130	Core	Inorganic Chemistry-I
CH-150	Core	Organic Chemistry-I
CH-190	Core Skill Based	Industrial Safety and Good Laboratory Practices
AC-101	Audit Course	Practicing Cleanliness
Semester – II		
CH-210	Core	Physical Chemistry-II
CH-230	Core	Inorganic Chemistry-II
CH-250	Core	Organic Chemistry-II
CH-290	Core Skill Based	Instrumentation and Analysis
CH-P-1	Core Skill Based	Physical Chemistry Practical-I
CH-I-1	Core Skill Based	Inorganic Chemistry Practical-I
CH-O-1	Core Skill Based	Organic Chemistry Practical-I
AC-201 (A)/ (B)/(C)/(D)	Audit Course	Choose one out of four (AC-201 A/B/C/D) (Personality and Cultural Development Related) AC-201 (A): Soft Skills AC-201 (B): Practicing Sports Activities AC-201 (C): Practicing Yoga AC-201 (D): Introduction to Indian Music

Important Notes:

1. Each theory course prescribed for M. Sc. should be covered in 4 lectures, each of 60 minutes duration per week per course including lectures, tutorials, seminars, classroom discussions etc. (Total 60 hrs. / theory course)
2. Each practical course will require 06 hours of laboratory work per week and will be extended over two semesters. All three practical courses will be examined at the end of the academic year. (Total 180 hrs. / practical course)
3. There should not be more than 10 students in a batch for M. Sc. Practical course.
4. For theory course, the question paper (Internal/External) should include numerical, short answer, long answer, MCQ questions, problem solving approach to test understanding of the subject.
5. In the 60 lectures theory course about 10 lectures will include tutorials, student seminars, classroom discussions and tests.
6. The marks for each paper are distributed as external examination 60 marks and internal examination 40 marks. For internal assessment of each theory and practical course, 2 written tests will be taken.
7. The 75 % attendance of students is compulsory.
8. Students should visit at least five chemical industries in the first year of M. Sc. and submit the observations/report to the Department.

Semester-wise Course Structure of M.Sc. Organic Chemistry

Program at a Glance

Name of the program (Degree)	: M. Sc. (Organic Chemistry)
Faculty	: Science and Technology
Duration of the Program	: Two years (four semesters)
Medium of Instruction and Examination	: English
Exam Pattern	: 60 : 40 Pattern (60 marks University exam and 40 marks continuous internal departmental exam/assessment)
Passing standards	: 40% in each exam separately (separate head of passing)
Evaluation mode	: CGPA
Total Credits of the program	: 100 (44 core credits including 6 credits of project/dissertation, 34 skill enhancement credits, 08 subject elective credits and 08 audit credits)

CH-110: Physical Chemistry - I
(60 L, 100 Marks and 4 Credits)

Course Objectives:

1. To learn the principals and foundations of quantum chemistry.
2. To get oriented towards the basic theory underlying the chemical bond.
3. To acquire knowledge about the different possible equilibrium in nuclear decay processes.
4. To learn the basic concepts about the interaction of high energy radiations with matter.
5. To learn the theory and concepts behind the electrochemical processes and ionic equilibria.

Unit No.	Name of the unit	Lectures
1	<p>Essentials of Quantum Chemistry Recapitulation of basic concepts of quantum chemistry, Schrodinger equation, normalization with examples, Hermitian operator and its theorems, postulates of quantum mechanics, free particle, particle in one dimensional box and its application for excitation energies in linear conjugated systems, two and three dimensional box, wavefunction and probability density plots, degeneracy, simple harmonic oscillator, energy eigenvalues, Ψ and Ψ^2 plots, even and odd functions, rigid rotator, spherical polar coordinates, separation of variables and energy values. Hydrogen atom Schrodinger wave equation (derivation not expected), radiation distribution functions, dependence of spherical harmonics of angles (shape of orbitals only introduction), and related numerical. Ref. 2, 3, 4, 6, 8</p>	12
2	<p>Chemical Bonding Variation principle, approximation, LCAO-MO, H_2^+ molecular ion, importance of coulomb and exchange integrals, Born-Oppenheimer approximation and the approximated Hamiltonian, VBT to H_2 molecule (derivation not expected) Comparison between MOT and VBT, valence electron approximation, HMO theory and its application to ethylene and butadiene. Ref. 2, 3, 4, 6, 8</p>	12
3	<p>Nuclear Chemistry Parent-daughter decay-growth relationships: daughter nucleus stable, general expression for activity of daughter, parent shorter and longer lived than daughter, parent and daughter of nearly the same half-life, secular and transient equilibrium. Applications of radioactivity: Typical reactions involved in the preparation of radio isotopes (^{22}Na, ^{32}P), Szilard - Chalmer's reaction, Isotope dilution and neutron activation analysis, and related numerical Ref. 5, 8</p>	12
4	<p>Radiation Chemistry Elements of radiation chemistry: primary effects of interaction of radiation with matter, LET, Bremsstrahlung. Interaction of gamma radiation with matter: photoelectric effect, Compton scattering and pair production, units of measuring radiation absorption. Radiation dosimetry: units of dose, Fricke and Ceric sulphate dosimeters, conversion of measured dose values and related numerical.</p>	12

	Ref. 5, 8	
5	Electrochemistry Strong electrolytes, ionic strength, activity and activity coefficients of strong electrolytes, Debye Huckel theory of conductivity (derivations not expected), ionic atmosphere, relaxation and electrophoretic effects, DHO equation (mathematical derivation not expected), its validity and deviations, Debye-Huckel theory of activity coefficients: Debye-Huckel limiting law (derivation expected), its testing and deviations. Transport number: definition and its relation to ionic mobility, Moving boundary and Hittorf's theoretical and experimental method and related numerical Ref. 1, 6, 7, 8	12

References:

1. P. W. Atkins, J. D. Paula, Physical Chemistry, Oxford University Press
2. Donald McQuerry, Quantum Chemistry, Viva Books
3. R. K. Prasad, Quantum Chemistry, New Age International
4. I. Levine, Quantum Chemistry, Pearson Education
5. H. J. Arnikar, Essentials of Nuclear Chemistry
6. D. A. McQuerry & J. D. Simon, Physical Chemistry Molecular Approach, Viva Books
7. S. H. Maron and C. F. Prutton, Principles of Physical Chemistry, Oxford and IBH Publishing Co.
8. Dr. L. S. Patil, Physical Chemistry I, Shree Book Co. Mumbai

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Apply the quantum mechanical principles to simple systems of chemical interests	3
2	Differentiate between the nature of chemical bond concept from MOT and VBT	2
3	To identify and write the different types of equilibriums in a given nuclear decay process	4
4	To explain the concept of Radiation dose measurement and its practical applications	2
5	To be able to calculate the ionic strength and activity coefficients by using the basic concepts underlying.	5

CH-130: Inorganic Chemistry - I
(60 L, 100 Marks and 4 Credits)

Course Objectives:

1. The course offers the basic concepts of inorganic chemistry lying on synthesis, structure, bonding and properties of some selected main group elements.
2. The course helps to build up a conceptual framework for understanding the principles and theories for chemical bonding and properties of inorganic compounds.
3. The course furnishes detail knowledge about synthesis, types of bonding, properties etc.

Unit No.	Name of the unit	Lectures
1	<p>Molecular Symmetry and Applications Molecular term symbol for homonuclear diatomic molecules H₂, B₂, C₂, N₂, O₂ and F₂ molecules Linear tri-atomic molecules – BeH₂, CO₂. Trigonal planar molecule- BF₃, Tetrahedral Molecule – CH₄, Trigonal pyramidal molecule NH₃, Angular Tri-atomic molecules H₂O, NO₂.</p>	12
2	<p>Organometallic compounds of transition metals Organometallic compounds, molecule orbital theory and 18 electron rule, counting electrons in complexes, alkyl and aryl complexes, alkene complexes, metal π complexes- metal carbonyl and metal nitrosyls.</p>	12
3	<p>Chemistry of non-transition elements Hydrides-classification, electron deficient, precise and rich hydrides. Study of PH₃, SbH₃, AsH₃, Selenides, Tellurides. Synthesis, properties and structures of alkali and alkaline earth metal compounds, Synthesis and reactivity of inorganic polymer of Si and P.</p>	12
4	<p>Molecular symmetry Symmetry elements and operations, symmetry planes, reflections, inversion centre, proper / improper axes of rotation, equivalent symmetry elements and atoms, symmetry elements and optical isomerism, Classification of point groups and procedure to determine the point group, with at least one example of each point group.</p>	12
5	<p>Transition Metal Carbonyls and Related Compounds Introduction, preparation and properties of transition metal carbonyls, structure of transition metal carbonyls, carbonyl hydrides, carbonylate anions and cations, carbonyl halides, phosphine and phosphorous trihalide complexes, dinitrogen complexes, nitric oxide complexes, cyano complexes.</p>	12

References:

1. J. E. Huheey, E. A. Keiter, R. L. Keiter, Inorganic Chemistry Principles of Structures and Reactivity, 4th edition, New York, NY: Harper Collins College Publishers, 1993.
2. J. D. Lee, Concise Inorganic Chemistry, 5thedn., Blackwell Science, London, 2006.
3. A. G. Sharpe, Inorganic chemistry, 3rd edition, ISBN 9788131706992, Pearson Education, 1981.
4. F.A. Cotton, Chemical Applications of Group Theory, ISBN: 978-0-471-51094-9, 1990.
5. D.F. Shriver, P.W. Atkins and C.H. Langford, Inorganic Chemistry, CH Langford, 1990.
6. B.R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 2005.
7. H. B. Gray, Electrons and Chemical Bonding. W. A. Benjamin, Inc., New York, 1965.
8. H. J. Emeleus and A.G. Sharpe, Modern Aspects of Inorganic Chemistry, Universal Book Stall, New Delhi.
9. K. Lal, S.K. Agarwal, Advanced Inorganic Chemistry, Pragati Prakashan, Meerut, 2017
10. G. S. Manku, Theoretical Principles of Inorganic Chemistry, Tata McGraw-Hill Ed
11. B. Douglas, D.H. Mc. Daniel, J.J. Alexander, Concepts and Models of Inorganic Chemistry, 2nd edition.
12. R. Sarkar, General and Inorganic Chemistry, Part one, New Central Book Agency, Kolkata.
13. P. K. Bhattacharya, Group Theory and its Chemical applications, Himalaya Publishing House.
14. F. A. Cotton, G. Wilkinson, C. A. Murillo, M. Bochmann, Advanced Inorganic Chemistry, Sixth Edition, John Wiley & Sons, Inc.

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Apply the fundamental knowledge about the synthesis, structure, bonding and properties of some selected main group elements which are very important in different fields.	3
2	Apply fundamental knowledge about molecular symmetry, MOT, organometallic compounds, ionic solids and bioinorganic compounds.	3
3	Explain various concepts and theories of various topics from inorganic chemistry.	2

CH-150: Organic Chemistry – I

(60 L, 100 Marks and 4 Credits)

Course Objectives: To make the students conversant with the

1. Study of basic concepts of organic chemistry.
2. Study of reaction intermediates.
3. Study of the different classes, mechanism & stereochemistry of reactions.

Unit No.	Name of the Units	Lectures
1	Aromaticity Huckel's (4n+2) and 4n rules. Aromatic and antiaromatic compounds up-to 18 carbon atoms. Homoaromatic compounds. Aromaticity of all benzenoid systems, heterocycles, azulenes, tropolones, fulvenes, sydnones, annulenes, aromatic ions and Fullerene (C ₆₀). Ref. 3. Page No. 40-67 Ref. 5, 7, 9 Relevant pages	04
2	Reactive Intermediates and Concerted Reactions (Carbocations, Carbanions, Carbene, Nitrene, and Arynes) Organic reactive intermediates and their structure, methods of generation, structure, stability and important reactions involving carbocations, carbanions, nitrenes, carbenes, arynes. Ref. 3. Page No. 165-186, 195-202 Ref. 4, 5, 6 Relevant pages	10
3	A. Nucleophilic Substitution reaction Aliphatic nucleophilic substitution a) S _N 1, S _N 2 and S _N ⁱ mechanism and stereochemistry (regioselectivity and stereospecificity of substitution reaction). b) Nucleophilic substitution at an allylic, aliphatic and vinylic carbon. c) Effect of substrate structure, nucleophile, leaving group and solvent on rate of S _N 1 and S _N 2 reactions, ambident nucleophile. Aromatic nucleophilic substitution S _N Ar, S _N 1, Benzyne and S _N R1 reactions, effect of substrate structure, leaving group, solvent and attacking nucleophile. B. The neighbouring group mechanism The neighbouring group mechanism, neighbouring group participation by π and σ bonds, anchimeric assistance. Non-classical carbocations, phenonium ions, norbornyl system. Ref. 2. Page No. 406-443. Ref. 3. Page No. 255-262, 265-272, 286-289, 298-320 Ref. 4, 5, 7, 8, 10 Relevant pages	14
4	Electrophilic Substitution reaction a) Arenium ion mechanism, orientation and reactivity, energy profile diagram, ortho, para, ipso attack, orientation in other ring systems, six and five membered heterocycles with one hetero atom. b) Important reactions like Friedel crafts alkylation and acylation, nitration, halogenation, formylation, chloromethylation, sulphonation, diazo coupling.	12

	Ref. 1. Page No. 447-562 Ref. 2, 3, 4, 5, 7, 8 Relevant pages	
5	Addition reaction a) Addition to carbon-carbon multiple bonds and carbon heteroatom multiple bonds- Mechanism and stereochemical aspects of addition reaction involving electrophile. b) Structural effects and reactivity: Halogenations, Hydrohalogenation, Hydration, Hydroxylation, Hydroboration, Epoxidation, Carbene addition, Hydrogenation, Ozonolysis. Ref. 1. Page No. 517-557 Ref.3, 8, 9, 10 Relevant pages	10
6	Elimination reaction a) E1, E2, E1CB mechanisms, Stereo chemistry of elimination, Elimination versus substitution, anti and syn elimination. b) Dehydrohalogenation, Dehalogenation, Dehydration, Hoffmann and Saytzeff's elimination, Pyrolytic elimination. Ref. 1. Page No. 466-501 Ref.3, 4, 8, 9, 10 Relevant pages	10
References: <ol style="list-style-type: none"> 1. Organic chemistry, Fifth edition by Staney H. Pine. 2. Organic Chemistry – by J. Clayden, N. Greeves, S. Warren and P. Wothers (Oxford). 3. Advanced Organic Chemistry: Reactions, Mechanisms and Structure, Forth Edition by Jerry March. 4. A Guide book to Reaction Mechanism in Organic Chemistry–Peter Sykes. 5. Advance Organic Chemistry (Part A and B) –by A. Carey and R.J. Sundberg. 6. Modern methods of organic synthesis – W. Carruthers (Cambridge) . 7. Organic Chemistry: A Brief Course by Robert C. Atkins, Francis A Carey. 8. Organic Reactions & their Mechanisms- P. S. Kalsi. 9. Organic Chemistry- Morrison & Boyd. 10. Stereochemistry conformations and mechanism by P.S. Kalsi 		

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Apply the fundamental concepts of organic reaction mechanism in theoretical and practical work, may be in academic, research laboratories, and industries.	3
2	Understand the importance and types of organic reactions and their applications.	2
3	Acquire knowledge of important characteristics of organic compounds.	4

CH-190: Industrial Safety and Good Laboratory Practices

(30 L, 50 Marks and 2 Credits)

Course Objectives: To make the students conversant with the

1. This course offers to create awareness about laboratory safety.
2. This course offers to increase alertness about any hazardous handling at workplace.
3. This course offers to increase awareness about personal protective equipment.

Unit No.	Name of the Units	Lectures
1	Hazards and Safety measures A) History and importance of safety and health in Laboratory - Moral, legal and financial reasons B) Different types of Hazards at workplace handling chemicals - Physical, chemical, biological, allergens, hazards pertaining electrical system - Effect of hazards on health - Where to find Hazard Information - Reading Labels C) Safety Measures: Safe clothing, hair, dangling jewelry, proper responsible attitude, good housekeeping, use of proper PPE, no food in the laboratories.	06
2	Basic of laboratory safety Personal Protective and other safety equipment and their uses and demonstration, different types of safety goggles, apron, masks, different filters for masks, face shield, full body suit, safety shoes, helmet, breathing apparatus suit, safety belt and ear muffs along with inspection methods. Emergency exit, its location and approach path, periodic inspection fire extinguishers, first aid kit, its contents and need for monitoring. Eye wash fountains and safety showers, fire drill, and chemical accident drills, accident-free days and incentives to follow safety rules, accident recording and investigation for future controls.	06
3	Introduction to industrial safety Types of fire extinguishers and their method of use, Material Safety Data Sheets (MSDS), Globally Harmonized System (GHS) Signs (http://www.calstatela.edu/univ/ehs/msds.php) Importance and use of current 16 points format, Labels, Pictograms and some of their discrepancies, Globally Harmonized System for Safety Data Sheets (SDS), label changes (2014).	06
4	Laboratory and chemical waste management Inventory management, storage and disposal, waste classification, hazardous waste, non-hazardous waste, mixed waste, waste disposal, actions required for - chemical spills, mercury spills, injuries, fires, building evacuations, emergency evacuation procedure.	06
5	Good Laboratory Practices (GLP) Good Laboratory Practices (GLP), introduction and principles of GLP, performance of laboratory studies and calibration using Standard Operating Procedures (SOPs), instrument validation, reagent certification, laboratory notebook maintenance to contemporary standards, maintenance of laboratory records based on instrument and reagent certification, introduction to ISO and NABL accreditation.	06

References:

1. L. Moran, T. Masciangioli, Chemical Laboratory Safety and Security: A Guide to Prudent Chemical Management, The National Academies Press, Washington, DC, 2010.
2. D. C. Finster, Safety in Academic Chemical Laboratory, Vol. II, ACS Publication, 7th Edition, 2003.
3. OECD Series on Principles of Good Laboratory Practices and Compliance Monitoring, 1997.
4. Handbook of Good Laboratory Practices, TDR, WHO, UNICEF, UNDP, 2009.
5. L. Huber, A Primer for Good Laboratory Practices and Good Manufacturing Practices, Agilent Technologies, 2002.
6. T. Kletz, What Went Wrong, Gulf Professional Publisher, 1998.

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Understand the importance of laboratory safety.	1
2	Aware and follow healthy laboratory practices.	2
3	Acquire the knowledge about personal protective equipment.	4

AC-101: Practicing Cleanliness (Compulsory; College-level Audit Course; Practical; 2 Credits)	
Course Objectives (COs):	
<ul style="list-style-type: none"> • To make students aware of Clean India Mission and inculcate cleanliness practices among them. 	
	<ul style="list-style-type: none"> • Awareness program on <ul style="list-style-type: none"> ○ Swachh Bharat Abhiyan (Clean India Mission) ○ Clean Campus Mission ○ Role of youth in Clean India Mission • Cleaning activities inside and surroundings of Department buildings. • Tree plantation and further care of planted trees • Waste (Liquid/Solid/e-waste) Management, Japanese 5-S practices • Planning and execution of collection of Garbage from different sections of University campus • Role of youth in power saving, pollution control, control of global warming, preservation of ground water and many more issues of national importance. • Cleanest School/Department and Cleanest Hostel contests • Painting and Essay writing competitions

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Identify need at of cleanliness at home/office and other public places.	2
2	Plan and observe cleanliness programs at home and other places.	4
3	Practice cleanliness practices in day-to-day life.	3

CH - 210: Physical Chemistry - II
(60 L, 100 Marks and 4 Credits)

Course Objectives:

1. To orient and acquaint the PG students towards the fundamental and advanced aspects of thermodynamics and statistical thermodynamics.
2. To acquire knowledge about kinetics of complex reactions and fast reactions.
3. To evoke the fundamental concepts of YR, electronic and Raman spectroscopy and understand the advance concept involved in it.

Unit No.	Name of the Units	Lectures
1	<p>Thermodynamics Introduction, enthalpy of a system, molar heat capacities, relation between Cp and Cv, Joule-Thomson effect, third law of thermodynamics, concept and importance of absolute entropy, standard entropy and residual entropy, Maxwell relations (derivation expected), thermodynamic equation of state, partial molar quantity and its significance, partial molar volumes, chemical potential, Gibbs-Duhem equation, thermodynamics of mixing-Gibb's free energy of mixing, entropy of mixing, enthalpy of mixing and related numerical Ref: 2, 8, 13, 14</p>	12
2	<p>Statistical thermodynamics Introduction, Concept of Boltzmann Ensemble, Thermodynamic probability, Sterling approximation, Boltzmann distribution law, partition function and its significance, energy and entropy in terms of partition function, separation of partition functions, translational partition function, translation energy and entropy from it, rotational partition function, rotational energy and entropy from it, vibrational partition function, vibrational energy and entropy from it and related numerical. Ref:1, 2, 8, 13, 14</p>	12
3	<p>Chemical kinetics Introduction, complex reactions, reactions approaching equilibrium (opposing reactions), consecutive elementary reactions (sequential reactions), parallel reactions and its kinetics, elucidation of mechanism of complex reactions: rate determining step of the reaction and steady state approximation, pre-equilibria, Michaelis-Menten mechanism of enzyme catalysis, chain reactions and its characteristics, steps involved in chain reactions with suitable example. Explosion, Types of explosion, explosion limits and related numerical. Fast reactions, techniques for the study of fast reactions: flow methods and flash photolysis. Ref: 2, 8, 13, 14.</p>	12
4	<p>Infra-red Spectroscopy Introduction, the vibrating diatomic molecule, the energy of a diatomic molecule, the simple harmonic oscillator, the anharmonic oscillator, the diatomic vibrating rotator: Born-Oppenheimer approximation, breakdown of Born-Oppenheimer approximation, the vibrations of polyatomic molecules, fundamental vibrations and their symmetry (water molecule and carbon dioxide molecule) and related numerical. Ref: 8, 11, 14</p>	12

5	<p>Electronic and Raman spectroscopy</p> <p>(a) Electronic spectroscopy: Electronic vibrational spectra, intensity of vibrational electronic spectra, Franck-Condon principle, rotational fine structure, Fortrat diagram, dissociation energy, pre-dissociation.</p> <p>(b) Raman Spectroscopy: Introduction, Rayleigh and Raman scattering, quantum theory of Raman effect, classical theory of the Raman effect: Molecular polarizability, Raman activity of vibrations (water molecule and carbon dioxide molecule), rule of mutual exclusion. and related numericals.</p> <p>Ref: 8, 11, 14.</p>	12
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References:

1. Maron, S. H. and Prutton, C. F. (2012) Principles of Physical Chemistry (4th Edition), Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Atkins, P. W. (1998) Physical Chemistry, ELBS.
3. Barrow, G. M. (2003) Physical Chemistry, International Student Edition.
4. Moore, W. J. (1998) Physical Chemistry, Orient Longman.
5. McQuarrie, D. A. And Simon, J. D. (2006) Physical Chemistry- A Molecular Approach, Viva Books Ovt. Ltd., New Delhi.
6. Nash, L. K. (1968) Elementary Statistical Thermodynamics, Addition-Wesley, Reading.
7. Gupta, M. C. (1990) Statistical Thermodynamics, M. C. Gupta, Wiley Eastern Ltd.
8. Laidler, K. J. (1965) Chemical Kinetics, Second Edition.
9. Frost, A. A. and Pearson, R. G. Kinetics and Mechanism, Second Edition.
10. Agrawal, G. L. Basic Chemical Kinetics by Tata McGraw-Hill Publishing Company Ltd., New Delhi.
11. Banwell, C. N. and McCash, E. M. (1996) Fundamentals of Molecular Spectroscopy, McGraw Hill International (UK).
12. Bahl, B. S., Bahl, A., Tuli, G. D. (2005) Essentials of Physical Chemistry by Chand and Co Ltd., New Delhi.
13. Puri, B. R., Sharma, L. R. and Pathania M. S. (2007) Principles of Physical Chemistry (42nd Edition), , Vishal Publishing Co., Jalandhar.
14. Dr. L. S. Patil, Physical Chemistry II, Shree Book Co. Mumbai.

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Students will gain an understanding of Joule-Thomson effect, third law of thermodynamics, absolute entropy, standard entropy and residual entropy and partial molar quantity and its significance.	2
2	Students should understand the importance of statistical thermodynamics and concept of partition functions.	2
3	Students should able to understand core study of chemical kinetics and spectroscopy.	2

CH - 230: Inorganic Chemistry - II
(60 L, 100 Marks and 4 Credits)

Course Objectives:

1. This course offers to impart the basic knowledge about spectroscopy of inorganic compounds
2. This course also offers to study the reaction mechanism in transition metal complexes.
3. This course helps to understand catalysis and structure reactivity of molecules.

<i>Unit No.</i>	<i>Name of the Units</i>	<i>Lectures</i>
1	<p>The Ionic bond</p> <p>Structures of ionic solids, radius ratio rules, calculation of limiting radius ratio Values of coordination no.3, 4, 6, close packing, classification of ionic structures – Ionic compounds of the type AX (ZnS, NaCl, CsCl), Ionic compounds of the type AX₂ (CaF₂, TiO₂, SiO₂); Layer structures (CdI₂, [NiAs]) Structures containing polyatomic ions.</p>	12
2	<p>Electronic Spectra</p> <p>Energy levels in an atom, coupling of orbital angular momenta, coupling of spin angular momenta, spin orbit coupling. Determining the ground state terms – Hund's rule, Hole formulation, Derivation of the terms for a P2 & P3 configuration, calculation of the number of microstates, Electronic spectra of transition metal complexes – Laporte 'orbital' selection rule, spin selection rule, splitting of electronic energy levels and spectroscopic states.</p>	12
3	<p>Reaction mechanism in transition metal complexes</p> <p>Ligand substitution reaction, classification of mechanism, substitution of square planer complexes, nucleophilicity of entering group, shape of activated complexes, K1 pathway, substitution in octahedral complexes, rate law and their interpretation, activation of octahedral complexes, base hydrolysis, stereochemistry, isomerization reactions.</p>	12
4	<p>Catalysis</p> <p>Catalysis, description of catalyst, properties of catalyst, types of catalyst, catalytic steps in organotransition metal catalyst, hydrogenation of alkenes, hydroformylation, Monsanto acetic acid synthesis, Wacker oxidation of alkenes, alkene polymerization, heterogeneous catalysis, nature of heterogeneous catalyst, examples of heterogeneous catalysts (hydrogenation, oxidation).</p>	12
5	<p>Preparation & Application of Complexes</p> <p>Preparation of complexes, Application of complexes in analytical chemistry, complexometric titration, Application of complexes in metallurgy, Application of complexes in industry, Application of complexes in medical field. Presence of metal complexes in biological system (Haemoglobin, Chlorophyll, Vitamin-B₁₂)</p>	12

References:

1. J. E. Huheey, E. A. Keiter, R. L. Keiter, Inorganic Chemistry Principles of Structures and Reactivity, 4th edition, New York, NY: Harper Collins College Publishers, 1993.
2. J.D. Lee, Concise Inorganic Chemistry, 5thedn., Blackwell Science, London, 2006.
3. A. G. Sharpe, Inorganic chemistry, 3rd edition, ISBN 9788131706992, Pearson Education, 1981.
4. F.A. Cotton, Chemical Applications of Group Theory, ISBN: 978-0-471-51094-9, 1990.
5. D.F. Shriver, P.W. Atkins and C.H. Langford, Inorganic Chemistry, CH Langford, 1990.
6. B.R. Puri, L. R. Sharma, K. C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 2005.
7. H. B. Gray, Electrons and Chemical Bonding. W. A. Benjamin, Inc., New York, 1965.
8. H. J. Emeleus and A.G. Sharpe, Modern Aspects of Inorganic Chemistry, Universal Book Stall, New Delhi.
9. K. Lal, S.K. Agarwal, Advanced Inorganic Chemistry, Pragati Prakashan, Meerut, 2017.
10. G.S. Manku, Theoretical Principles of Inorganic Chemistry, Tata McGraw-Hill Ed.
11. B. Douglas, D.H. Mc. Daniel, J.J. Alexander, Concepts and Models of Inorganic Chemistry, 2nd edition.
12. R. Sarkar, General and Inorganic Chemistry, Part one, New Central Book Agency, Kolkata.
13. P.K. Bhattacharya, Group Theory and its Chemical applications, Himalaya Publishing House.
14. F. A. Cotton, G. Wilkinson, C. A. Murillo, M. Bochmann, Advance Inorganic Chemistry, Sixth Edition, JOHN WILEY & SONS, INC.
15. K. Arora, Concept and Applications of Group Theory, Anmol Publication Pvt. Ltd., New Delhi.
16. W. L. Jolly, Modern Inorganic Chemistry, 2nd edition, Tata McGraw Hill Co.

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Understand the concept of microstates, spectroscopic terms and Orgel diagram of inorganic compounds.	2
2	Gain knowledge about magnetic properties and charge transfer spectra of transition metal complexes.	2
3	Students are able to analyze structure reactivity and reaction mechanisms of metal complexes.	4

CH - 250: Organic Chemistry - II
(60 L, 100 Marks and 4 Credits)

Course Objectives:

1. This course also offers to learn various name reactions, rearrangement and reagents used in organic chemistry.
2. The course offers to study the importance of stereochemistry and organic spectroscopy for structure elucidation with respect to laboratory and industrial applications.
3. This course helps to understand the principles behind UV, IR, ¹HNMR, ¹³CNMR and Mass spectroscopy.

Unit No.	Name of the Units	Lectures
1	<p>Rearrangements Wagner-Meerwein (with Demjanov), Pinacol, Wolff, Arndt-Eistert Synthesis, Hofmann, Curtius, Schmidt, Lossen, Beckmann, Baeyer-Villiger, Favorskii, Benzilic acid, Stevens, Wittig, Claisen, Cope, oxy-cope, Meisenheimer, Sommelet-Hauser, Dienone-phenol, Ciamician-Dennsted, Fries (with photo Fries) rearrangements</p>	12
2	<p>Selective Name Reactions Aldol Condensation, Henry reaction, Perkin reaction, Stobbe Condensation, Dieckmann Condensation, Benzoin Condensation, Reimer-Tiemann reaction, Reformatsky reaction, Darzens reaction, Michael reaction, Mannich reaction, Shapiro reaction, Bomford-Stevens reaction, Nef reaction, Baylis Hilman reaction, Cannizaro reaction, Knovengeal reaction, Sharpless reaction, Barton reaction, Hofmann Loffler-Freytag reaction, Vilsmeir-Haack reaction</p>	14
3	<p>Reagents in Organic Synthesis A] Oxidizing Reagent: CrO₃, Na₂/K₂Cr₂O₇, Collins reagent, PDC (Cornforth reagent), PCC (Corey's reagent), KMnO₄, MnO₂, SeO₂, Pb(OAc)₄, Pd-C, OsO₄, Peracid, (m-CPBA), O₃, H₂O₂, NaIO₄, HIO₄, Al(O-i-R)₃ (Oppenauer oxidation), Swern oxidation, DDQ, NBS and B₂H₆ B] Reducing Reagent: LiAlH₄, NaBH₄, NaCNBH₃, MPV reduction, Na/liquor NH₃, Na/alcohol, H₂/Pd-C, H₂/Pd-BaCO₃, DIBALH and Wolff Kishner reduction, Zn-Hg/H₂O/HCl, Zn(Cu), Baker's yeast, LDC (Gilman's reagent), LDA (Lithium diisopropylamide), DCC (dicyclohexylcarbodiimide), Woodward and Prevost hydroxylation and Baker's yeast.</p>	14
4	<p>Stereochemistry Stereochemical principles (stereoisomers, chirality, optical activity, enantiomers, diastereoisomers, epimer, anomer), R-S nomenclature, Meso Compounds, E-Z nomenclature, Threo and Erythro nomenclature. optical activity in biphenyls, spiranes, allenes, Racemic modification and racimation, optical purity, pro-stereoisomerism (Homomorphic, Homotopic, Heterotopic, enantiotropic, diastrophic-atoms, groups and faces). Interconversion of Fischer, Newman and Sawhorse Projections, stereospecific and stereoselective reactions Conformational analysis of cyclic (cyclohexane, mono-substituted cyclohexane) and acyclic compounds (ethane, propane, butane).</p>	14

5	Spectroscopy: Instrumentation, Sample Preparation for UV, IR, NMR (^1H and ^{13}C), Mass Spectrometry. Joint problems based on UV, IR, NMR (^1H and ^{13}C), Mass.	06
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References:

1. S. H. Pine – Organic Chemistry, 5th Edition, McGraw-Hill.
2. P. S. Kalsi – Organic Reactions and Their Mechanisms
3. J. Clayden, N. Greeves, S. Warren – Organic Chemistry, IInd Edition, Oxford University Press.
4. Peter Sykes-A Guidebook to Mechanism in Organic Chemistry
5. W Carruthers and Iain Coldham – Modern Methods of Organic Synthesis
6. P. S. Kalsi –Stereochemistry: Conformation and Mechanism, 8th Edition, New Age International.
7. F. A. Carey, R. J. Sundberg – Advanced Organic Chemistry Part-B: Reactions and Synthesis, 5th Edition, Springer.
8. D. Nasipuri – Stereochemistry of Organic Compounds: Principles and Applications, Revised 2nd Edition, New Age International.
9. E. L. Eliel – Stereochemistry of Carbon Compounds, McGraw-Hill.
10. P. S. Kalsi – Spectroscopy of Organic Compounds, 6th Edition, New Age International.
11. D. L. Pavia, G. M. Lampman, G. S. Kriz, J. R. Vyvyan – Introduction to Spectroscopy.
12. R. M. Silverstein, F. X. Webster – Spectrometric Identification of Org. Compounds.

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Students will learn the basic name reactions and rearrangement reactions.	2
2	Students will understand the applications of reagents in organic synthesis.	2
3	Students will apply the basic knowledge about core study of spectroscopy and stereochemistry	3

CH - 290: Instrumentation and Analysis
(30 L, 50 Marks and 2 Credits)

Course Objectives:

1. This course covers both fundamental and practical aspects of chemical analysis.
2. The student will learn about instrumentation, working and applications in chemistry.
3. This course also covers solving numerical problems.

Unit No.	Name of the Units	Lectures
1	Errors, statistics and sampling: Accuracy and precision, Error, types of error, systematic and random errors, minimization of errors, mean and standard deviations, reliability of results, confidence interval, comparison of results, student T test, F test, Comparison of two samples (Paired T test), correlation and regression, correlation coefficient and liner regression, Sampling, the basis of sampling, sampling procedure and sampling statistics.	06
2	Voltammetry: Excitation signals Linear-sweep Voltammetry- voltammetric instruments, voltammetric electrodes, voltammograms, hydrodynamic voltammetry and voltammetric detectors.	06
3	Electrogravimetric Analysis: Theory of electrogravimetric analysis, terms used in electrogravimetric analysis, completeness of deposition, Electrolytic separation of metals, character of the deposit, electrolytic separation of metals with controlled cathode potential, apparatus and determination of copper (constant current procedure).	06
4	Ultra-purity and ultra-trace analysis: Ultra-purity and ultra-trace analysis, laboratory dosing, purification of reagents, Preconcentration Techniques and contamination control during analytical operation.	06
5	Chemical Aspects to Nanomaterials: Nanoscience and nanotechnology, effect of making into small size, general theme of classification of nanomaterial, application of nanomaterials, characterization of nanomaterials using XRD, SEM-EDAX, and TEM.	06

References:

1. H. H.; Willard, L. L. Merritt, J. A. Dean, F. A. Settle, Jr. Instrumental Methods of Analysis.
2. G. R. Chattwal and S. Anand, Instrumental Methods and Chemical Analysis.
3. D. A. Skoog and D. M. West, Fundamentals of Analytical Chemistry”, 4th Ed., CBS College, Publishing, New York.
4. Vogel’s Text Book of Quantitative Chemical analysis (Sixth Edition) By- J.
5. Mendham, R.C. Denny, J.D. Barnes, M.J.K. Thomas (Pearson Education- Low Price Edition)

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Explain various theoretical concepts of analytical chemistry.	2
2	Build up ability to solve the numerical problems.	3
3	Apply theoretical principles, working of various classical and modern instrumentation techniques.	3

AC-201(A): Soft Skills

(Personality and Cultural Development Related Audit course; Practical; 2 Credits)

	<p>Course Objectives (COs):</p> <ul style="list-style-type: none"> To develop soft skills and communication skills amongst the students. 	
1	<p>Introduction to soft skills Formal definition, Elements of soft skills, Soft vs. Hard skills, Emotional quotient, Goal setting, life skills, Need for soft skills, Communication skills, Etiquettes & Mannerism.</p>	2 h
2	<p>Self-Assessment Goal setting, SWOT analysis, attitude, moral values, self-confidence, etiquettes, non-verbal skills, achievements, positive attitude, positive thinking and self-esteem. Activity: The teacher should prepare a questionnaire which evaluate students in all the above areas and make them aware about these aspects.</p>	4 h
3	<p>Communication Skills Types of communication: Verbal, Non-verbal, body language, gestures, postures, gait, dressing sense, facial expressions, peculiarity of speaker (habits). Rhetoric speech: Prepared speech (topics are given in advance, students get 10 minutes to prepare the speech and 5 minutes to deliver, Extempore speech (students deliver speeches spontaneously for 5 minutes each on a given topic), Storytelling (Each student narrates a fictional or real-life story for 5 minutes each), Oral review (Each student orally presents a review on a story or a book read by them) Drafting skills: Letter, Report & Resume writing, business letters, reading & listening skills Activity: The teacher should teach the students how to write the letter, report and build resume. The teacher should give proper format and layouts. Each student will write one formal letter, one report and a resume.</p>	8 h
4	<p>Formal Group Discussion, Personal Interview & Presentation skills Topic comprehension, Content organization, Group speaking etiquettes, driving the discussion & skills. Preparation for personal interview: dress code, greeting the panel, crisp self-introduction, neatness, etiquettes, language tone, handling embarrassing & tricky questions, graceful closing. Activity: Each batch is divided into two groups of 12 to 14 students each. Two rounds of GD for each group should be conducted and teacher should give them feedback. Mock interviews to be conducted.</p>	4 h
5	<p>Aptitude and analytical skills Quantitative aptitude, Numerical reasoning, verbal reasoning, diagrammatic test, situational tests, logical thinking. Analytical skills: Definition, Types, problem solving</p>	8 h
6	<p>Life skills Time management, critical thinking, sound and practical decision making by dealing with conflicts, stress management, leadership qualities Activity: The teacher can conduct a case study activity to train students for decision making skills. The teacher should conduct a session on stress management and guide students on how to manage stress. The teacher may conduct a stress relieving activity in the class. He/she may counsel students individually to know their problems and guide them on dealing with them effectively.</p>	4 h

Suggested readings:

- Basics of Communication In English: Francis Sounderaj, MacMillan India Ltd.
- English for Business Communication: Simon Sweeney, Cambridge University Press
- An Introduction to Professional English and Soft Skills: Das, Cambridge University Press
- Quantitative Aptitude: R.S. Agrawal

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Grasp soft skills and communication skills.	2
2	Apply life skills to manage the situations.	4

CH-P-1: Physical Chemistry Practical-I
(180 Hrs., 100 Marks and 6 Credits)

Course Objectives: The practical course is designed

1. To understand the basic principles of different techniques used in laboratory and provide hands on training on various instruments.
2. To understand the standardization of instruments to make appropriate measurements, analyze the data and report the results.
3. To understand the basic principles of different techniques used in laboratory.
4. to develop the experimental skills in physical chemistry
5. To acquire the knowledge about verification of theoretical aspects.
6. To understand the standardization of instruments like colorimeter, polarimeter etc. and their application.

Students should perform minimum of twenty (20) experiments.
It is expected to perform at least two experiments from each technique.

INSTRUMENTAL

Conductometry

1. Determine the conductance of strong electrolyte (KCl/NaCl/AgNO₃/HCl) at various concentrations and verify the applicability of DHO equation.
2. Determine the amount of trichloroacetic acid, monochloroacetic acid and acetic acid in the given by conductometric titration against sodium hydroxide solution.
3. Determine the solubility of sparingly soluble salt (BaSO₄) at different temperatures conductometrically and determination of ΔG , ΔH and ΔS of the solution.
4. Study the second order velocity constant of hydrolysis of ethyl acetate by sodium hydroxide using conductance measurement.
5. Determination of critical micellar concentration (CMC) of sodium lauryl sulphate from the measurement of conductivities at different concentrations.
6. To determine the concentration of Fe²⁺ ions by titrating with potassium dichromate solution conductometrically.

Potentiometry

1. To determine the stability constant of a complex ion [Ag₂(S₂O₃)⁻³] potentiometrically.
2. To determine standard free energy change ΔG^0 and equilibrium constant for the reaction $\text{Cu} + 2\text{Ag}^+ \rightarrow \text{Cu}^{2+} + 2\text{Ag}$ potentiometrically.
3. To determine the activity coefficient of an electrolyte (HCl) by potentiometry.
4. To determine the amount of each halide in a mixture of halides containing a) KI and KBr/KCl or b) KI / KBr and KCl potentiometrically.
5. To titrate ferrous ammonium sulphate solution with potassium dichromate solution potentiometrically using bimetallic electrode pair.
6. To determine the transport number of Ag⁺ and NO₃⁻ ion.

pH metry

1. Determination of Hammett constant of a given substituted benzoic acid by pH measurements.
2. To determine acidic and basic dissociation constant of amino acid and the iso-electric point of the acid.
3. To determine the three dissociation constants of polybasic acid such as H_3PO_4 by pH measurements.
4. Determine the effect of KCl on the pH of HCl solution.

Colorimetry / Spectrophotometry

1. To determine the pK_a and K_a of given indicator by colorimetry / spectrophotometry
2. To determine the empirical formula of Ferric salicylate complex by Job's method and verify by slope ratio method.
3. Determine the amount of Cu (II) and Fe (III) in a mixture by titrating it against standard EDTA solution spectrophotometrically.
4. Determination of iron in water using a colorimeter.
5. Simultaneous determination of $\text{Cr}_2\text{O}_7^{2-}$ and MnO_4^- ions or Co^{2+} and Ni^{2+} in the solution by spectrophotometry.
6. Record the UV spectrum of Benzene, Pyridine and Pyrimidine in methanol. Compare and discuss the various transition involved in terms of MO theory.

Polarimetry

1. Polarimetric determination of the specific rotation of camphor in benzene and carbon tetrachloride.
2. Determine the percentage of two optically active substances (d-glucose and d-tartaric acid) in a mixture polarimetrically.

Refractometry

To measure refractometrically average polarizability of some of the common solvents.

NON-INSTRUMENTAL**Chemical Kinetics**

1. To determine the rate constant for depolymerization of diacetone alcohol catalysed by sodium hydroxide using dilatometer.
2. Study the kinetics of reaction between potassium persulphate and potassium iodide.
 - a) Determine the rate constant.
 - b) Study the influence of ionic strength on the rate constant.
3. To determine energy of activation of the hydrolysis of methyl acetate in presence of hydrochloric acid (Calculations and graphs expected from excel programming)
4. Determine the colorimetrically the order and energy of activation for decomposition of violet coloured complex of ceric ion and N-phenylanthranilic acid.

Other Non-instrumental experiments

1. Determined the transport number of H^+ and Cl^- ions by moving boundary method.
2. To obtain solubility curve for liquid say water-acetic acid-chloroform system
3. Investigate the adsorption of acetic acid in aqueous solution by using activated charcoal and verify Freundlich's adsorption isotherm.
4. Determination of partial molar volume of ethanol in dilute aqueous solutions.
5. To study the effect of addition of an electrolyte ($KCl/NaCl/NH_4Cl/Na_2SO_4/K_2SO_4$) on solubility of an organic acid (benzoic acid or salicylic acid).

Cryoscopy:-

To determine the mean activity coefficient of an electrolyte ($NaCl$) in dilute solution by cryoscopic measurement.

References:

1. Findley's Practical Physical Chemistry (9th edition), Edited by B. P. Levitt (Longman Group Ltd).
2. Systematic Experimental Physical Chemistry (2nd edition), By S. W. Rajbhoj and Dr. T. K. Chondekar (Anjali Publication, Aurangabad).
3. Advanced Practical Physical Chemistry (26th edition), By J. B. Yadav (Goel Publishing House, Meerut).
4. Experimental Physical Chemistry, By V. D. Athawale, P. Mathur (New Age international Ltd, New Delhi)
5. Advanced Practical in Physical Chemistry (13th edition or latest) By Dr. Pande, Dr. Mrs. Datar, Dr. Mrs Bhadane, Manali Publication, Pune.
6. University Practical Chemistry by P. C. Kamboj, Vishal Publishing Co. Jalandhar, Panjab.
7. Practical Physical Chemistry, By A. M. James and F. F. Prichard, Longman Group Ltd.
8. Advanced Physical Chemistry Experiments by Dr. J. N. Gurtu and Amit Gurtu, Pragati Prakashan Meerut.

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Students will understand the preparation for each experiment.	2
2	Setup and standardize the potentiometer, P^H meter and conductometer.	3
3	Identify thermodynamics and kinetics of simple systems.	4
4	To know Safety requirements and lab skills to perform physico-chemical experiments.	2
5	To apply the principles and techniques to different systems.	3

CH-I-1: Inorganic Chemistry Practical-I
(180 Hrs., 100 Marks and 6 Credits)

Course Objectives: The practical course is designed

1. To understand the basic principles of different techniques used in laboratory analysis.
2. To provide hands on training on various techniques of analysis.
3. Develop the ability to analyze drug samples
4. To make appropriate measurements, analyze the data and report the results.

Students should perform minimum of twenty (20) experiments.

Analysis of ore (minimum two)

- a. Pyrolusite ore - Estimation of silica gravimetrically and Manganese volumetrically.
- b. Haematite - Estimation of copper volumetrically and Iron gravimetrically.
- c. Chromite ore – Estimation of Iron gravimetrically and chromium volumetrically.

Analysis of binary mixtures by gravimetric and volumetric method (minimum five)

- a) Copper- Nickel
- b) Copper -Magnesium
- b) Copper-Zinc
- c) Iron-Magnesium
- d) Nickel-Zinc
- e) Lead-Tin

Drug Analysis (minimum one)

- a. Determination of iron from given drug sample.
- b. Determination of Calcium from given Calcium tablet.

Thermochemistry (minimum two salts)

To determine the lattice energy of binary salts (NaCl, KCl, CaCl₂).

Preparation of the following complexes and determination of its purity (minimum four)

- a) Potassium trioxalatoferrate(III)trihydrate
- b) Tris(acetylacetonato)iron(III)
- c) Potassium di aqua bis(oxalato) chromate (III)
- d) Prussian Blue (Potassium Ferric Ferro cyanide)
- e) Chloropenta-amminecobalt (III) chloride

Chromatography (minimum two)

- a) Determination of the R_f value of Pb, Cu, Cd ions by using paper chromatographic technique.
- b) Determination of the R_f value of Fe, Al, Cr ions by using paper chromatographic technique.
- c) Determination of the R_f value of Ba, Sr, Ca ions by using paper chromatographic technique.

Instrumental method of Analysis (minimum four experiment)

- a) To determine the strength of given mixture of carbonate and bicarbonate by pH metric method
- b) To determine Ca in the given solution by flame photometrically, by calibration curve Method.

- c) Spectrophotometry (**any one**)
1. Estimation of phosphate from waste water by calibration curve method
 2. Estimation of Manganese from steel.
- d) To determine the amount of copper present by iodometric method (potentiometrically)
- e) Estimation of Boric acid using NH_4OH by conductometric method.

References:

1. A Text book of Quantitative Analysis by A.I.Vogel , 4th edition
2. Advanced Practical Inorganic Chemistry By Gurdeep Raj Goel Publishing House.
3. Post Graduate Practical Chemistry (Part – 1) by H.N. Patel, S.P. Turakhia, S.S. Kelkar, S.R. Puniyani, Himalaya Publishing House.
4. Applied Analytical Chemistry: Vermani.
5. University Practical Chemistry by P.C.Kamboj
6. Commercial Methods of Analysis: Shell & Biffen

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Students will understand the process of ore analysis.	2
2	Students able to apply their knowledge for binary mixture separation of inorganic compounds using quantitative analysis	3
3	Students can analyze contents present in drug	4
4	Students able to evaluate the lattice energy of binary salt	6
5	Students are able to synthesize and evaluate the complex and also able to determination of complex purity.	5
6	Students understand the techniques of chromatography and its application in analysis.	2
7	Students able to handle and perform the instrumental analysis techniques.	3

CH-O-1: Organic Chemistry Practical-I

(180 Hrs., 100 Marks and 6 Credits)

Course Objectives: The practical course is designed

1. To make students aware of how to perform organic compounds in laboratory.
2. The course includes synthesis of some derivatives and organic compounds, which will help them while working in research laboratory in future.
3. This course will help them in industry or while doing research in medicinal chemistry for Drug development.
4. To make student aware of green chemistry and role of green chemistry in pollution reduction and pollution control.
5. The students learn how to avoid solvents and do solvent free reaction.
6. Also, the work-up procedure in many experiments is made more eco-friendly to environment.

Introduction to Laboratory Safety (Minimum 2 Practical)

- Meaning of safety signs on container of chemicals, safety handling of chemicals
- Handling of glassware's and care to be taken, handling of organic flammable as well as toxic solvents in laboratory,
- Use of Personal Protective Equipment (PPE) (safety goggles, shoes and gloves)
- Fire extinguisher and its use,
- Chemical Spills/Clean up: action to be taken in accidental cases e.g. cleaning of acid spill over, use eye wash station and bath station in emergency, etc. (compulsory)
- Behaviour: No food or drink policy; include information about where food and drink are allowed (if such a space exists). Explicitly state that disruptive or destructive behaviour will not be tolerated.

Single Stage Preparation Monitored by TLC (Minimum 6)

1. Acetophenone to Benzalacetophenone.
2. Resorcinol to 7-hydroxy, 4-methyl coumarin.
3. Camphor to Borneol.
4. Benzophenone to Benzhydrol.
5. Acetoacetic ester to Pyrazolone.
6. Paramino Benzoic Acid to Parachloro Benzoic Acid.
7. 2-methoxy naphthalene to 1- formyl-2-methoxy naphthalene.
8. Gycine to Benzoylglycine.
9. p- nitrotoluene to p- nitrobenzoic acid.
10. Fischer Indole Synthesis-Reaction of phenyl hydrazine and cyclohexanone
11. Knoevenagel condensation reaction-Reaction of aldehyde and malononitrile.
12. Anthracene to Anthraquinone
13. Benzaldehyde to Cinnamic acid
14. Anisole to 2,4-Dinitroanisole

Purification Techniques (Minimum 8 Demonstration/Experiments)

1. Purification of two organic solids by recrystallization using solvents other than water
2. Purification of two organic liquids by upward/downward/traditional distillation technique
3. Column Chromatography technique should be performed for any one of the above

- preparations
4. Purification by Sublimation Method
 5. Thin Layer Chromatography technique for identification of two different compounds present in mixtures
 6. Solvent extraction using Soxhlet extractor.
 7. Solvent extraction by separatory funnel
 8. Steam distillation.

Use of Chemistry software's like, ISI draw, Chem Draw, Chem Sketch (Minimum 4)

2. Draw the structure of simple aliphatic and aromatic compounds, heterocyclic compounds with different substituent. (Minimum Ten Compounds).
3. IUPAC name and predict the NMR Signals.
4. Sketch Design reaction mechanism scheme of any two addition and two substitution reactions.
5. Literature Search and references.

Preparation of Derivatives: (Minimum 6)

1. Acetyl
2. Benzoyl
3. Semicarbazone,
4. Amide
5. Aryloxyacetic acid,
6. Ester
7. Oxime

Introduction to Green Chemistry

Concept of green chemistry, twelve principals of green chemistry, applications of green chemistry for sustainable development, Atom economy.

Green Chemistry Preparations (Minimum 4)

1. Bromination of acetanilide using Ceric ammonium nitrate.
2. Preparation of Benzilic Acid using NaOH /KOH under Solvent-free Conditions.
3. Photo reduction of benzophenone to benzopinacol in presence of sun light using isopropanol and acetic acid.
4. Nitration of salicylic acid
5. Preparation of 1, 1-bis-2-naphthol under grinding at room temperature.
6. Alternative Green Procedure for Preparation of a Derivative for Carboxylic Acid.
7. Alternative Green Procedures for Organic Qualitative Analysis - Detection of N, S, Cl, Br, I.

Interpretation of UV, FT-IR and ¹H-NMR spectrum of above synthesized compounds. (Minimum 10 Compounds)

References:

1. A text book of practical organic chemistry- A. I. Vogel.

2. Comprehensive Practical Organic Chemistry by V.K. Ahluwalia and Renu Aggarwal
3. Monograph on Green Chemistry Laboratory Experiments by Green Chemistry Task Force Committee, DST
4. R. K. Bansal, Laboratory Manual of Organic Chemistry, New Age International Publisher

Course Outcomes (CO):

After successful completion of the course students are expected to

No.	CO	Cognitive level
1	Students understand the important of safety techniques and handling of chemicals.	2
2	Students are made aware of carrying out different types of reactions and their workup methods.	2
3	Students able to perform purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction.	3
4	This practical course is designed to make student aware of green chemistry and role of green chemistry in pollution reduction.	5
5	Students are able to apply their knowledge for development of experiment involve green chemistry.	6

AC-201(B): Practicing Sports Activities (Personality and Cultural Development Related Audit course; Practical; 2 Credits)				
Course Objectives (CObs):				
<ul style="list-style-type: none"> To motivate students towards sports and provide them required training. 				
SR NO.	NAME OF THE SPORT/GAME (Select ONE of the Following)	SYLLABUS OF THE COURSE	TIMING (02 Hours in a Week)	SEMESTER
1	Volleyball	<ul style="list-style-type: none"> General Fitness Basic Fitness Specific Fitness History of the Game Basic Skill of the Game Major Skill of the Game Technique & Tactics of the Game Game Practice 	Morning : 07 to 09 AM OR Evening : 05 to 07 PM	Total 30 Hours in Each Semester
2	Athletics			
3	Badminton			
4	Cricket			
5	Basketball			
6	Handball			
7	Kabaddi			
8	Kho-Kho			
9	Table-Tennis			
10	Swimming			

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Play any sports on the ground.	2
2	Become healthier and fit.	3

AC-201(C): Practicing Yoga
(Personality and Cultural Development Related Audit course; Practical; 2 Credits)

Course Objectives:

- To motivate students towards yoga and provide them required training.

	<ul style="list-style-type: none"> • Yog: Meaning, Definition & Introduction, Objectives • Primary Introduction of Ashtanga Yoga • Preparation of Yogabhyas • Omkar Sadhana, Prayer, Guru Vandana • Sukshma Vyayamas • Suryanamaskar (12 Postures) • Asanas : <ul style="list-style-type: none"> ▪ Sitting (Baithaksthiti) - Vajrasana, Padmasana, Vakrasana, Ardha-Pashchimotanasana ▪ Supine (Shayansthiti) - Uttan Padaasana(Ekpad/Dwipad), Pavanmuktasana, Viparitakarani Aasana, Khandarasaana, Shavasana ▪ Prone (Viparitshayansthiti) - Vakrahasta, Bhujangasana, Saralhasta Bhujangasana, Shalabhasana(Ekpad/Dwipad), Makarasana ▪ Standing (Dhandsthiti) - Tadasana , TiryakTadasana, Virasana, Ardh Chakrasana • Primary Study of Swasana: Dirghaswasana, Santhaswasana, JaladSwasana - 6 Types • Pranayama : Anuloma-viloma, Bhramari
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Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Perform different yoga.	2
2	Perform different asanas.	3

AC-201(D): Introduction to Indian Music (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional: Campus-level)	
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To motivate students towards Indian music and provide them minimum required training.
	<ul style="list-style-type: none"> • Definition and brief about generation of Swar, Saptak, Thaata, Raaga, Aavartan, Meend, Khatka, Murkhi, Taal, Aalaap etc. • Taal and its uses - Treetaal, Daadraa, Zaptaal, Kervaa. • Information of Badaakhyal, Chhotaakhyal (one), Sargam, Lakshangeet (information) • Detailed information of Tambora • Detailed information of Harmonium and Tablaa. • Five filmy songs based on Indian Classical Music (Theory and Presentation) • Sound Management - Basic information of Sound Recording (including Practicals) • Composition of Music as per the Story • Preparing news write-ups of the Seminars, Library Musical Programmes held at the nearest Akashwani, by personal visits.

Course Outcomes (CO):

On completion of this course, the student will be able to:

No.	CO	Cognitive level
1	Identify different types of Indian music.	3
2	Develop more interest to learn and practice Indian music.	4

**Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon**

॥अंतरी पेटवू ज्ञानज्योत॥



'A' Grade
NAAC Re-Accredited
(3rd Cycle)

SYLLABUS

For

**Master of Science (M. Sc.)
[Botany]**

M.Sc. Part-IInd (Sem-III and IV)

**Choice Based Credit System
(Outcome Based Curriculum)**

2022 – 2023

PROGRAMME AT A GLANCE

Name of the program (Degree)	:	M. Sc. Botany
Faculty	:	Science and Technology
Duration of the Program	:	Two years (four semesters)
Medium of Instruction and Examination	:	English
Exam Pattern	:	60: 40 (60 marks University exam and 40 marks continuous internal assessment)
Passing standards	:	40% in each exam separately(separate head of passing)
Evaluation mode	:	CGPA
Total Credits of the program	:	88 (68 core credits including 4 credits of project/ dissertation, 04 skill enhancement credits, 08 subject elective credits and 08 audit credits)

**Summary of Distribution of Credits under CBCS Scheme for
M.Sc. BOTANY**

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	16	20	16	12
02	Skill based	04	--	-	-
03	Elective	-	-	04	04
04	Project	-	-	-	04
05	Audit	02	02	02	02
06	Total Credits	22	22	22	22

Subject Type	Core	Skill based	School Elective	Project	Audit	Total
Credits	64	04	08	04	08	88
Total Credits = 88						

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

M.Sc. Botany

Choice Based Credit System (Outcome Based Curriculum) with effect from

2021 -2022

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	4	8 + 8	16	1	4 + 0	4	1	2	2	22
II	4	12 + 8	20	1	0 + 0	--	1	2	2	22
III	4	8 + 8	16	1	4 + 0	4	1	2	2	22
IV	4	8 + 8	16	1	4 + 0	4	1	2	2	22
Total Credits		68			12			8		88

(T-Theory, P-Practical)

Structure of curriculum

		First Year				Second Year				Total Credit Value
		Semester I		Semester II		Semester III		Semester IV		
		Credit	Course	Credit	Course	Credit	Course	Credit	Course	
(A)	Prerequisite and Core Courses									
	Theory	4	2	4	3	4	2	4	2	36
	Practical	4	2	4	2	4	2	4	2	28
(B)	Skill Based / Subject Elective Courses									
1	Theory /Practical	4	1	--	--	4	1	4	1	16
(C)	Audit Course (No weightage in CGPA calculations)									
1	Practicing Cleanliness	2	1							2
2	Personality and Cultural Development Related Course	--	--	2	1	--	--	--	--	2
3	Technology Related + Value Added Course	—	—	—	—	2	1	—	—	—
4	Professional and Social + Value Added Course							2	1	2
	Total Credit Value	14	6	14	6	14	6	14	6	88

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV (Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201A	Soft Skills	AC-301A	Computer Skills	AC-401A	Human Rights
		AC-201B	Sport Activities	AC-301B	Cyber Security	AC-401B	Current Affairs
		AC-201C	Yoga	AC-301C	Seminar + Review Writing	AC-401C	Banana Fruit Processing
		AC-201D	Music	AC-301D	Biodiversity & Conservation	AC-401D	Intellectual Property Rights (IPR)

Semester-wise Course Structure of M.Sc. Botany

Semester I

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-101	Core	Plant Systematics-I (Algae, Fungi & Bryophytes)	4	--	4	40	--	60	--	4
BOT-102	Core	Taxonomy of Angiosperms	4	--	4	40	--	60	--	4
BOT-103	Core	Practical Based on Bot. 101	--	4+4	8	--	40	--	60	4
BOT-104	Core	Practical Based on Bot. 102	--	4+4	8	--	40	--	60	4
BOT-105	Skill Based	Applied Plant Biotechnology	4	--	4	40	--	60	--	4
AC-101	Audit Course	Practicing Cleanliness	-----	2	2	--	100	--	--	2
Total Credit for Semester I: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester II

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-201	Core	Plant Systematics-II (Pteridophytes, Gymnosperm & Palaeobotany)	4	--	4	40	--	60	--	4
BOT-202	Core	Plant Physiology and Biochemistry	4	--	4	40	--	60	--	4
BOT-203	Core	Cytogenetics and Molecular Biology	4	--	4	40	--	60	--	4
BOT-204	Core	Practical based on BOT 201 & BOT 202	--	4+4	8	--	40	--	60	4
BOT-205	Core	Practical based on BOT 203	--	4+4	8	--	40	--	60	4
AC-201 A/B/C/D	Audit Course (Select any one)	AC-201 A: Soft Skills AC-201 B: Sport Activities AC-201 C: Yoga AC-201 D: Music	--	2	2	--	100	--	--	2
Total Credit for Semester II: 22 (T = Theory: 12; P = Practical:8; Skill Based:00; Audit course:2)										

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-301	Core	Plant Development & Reproduction	4	--	4	40	--	60	--	4
BOT-302	Core: Special Paper	BOT-302 A: Phycology Special Paper-I BOT-302 B: Mycology Special Paper-I BOT-302 C: Angiosperm Special Paper-I	4	--	4	40	--	60	--	4
BOT-303	Core	Practical Based on BOT 301	4	--	4	40	--	60	--	4
BOT-304	Core	Practical Based on BOT 302 (Special Paper)	--	4+4	8	--	40	--	60	4
BOT-305	Elective (Select anyone)	BOT 305 A: Biostatistics and Bioinformatics BOT 305 B: Techniques in plant Sciences	4	--	4	40	--	60	--	4
AC-301 A/B/C/D	Audit Course (Select anyone)	AC-301 A: Computer Skills AC-301 B: Cyber Security AC-301 C: Seminar and Review Writing AC-301 D: Biodiversity and Conservation	--	2	2	--	100	--	--	2
Total Credit for Semester III: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
BOT-401	Core: Special Paper	BOT-401 A: Phycology Special Paper-II BOT-401 B: Mycology Special Paper-II BOT-401 C: Angiosperm Special Paper-II	4	--	4	40	--	60	--	4
BOT-402	Core: Special Paper	BOT-402 A: Phycology Special Paper-III BOT-402 B: Mycology Special Paper-III BOT-402 C: Angiosperm Special Paper-III	4	--	4	40	--	60	--	4
BOT-403	Core	Practical based on BOT 401 & BOT 402	—	4+4	8	--	40	--	60	4
BOT-404	Core	Practical: Project Dissertation	--	4+4	8	--	40	--	60	4
BOT-405	Elective (Select any one)	BOT-405 A: Plant Ecology & Phytogeography BOT-405 B: Industrial Botany	4	--	4	40	--	60	--	4
AC-401 A/B/C/D	Audit Course (Select any one)	AC-401 A: Human Right AC-401 B: Currant Affairs AC-401 C: Banana Fruit Processing AC-401 D: Intellectual Property right (IPR)	—	2	2	—E	100	--	--	2
Total Credit for Semester IV: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Distribution of Course papers for M. Sc. Part II (Botany)

Subject Code	Title of the Paper		Duration (Hrs./Wk)	Max. Mark	Exam. Time (Hrs.)
M.Sc. Part II					
Semester III : Theory Courses					
BOT-301	Plant Development & Reproduction	Core course	04	100	03
BOT -302	BOT-302 A: Phycology Special Paper-I BOT-302 B: Mycology Special Paper-I BOT-302 C: Angiosperm Special Paper-I	Core course	04	100	03
BOT-305	BOT 305 A: Biostatistics and Bioinformatics BOT 305 B: Techniques in plant Sciences	Skill based	04	100	03
Semester III : Practical Courses					
BOT-303	Practical Based on Bot. 101	Core course	04+04	100	06
BOT-304	Practical Based on Bot. 102	Core course	04+04	100	06
AC-301 A/B/C/D (Select any one)	AC-301 A: Computer Skills AC-301 B: Cyber Security AC-301 C: Seminar and Review Writing AC-301 D: Biodiversity and Conservation	Audit Course	02	100	
Semester IV : Theory Courses					
BOT-401	BOT-401 A: Phycology Special Paper-II BOT-401 B: Mycology Special Paper-II BOT-401 C: Angiosperm Special Paper-II	Core course	04	100	03
BOT-402	BOT-402 A: Phycology Special Paper-III BOT-402 B: Mycology Special Paper-III BOT-402 C: Angiosperm Special Paper-III	Core course	04	100	03
BOT-403	Practical based on BOT 401 & BOT 402	Core course	04	100	03
Semester II : Practical Courses					
BOT-404	Practical: Project Dissertation	Core course	04+04	100	06
BOT-405 (Elective)	BOT-405 A: Plant Ecology & Phytogeography BOT-405 B: Industrial Botany	Core course	04	100	06
AC- 401 A/B/C/D (Select any one)	AC-401 A: Human Right AC-401 B: Currant Affairs AC-401 C: Banana Fruit Processing AC-401 D: Intellectual Property right (IPR)	Audit Course	02	100	

M.Sc. Part-II Semester-III Botany: Core Courses

Core Course	BOT-301 PLANT DEVELOPMENT AND REPRODUCTION	Lectures 60
<p>Course Objectives</p> <ol style="list-style-type: none"> 1.To study vascular tissues, structure of woods and anomalous secondary growth 2.To study historical development of embryology 3.To study structure and development of microsporangium, megasporangium and endosperm. 4.To study methods of pollination and fertilization 5.To study applications of embryology in plant tissue culture <p>Course Outcomes</p> <ol style="list-style-type: none"> 1.Able to differentiate vascular tissue 2.Able to identify embryological stages 3.Expertise in tissue culture technique 		
Unit-1	<p style="text-align: center;">Growth of Plants</p> <p>1.1 Meristems: Classification based on</p> <ol style="list-style-type: none"> a) Origin and development b) Plane of division c) Function and position <p>1.2 Theories of zonation and differentiation</p> <ol style="list-style-type: none"> i. Apical cell theory ii. Histogen theory iii. Tunica-carpus theory iv. Korper- Koppe theory v. Cytohistological zonation vi. Concept of quiescent center <p>1.3 Study of stomata and Trichomes</p> <ol style="list-style-type: none"> a) Introduction b) Classification of stomata by: <ol style="list-style-type: none"> i) Metcalfe and Chalk ii) Stebbins and Khush c) classification of Trichomes by <ol style="list-style-type: none"> i) Uphof's ii) Ramayya's 	11
Unit-2	<p style="text-align: center;">Vascular Tissues</p> <p>2.1 Cambium: Origin, Structure, Types</p> <p>2.2 Differentiation of xylem and Phloem elements and their phylogeny</p> <p>2.3 Study of Woods:</p> <ol style="list-style-type: none"> i) Dicotyledonous woods ii) Gymnospermous woods iii) Reaction woods iv) Sap and Heart wood <p>2.4 Axial parenchyma and their Distribution:</p> <ol style="list-style-type: none"> i) Apotracheal ii) Paratracheal iii) Boundary parenchyma <p>2.5 Anomalous Secondary Growth in Plants :</p> <ol style="list-style-type: none"> a) Dicot stem: <ol style="list-style-type: none"> i. Normal cambium with abnormal activity 	14

	<p>ii. Abnormal cambium with abnormal activity b) Monocot stem : Dracaena, Palms</p>	
Unit-3	<p>3.1 Introduction 3.2 Contribution of Strasburger and P. Maheshwari 3.3 Microsporangium: i) Development and structure of microsporangium ii) Wall layers of microsporangium iii) Types of Tapetum iv) Pollenkitt and sporopollenin v) Microsporogenesis vi) Pollen units 3.4 Male gametophyte: structure, development and spermatogenesis 3.5 Study of certain abnormal developments (i) Pollen formation in Cyperaceae (Pseudomonad) (ii) Pollen embryo sac 3.6 Megasporangium: A) i) Development ii) Structure iii) Megasporesogenesis B) Types of female gametophytes (embryo sac) 3.7 Pollination and Fertilization: A) Self-pollination: i) methods of pollination ii) structure of stigma and style B) Pollen germination: i) pollen-tube formation ii) sperm- cell C) pollen-pistil interaction: i) pollen recognition ii) acceptance-rejection iii) pollen incompatibility D) Entry of pollen tube: i) through stigma, style and embryo sac ii) transfer of pollen tube contents into embryo sac iii) fusion of gametes and fusion of nuclei</p>	12
Unit-4	<p>4.1 Endosperms: i) Introduction ii) development and structure of endosperms iii) Physiology and cytology of endosperms with suitable examples. iv) Function of endosperms 4.2 Polyembryony : i) Introduction ii) Classification of polyembryony iii) Causes of polyembryony iv) Types of polyembryony: a) simple polyembryony b) multiple embryony c) nucellar and integumentary polyembryony d) endothelial polyembryony e) zygotic, suspensor and synangial polyembryony 3 Experimental Embryology:</p>	13

	<ul style="list-style-type: none"> i) Anther and pollen culture ii) ovary culture iii) ovule culture iv) nucellar culture v) endosperm culture vi) embryo culture 	
Unit-5	<p>5.1 Introduction</p> <p>5.2 Scope and Importance</p> <p>5.3 Pollen grains:</p> <ul style="list-style-type: none"> A) Development of pollen grains: <ul style="list-style-type: none"> i) Meiotic and post-meiotic processes ii) Differentiation of wall layers iii) Exine stratification iv) Polarity v) Symmetry B) Structure of mature pollen grain C) Pollen polymorphism D) NPC system <p>5.4 Spore/Pollen development in plants w.r.t. wall composition, exine ornamentation and apertural variations.</p> <ul style="list-style-type: none"> i) Algae ii) Bryophytes iii) Pteridophytes iv) Angiosperms <p>5.5 Applied Palynology: Geopalynology, Melittopalynology, Pollen allergy, Aerobiology Palynotaxonomy and Forensic palynology.</p>	10
Suggested Readings		
<ol style="list-style-type: none"> 1. Carlquist, S. (1961) Comparative Plant Anatomy, Hold, Rinehart and Winston, New York, U.S.A. 2. Carlquist, S. (1988) Comparative Wood Anatomy: Systematic, Ecological and Evolutionary Aspects of Dicotyledonous Wood. Springer-Verlag, Berlin, Germany 3. Cutter, D.F. (1978) Applied Plant Anatomy, Longman, London and New York, USA 4. Cutter, E.G. (1969) Plant Anatomy: Experiment and Interpretation. Part-I : Cell and Tissues, Edward Arnold, London, UK. 5. Eames, A.J. (1961) Morphology of Angiosperms, McGraw Hill, New York, U.S.A. 6. Eames, A.J. and McDaniels, L.H. (1974) An Introduction to Plant Anatomy, II Ed. McGraw Hill, New York and London, UK. 7. Easu, K. (1960) Anatomy of the Seed Plants, Wiley, New York, U.S.A. 8. Easu, K. (1965) Vascular Differentiation in Plants. Hold, Rinehart and Winston, New York, U.S.A. 9. Easu, K. (1977) Anatomy of Seed Plants, (II Ed.) John, Wiley and Sons, New York, U.S.A. Fahn, A. (1982) Plant Anatomy, III Ed. Pergamon Press, Oxford U.K. 10. Fahn, A. (1995) Secretory Tissues in Plants. Academic Press. London, U.K. 11. Foster, A.S. (1949) Practical Plant Anatomy, II Ed. Van Nostrand, New York, U.S.A. Lyndon, R.F. (1990) Plant Development. The Cellular Basis. Unwin Hyman, London, U.K. 12. M.N.B. (1998) Wood Anatomy and Major Uses of Wood. Faculty of Forestry, University Putra Malaysia, Malaysia. 		

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- Steeves, T. A. and I. M. Sussere (1989) Patterns in Plant Development (IInd Ed.) Cambridge University Press. Cambridge, U.S.A.
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22. Percival, M.S. (1965) Floral Biology, Pergamon Press, Oxford, U.S.A.
23. Proctor, M. and Yeo, P. (1973) The Pollination of Flowers, William Collins Sons, London. Raghavan, V. (1986) Embryogenesis in Angiosperms: A Developmental and Experimental Study, Cambridge University Press. Cambridge, U.S.A.
24. Raghavan, V. (1997) Molecular Embryology of Flowering Plants, Cambridge University Press. Cambridge, U.S.A.
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Core Course	BOT-302 A PHYCOLOGY SPECIAL PAPER-I	Lectures 60								
<p>Course Objectives</p> <ol style="list-style-type: none"> 1. The main objective is to fulfil the knowledge of rapidly expanding branch Phycology of Botanical Science. 2. To know diversity of various algal groups. 3. To provide a clear and sound background knowledge in respect to morphology; reproduction and interrelationships of Algae. 4. To study different systems of classification of algae. 5. To study and understand the local Algal diversity from various habit and habitat. <p>Course Outcomes</p> <ol style="list-style-type: none"> 1. Able to differentiate and identify algal forms. 2. Able to classify algae. 3. Expertise in algal diversity and Habitat. 										
Unit-1	<ol style="list-style-type: none"> 1. Introduction, a brief History of Phycology, contribution of Indian algologist. 2. Comparative account of general characters of different groups of algae. (According to F. E. Fritsch's classification). 3. Systems of classification of algae up to orders according to F. E. Fritsch, G. M. Smith, H. C. Bold, and W. J. Wynne. 4. Modern trends in algal systematics. 	12								
Unit-2	<p>Discussion of algae with reference to Reproduction, Life Cycle, Evolution, Phylogeny and interrelationships of belonging to the following algal classes (sensu F. E. Fritsch).</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1. Cyanophyceae.</td> <td style="width: 50%;">2. Chlorophyceae.</td> </tr> <tr> <td>3. Euglenophyceae.</td> <td>4. Xanthophyceae.</td> </tr> <tr> <td>5. Bascillariophyceae.</td> <td>6. Phaeophyceae.</td> </tr> <tr> <td>7. Rhodophyceae.</td> <td></td> </tr> </table>	1. Cyanophyceae.	2. Chlorophyceae.	3. Euglenophyceae.	4. Xanthophyceae.	5. Bascillariophyceae.	6. Phaeophyceae.	7. Rhodophyceae.		36
1. Cyanophyceae.	2. Chlorophyceae.									
3. Euglenophyceae.	4. Xanthophyceae.									
5. Bascillariophyceae.	6. Phaeophyceae.									
7. Rhodophyceae.										
Unit-3	<p>Brief discussion in relation to the morphology and systematic position of the following groups.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1. Chrysophyceae.</td> <td style="width: 50%;">2. Dinophyceae.</td> </tr> <tr> <td>3. Desmophyceae.</td> <td>4. Prasionophyceae</td> </tr> <tr> <td>5. Cryptophyceae.</td> <td>6. Chloromonadophyceae</td> </tr> </table>	1. Chrysophyceae.	2. Dinophyceae.	3. Desmophyceae.	4. Prasionophyceae	5. Cryptophyceae.	6. Chloromonadophyceae	12		
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3. Desmophyceae.	4. Prasionophyceae									
5. Cryptophyceae.	6. Chloromonadophyceae									
<p>Suggested Readings</p> <ol style="list-style-type: none"> 1. Anand, N. (1998). Indian Freshwater Microalgae, Bishen Singh Mahendra Pal Singh, Dehradun, India. 2. Bold, H and Wynne. M. J (1978) Algal structure and reproduction. Prentice Hall of India pvt. Ltd. New Delhi, India. 3. Bony, A.D. (1978). Phytoplankton. Edward Arnold pub. Ltd. London, U.K. 4. Chapman, V.J. and Chapman D.J. (1979). The Algae. English Language Book Society and Mc. Millan, Co, London, U.K. 5. Daws, C. J. (1981). Marine Botany. Wiley Publication Com. New York, USA. 6. Desikachary, T.V. (1959). Cyanophyta. ICAR, New Delhi, India. 										

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8. Ghandi, H.P. *Fresh Water Diatoms of Central Gujrat*, Bishen Singh Mahendra Pal Singh Dehradun, India.
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11. Irvine D. E. G. & D. M. John (1984). *Systematics of Green Algae (The systematic association special vol. 27)*, Academic Press, London
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22. Sahoo, Dinabandhu and Debasish Nivedita (2001). *The Checklist of Seaweeds of Indian Coast* APH Publishing Corporation, Delhi, India.
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24. Smith, G.M. (1950). *Freshwater Algae of the United States*. Mc.Graw Hill, New York, U.S.A.
25. Srinivasan, K.S. (1969). *Phycologia Indica. Icones of Indian Marine Algae*. Vol. 1 and 2. Botanical Survey of India, India.
26. Venkatraman, G.S. (1969). *Vaucheriaceae* ICAR, New Delhi, India.

Core Course	BOT-302 B MYCOLOGY SPECIAL PAPER-I	Lectures 60
<p>Course Objectives</p> <ol style="list-style-type: none"> 1. To reveal historical development in mycology. 2. To make aware principles, rules and regulations of ICBN. 3. To know ultra-structure of fungal cells. 4. To study different classifications for fungal organisms. 5. To study vegetative structure of various groups of fungi. 6. To study reproductive structure phylogeny, interrelationship and life cycle pattern of various groups of fungi. <p>Course Outcomes</p> <ol style="list-style-type: none"> 1. Able to know history of Mycology and Nomenclature of fungi. 2. Able to describe life cycle patterns of various groups of fungi. 3. Higher cognitive skills about taxonomy of fungi will develop. 		
Unit-1	<p>A) History of Mycology</p> <p>B) International code and Botanical nomenclature. Principles, major rules, Revisions and recommendations, effective and valid publications, typification, rejection of names of taxa, starting date point, priority and authority.</p> <p>C) Outline classification proposed by Ainsworth (1973), Hawksworth <i>et al.</i>, (1995) and Alexopoulos <i>et al.</i>, (1996).</p> <p>D) Ultra structure of fungal cell, cell-wall composition, septa, rhizomorph</p>	05
Unit-2	<p>Discussion of fungi with reference to vegetative structure, reproductive structure, phylogeny, interrelationship (if any) and life cycle pattern of following:</p> <p>A) Myxomycota: Acrasiales, Dictyosteliales, Labyrinthulales, Ceratiomyxales, Physarales, Trichiales, Stemonitales, Plasmodiophorales.</p> <p>B) Mastigomycotina Chytridiales, Blastocladales, Saprolegniales, Lagenidiales, Peronosporales.</p> <p>C) Zygomycotina: Entomophthorales, Mucorales, Endogonales</p>	18
Unit-3	<p>Discussion of fungi with reference to vegetative structure, reproductive structure, phylogeny, interrelationship (if any) and life cycle pattern of following:</p> <p>Ascomycotina: Taphrinales, Endomycetales, Protomycetales, Eurotiales, Erysiphales, Meliolales, Clavicipitales, Sphaeriales, Xylariales, Pezizales, Laboulbeniales, Myringiales, Hysteriales, Dothidiales, Pleosporales.</p>	16
Unit-4	<p>Discussion of fungi with reference to vegetative structure, reproductive structure, phylogeny, interrelationship (if any) and life cycle pattern of following:</p> <p>Basidiomycotina: Uredinales, Ustilaginiales, Auriculariales, Dacrymycetales, Tulasnellales, Aphyllophorales, Agaricales, Lycoperdales, Nidulariales, Phallales, Podaxales.</p>	15
Unit-5	<p>Discussion of fungi with reference to vegetative structure, reproductive structure, phylogeny, interrelationship (if any) and life cycle pattern of following:</p> <p>Deuteromycotina: Blastomycetes, Hyphomycetes, Coelomycetes.</p>	06
<p>Suggested Readings</p> <ol style="list-style-type: none"> 1. Ainsworth <i>et al.</i>, (1965-73). The fungi, An advanced treatise Vol. I-IV B, Academic press, London, UK. 2. Alexopoulos & Mims (1979). Introductory Mycology, Willey Eastern Ltd. New Dehli, India. Alexopolus, Mims and Bckwell (1996) Introductory Mycology (4th Ed.). John. Willey and Sons. Inc New York., USA. 		

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4. Burnett and Hunter (1972) Illustrated Genera of Imperfect Fungi, Minnesota.
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6. Bassey E. A. (1950). Morphology and Taxonomy of Fungi, The Blakiston Ed. Philadelphia
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8. Biligrani et. al (1979-81). Fungi of India (Part I-II). Today and tomorrow's Pub. New Dehli, India.
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11. Borse, B. D., Borse, K. N. , Pawar, N. S. And Tuwar, A. R. (2012) Marine Fungi of India (Monograph), Broadway Book Center Publishers and Distributors, Panjim, Goa Pp. 1- 471.
12. Borse, B.D., Borse, K. N., Patil, S. Y., Pawara, C. M., Nemade, L. C. And Patil, V. R. (2016) Freshwater Higher Fungi of India, Lulu Publication, USA and Laxmi Book Publisher, Solapur, Maharashtra, India. Pp. 1-636.
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15. Cletet and Shear (1993). The Genera of Fungi, H. W. Wilson New York, USA.
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18. Dayal R. & Kiran U. (1989). Zoosporic Fungi of India Inter India Pub. New York, USA.
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23. Kamat M. N. (1959). Introductory Plant Pathology Prakash Publication. Pune, India.
24. Khulbe, R. D. (2001) A manual of Aquatic Fungi (Chytridiomycetes and Oomycetes), Daya Publishing House, New Delhi, Pp. 1-255.
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- Subramanian C. V. (1981). Hypomycetes, Academic Press London, UK
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33. Vasudeva R. S. (1961). India Cercosporae ICAR New Dehli, India.
34. Webster J. (1980). Introduction to Fungi 2nd ed. Cambridge Uni, press Cambridge.
35. Wolf and Wolf (1964-69). The Fungi Vol. I-II, John Wiley and Hafner New York, USA

Core Course	BOT-302 C ANGIOSPERM SPECIAL PAPER -I	Lectures 60
<p>Course Objectives</p> <ol style="list-style-type: none"> 1. To study importance of classification in Angiosperms. 2. To study primitive and advanced groups of Angiosperm. 3. To study taxonomic structure of Angiosperms. 4. To study orders of Engler and Prantl's system of classification. 5. To study botanical nomenclature of Angiosperms. <p>Course Outcomes</p> <ol style="list-style-type: none"> 1. Able to differentiate and identify various Angiospermic plants 2. Able to classify flowering plants. 3. Expertise taxonomic structure and nomenclature of Angiosperm. 		
Unit-1	<p>Classification</p> <ol style="list-style-type: none"> 1. Need for classification, (ii) Process of classification, (iii) Classification and Aesthetics, (iv) Hierarchical classification, (v) General and special purpose classification, (vi) Horizontal and Vertical classification, (vii) Polythetic and Monothetic classification, (viii) Folk classification, (ix) Phase of Classification. 	08
Unit -2	<p>Discussion of the following with respect to</p> <ol style="list-style-type: none"> 1. Ranales: A group of most primitive dicotyledons, evolutionary trends. 2. Amentiferae: A heterogenous assemblage of moderately advanced dicotyledons, evolutionary trends 3. Sympetalae: Heptaphyletic in origin, evolutionary trends. 	08
Unit-3	<p>Taxonomic structure</p> <ol style="list-style-type: none"> 1. Taxonomic categories 2. Major categories 3. Minor categories 4. Historical development of concept of species 5. Concept of species 6. Intraspecific categories. 	08
Unit-4	<p>Discussion of orders as defined in Engler and Prantl's system with reference to:</p> <ol style="list-style-type: none"> 1. Range of floral variation 2. Taxonomy, phylogeny and evolutionary trends in the <p>Orders: Helobiae, Liliflorae, Glumiflorae, Scitaminae, Microspermae, Rosales, Contortae, Tubiflorae and Centrospermae</p>	25
Unit-5	<p>Study of Botanical Nomenclature with respect to:</p> <ol style="list-style-type: none"> 1. Scientific names and Common names 2. International Code of Botanical Nomenclature (ICBN) 3. Review of Various codes: i) Paris Code (1867), ii) Rochester Code (1892), iii) Vienna Code (1905), iv) American Code (1907), v) Cambridge Code (1935), vi) Edinburgh Code (1966) vii) Leningrad Code (1978), viii) St. Louis Code (1999). 4. Principles of the code I-V 5. Type method (Typification) and working of Type method 6. Author citation 7. Rejection of names 8. Retention of names 9. Conservation of names 10. New Names 11. Names of cultivated and hybrid plants 	11

Suggested Readings

1. Cronquist A. 1981. An Integrated System of Classification of Flowering Plants. Columbia University Press, New York, USA.
2. Cronquist A. 1988. The Evolution and Classification of Flowering Plants (2nd ed.) Allen Press, U.S.A.
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4. Heywood V.H.1968. Modern Methods in Plant Taxonomy. Oliver Boyd. Edinbburg. Judd Walter S., Campbell C. S., Kollogg, E. A., Stevens P.F. and M. J. Donoghue 2008. Plant Systematics. Sinauer Associates, INC, Publishers. Sunderland, Massachusetts, USA.
5. Lawrence George H. M. 1951. Taxonomy of Vascular Plants. Oxford and IBH Publ. Co. Pvt. Ltd. New Delhi, India.
6. Manilal K. S. and M. S. Muktesh Kumar [ed.] 1998. A Handbook of Taxonomic Training. DST, New Delhi, India.
7. Mondal A. K. 2016. Advanced Plant Taxonomy. New Central Book Agency (P) Ltd. Kolkata, India.
8. Mukhopadhyay N. C. 2006. Plant Taxonomy. Avishkar Publishers, Distributors, Jaipur, India.
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10. Nair R. 2010. Taxonomy of Angiosperm. A. P. H. Publishing Corporation, New Delhi, India.
11. Quicke Donald, L. J. 1993. Principles and Techniques of Contemporary Taxonomy. Blakie Academic & Professional, London.
12. Sharma O. P. 2003. Plant Taxonomy. Tata McGraw-hill Publishing Company Limited, New Delhi, India.
13. Sivrajan V.V.1984. Introduction to Principle of Plant Taxonomy. Oxford and IBH Publ. New Delhi, India.
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19. Vardhana Rashtra 2009. Taxonomy of Angiosperm. Vol. 1-2, Campus Books International, New Delhi, India.
20. Walter S. Judd. Et al. 2002. Plant Systematics- A Phylogeny Approach. Sinauer Associates- Inc. USA

Bot.303
Practical- (Core Course)
Practical Based on Bot-301

Practicals 1-2: Study of stomatal types by peeling method

- a. Types in Dicotyledones
- b. Types in Monocotyledones

Practical 3 : Study of Trichomes locally available plants

Practicals 4 & 5: Isolation and study of wood elements by acid maceration method.

(Preparation of permanent slides by students)

Practical 6, 7 & 8: Study of different types of woods by double stained preparation of:

- a. Dicot woods (Covering different types)
- b. Gymnospermous wood (Any two coniferous woods)

Practicals 9 & 10 : Study of anomalous structures in stem from permanent or prepared slides

- i) *Bignonia*
- ii) *Aristolochia, Tinospora* (Any one)
- iii) *Boerhavia, Mirabilis, Chenopodium* and *Amaranthus* (Any two)
- iv) *Achyranthes*
- v) *Salvadora* and *Combretum* (Any one)
- vi) *Dracaena*

Practicals 11 & 12: Double stained preparation of permanent slides using microtomy. (Using any suitable plant parts like leaf, stem, root, flower, etc.)

Practical 13 : Types of flowers (P.S.).

Practicals 14 and 15: Study of development of microsporangium, microsporogenesis, microspores, male gametophyte of angiosperms with the help of permanent slides

Practical's 16 & 17: Study of megasporogenesis and types of female gametophytes (embryosacs) of angiosperms from permanent slides

Practical 18 : Study of endosperm types (P.S.)

Practical 19 : Study of stages of embryo development (P.S.)

Practical's 20 & 21: Dissection and mounting of different stages of embryo development using suitable materials (e.g. *Cyamopsis tetragonaloba* and *Cucumis* and multiple embryos in *Citrus* seeds.)

Practical 22: Study of pollen units: monads, dyads, tetrads, polyads, pollinia

Practicals 23 & 24: Pollen/ Spore preparation of the following using acetolysis or any other suitable method:

- i. Angiosperm pollens
- ii. Gymnosperm pollens
- iii. Bryophytes types
- iv. Pteridophytes types

Note:

- i) Submission of permanent slide preparation at least two dicot woods and Two Gymnosperm woods and two whole mounts of wood maceration is necessary.
- ii) Submission of permanent slides at least one vegetative/ floral part.
- iii) Submission of five palynological slides is compulsory.

BOT.304

PRACTICAL-II (Core course)

(Based on BOT. 302 A Phycology Special Paper I)

Practical 1-8: Chlorophyceae

A) Volvocales:

Chlamydomonas, Dunaliella, Pandorina, Eudorina, Volvox, and Gonium (Any locally available forms)

B) Chlorococcales:

Chlorococcum, Chlorella, Trebauxia, Tetraedron, Characium, Charasiophon, Ankistrodesmus, Selenestrum, Oocystis, Botryococcus, Coelastrum, Scenedesmus, Pediastrum, Hydrodictyon, Protosiphon and *Crucigenia*. (Any locally available forms)

C) Ulotrichales: *Ulothrix, Uronema, Microspora, Sphaeroplea, Cyliandrocapsum, Ulva, Enteromorpha, Schizomeris* and *Monostroma*, (Any locally available forms)

D) Chaetophorales:

Stigeoclonium, Chaetophora, Draparnaldia, Draparnaldiopsis, Fritschiella, Coleochaete, Trentepohlia, and *Cephaleuros* (Any locally available forms)

E) Cladophorales:

Cladophora, Rhizoclonium, Pithophora, Chaetomorpha, and *Sponogomarpha* (Any locally available forms)

F) Oedogoniales:

Oedogonium, Bulbochaete and *Oedocladium* (Any locally available forms)

G) Conjugales:

Spirogyra, Zygnema, Mougeotia, Sirogonium, Sirocladium, Cosmarium, Euastrum, Pleurotaenium, Closterium and *Cylindrocystis* (Any locally available forms)

H) Siphonales:

Caulerpa, Bryopsis, Dichotomosita, Codium, Halimeda, Udotea, Chaetomorpha, Boergesenia, Valonia, Valoniopsis, Neomeris, Acetabularia and *Tydemania* (Any locally available forms)

I) Charales: *Chara* and *Nitella* (Any locally available forms)

Practical 9-10:

A) Xanthophyceae: *Vaucheria* and *Botrydium* (Any locally available forms)

B) Chrysophyceae: *Dinobryon* and *Synura* (Any locally available forms)

C) Bacillariophyceae: *Coscinodiscus, Melosira, Cyclotella, Chaetoceros, Cymbella, Cocconeis, Biddulphia, Navicula, Nitzschia, Synedra, Pinnularia, Fragilaria, Gyrosigma, Pleurosigma, Gomphonema* and *Surirella*. (Any locally available forms)

D) Euglenophyceae: *Euglena, Phacus, Lepocinclis* and *Trachelomonas* (Any locally available forms)

Practical 11-13: Phaeophyceae:

Ectocarpus, Giffordia, Sphacelaria, Dictyota, Padina, Stoechospermum, Spatoglossum, Dictyopteris, Iyengaria, Colpomenia, Hydroclathrus, Sargassum, Turbinaria, Zonaria, Rosenvingeia, Laminaria, Fucus, Cystoseria, Chnoospora, Macrocystis, Nereocystis and *Postelsia* (Any locally available forms)

Practical 14-16: Rhodophyceae:

Porphyra, Compsopogon, Batrachospermum, Liagora, Scinia, Gelidium, Gelidiella, Grateloupia, Gracilaria, Hypnea, Rhodymenia, Champia, Ceramium, Caloglossa, Acanthophora, Chondrus, Laurencia, Polysiphonia, Asparagopsis, Helminthocladia, Sebdenia, Halymenia, Botryocladia, Gastroclonium, Nemalion and *Amphiroa* (Any locally available forms)

Practical 17-21: Cyanophyceae :

Chroococcus, Gloeocapsa, Gloeotheca, Merismopedia, Aphanothece, Coelosphaerium, Microcystis, Oscillatoria, Phormidium, Lyngbya, Arthrospira, Spirulina, Gloeothrichia, Cyndrospermum, Nostoc, Anabaena, Nostochopsis, Hapalosiphon, Stigonema, Tolypothrix, Rivularia, Calothrix and Dichothrix (Any locally available forms)

Practical 22 – 23: Artificial key of the genera based on Morphology and Reproductive Characters.

Practical 24: Field work Surveys and collection of algae from local water reservoir as ponds, rivers, lakes and polluted habitats.

Notes:

(i) Classification of algae should be followed according to F. E. Fritsch

(ii) Students will submit their scientific survey reports and algal collection at the time of examination.

BOT.304
PRACTICAL-II (Core course)
(Based on BOT. 302 B Mycology Special Paper I)

Study of the representative genera belonging to following groups with respect to observations made based on accessory organs, asexual and sexual structures, fruiting body ascocarp/ basidiocarp/ Pycnidia. (Study should be based on genera collected from the regular field trips and outside tours.)

Practical: 01-03	Myxomycota (Any 10 Genera)
Practical: 04-05	Mastigomycotina (Any 08 Genera)
Practical: 06	Zygomycotina (Any 04 Genera)
Practical :07-12	Ascomycotina (Any 20 Genera)
Practical: 13-18	Basidiomycotina (Any 20 Genera)
Practical: 19-20	Deuteromycotina (Any 08 Genera)
Practical: 21-22	Preparation of artificial key based on appropriate characters
Practical: 23	Isolation of aquatic fungi by baiting in the laboratory
Practical: 24	Botanical Excursion

Note: Botanical excursion, collection of fungal specimens, tour report and submission of fungal specimens/Photographs is compulsory.

BOT.304
PRACTICAL-II (Core course)
(Based on BOT. 302 C Angiosperm Special Paper I)

Practical 1-17: Study of Angiospermic families locally available in the region covering all orders/series (*Sensu* Bentham and Hooker, at least 30 families).

Practical 18-19: Preparation of artificial dichotomous keys of (i) indented (ii) bracketed type based on vegetative and floral characters.

Practical 20-23: Identification of plant specimens up to species level with help of flora's

Practical 24: To study the herbarium techniques

Note:

Botanical excursion is compulsory and students should submit botanical excursion report and digital herbarium/photograph of the plants.

Core Course	BOT-305 A BIostatISTICS AND BIOinformatics	Lectures 60
<p>Course Objectives</p> <ol style="list-style-type: none"> To understand the ways to report the results in a scientific way. Explain the concept of a random, representative sample from population. To recognize importance of Biostatistics in interpreting the biological data and design suitable experiments. Compare two (or more) groups based on continuous, categorical data using comparative measures and hypothesis tests. To use Bioinformatic tools to analyze different protein or nucleotide sequences to reach meaningful conclusions. <p>Course Outcomes</p> <ol style="list-style-type: none"> Able to understand the ways to report the results in a scientific way. Able to recognize importance of Biostatistics in interpreting the biological data Expertise in Bioinformatic stools to analyze different protein or nucleotide sequences 		
Unit-1	<p>Fundamental of biostatistics: Introduction to Biostatistics, Definition, Population, Sample and Samplings, Variables in biology, Types of variables, Collection of data, Types of data, Classification of data, Tabulation of data, Graphic representation of data (Histogram, Frequency Polygon, Frequency curve, Cumulative frequency curve), Significance and limitation of graphic representation.</p>	10
Unit-2	<p>Statistical Methods I: A- Measure of Central tendency: Mean, Median, Mode; Merits and Demerits of central tendency B- Measure of Dispersion: Range, Mean Deviation/ Average Deviation, Standard Deviation, Coefficient of Variation; Merits and Demerits of Measure of Dispersion. C- Probability: Addition rule, Multiplication rule; Probability Distribution: Normal, Binomial and Poisson.</p>	10
Unit-3	<p>Statistical Methods II: Chi-Square test (X^2- test), Test of Significance (t-test/Student test), Analysis of Variance (ANOVA) Correlation and Regression: Correlation analysis, Types of correlation, Methods of studying of correlation, Degree of correlation, significance test of correlation coefficient. Regression Analysis: Linear regression analysis.</p>	10
Unit-4	<p>Introduction to Bioinformatics: Definition of Bioinformatics- History of Bioinformatics, scope and application of Bioinformatics. Fundamentals of Internet, www, HTML, URLs, Role of internet and www in bioinformatics. Biological Data Acquisition- The form of biological information; DNA sequencing methods – basic DNA sequencing, Types of DNA sequences – genomic DNA, cDNA, Expressed sequence tags (ESTs), Genomic survey sequences (GSSs); Databases: Format and Annotation Common sequencing file formats – NBRF/ PIR, FASTA, Files for multiple sequence alignment – multiple sequence format (MSF), ALN format; Files for structural data – PDB format. Bioinformatics Databases: -</p>	10

	<p>Primary sequence databases (GenBank-NCBI, the nucleotide sequence database-EMBL, DNA sequence databank of Japan-DDBJ; Protein sequence and structure databases (PDB, SWISS-PROT and TrEMBL); Derived (Secondary) Databases of Sequences and Structure: Posited, PRODOM, PRINTS, Pfam, BLOCK, SSOP, and CATH. Enzyme Database, Biodiversity Database.</p>	
<p>Unit-5</p>	<p>Technique's in Bioinformatics: Sequence alignment, database searching and structure prediction Pairwise sequence alignment, database similarity searching, FASTA, and BLAST. Multiple sequence alignment and analysis with CLUSTAL X and CLUSTAL W. Measurement of sequence similarity; Similarity and homology. Phylogenetic tree. Phylogenetic data analysis, tree building methods, tree evaluation & interpretation methods. Phylogenetic analysis with PHYLIP software. Prediction of secondary and tertiary structures with different software's and tools. Structure visualization software's.</p> <p>Introduction to Genomics and Proteomics: - Introduction to genomics- scope and application, Computational genomics, Organization of the prokaryotic and eukaryotic genomes, Human Genome Project. Genome maps and types, current sequencing technologies, partial sequencing, gene identification, gene prediction rules and software, Genome databases; Annotation of genome, Genome diversity: taxonomy and significance of genomes –bacteria, yeast, Homo sapiens, Arabidopsis, etc. Functional Genomics - Microarray - Gene Expression, methods for gene expression analysis; Applications of DNA microarray.</p>	<p>20</p>
<p>Suggested Readings</p> <ol style="list-style-type: none"> 1. Arora, P. N. and P. K. Malhan (2006) Biostatistics: Himalaya Publishing House, Girgaon Mumbai-400004. Pp. 578. 2. Baxevanis, A.D. and Francis Ouellette, B.F. (1998) "Bioinformatics– a practical guide to the analysis of genes and proteins" John Wiley and Sons 3. Cantor C.R., Smith C.L., (1993) "Genomics: the science and technology behind the Human Genome Project" John Wiley and Sons 4. Choudhuri S., Carlson D. B. (2008), "Genomics: fundamentals and applications" Informa Healthcare 5. Griffiths A. J. F., Miller J.H., Suzuki D.T., (2000) "An Introduction to Genetic Analysis" W.H. Freeman and Co., Publishers. 6. Khan Irfan Ali and Atiya Khanum (2004): Fundamental of Biostatistics. Ukaaz Publication, Hyderabad- 500036 (Andhra Pradesh). Pp. 498. 7. Mount, D. (2004) "Bioinformatics: Sequence and Genome Analysis"; Cold Spring Harbor Laboratory Press, New York. (ISBN 0-87969-712-1) 8. N. Gurumani (2005) An Introduction to Biostatistics. MJP Publishers, Chennai- 600005.Pp. 407. 9. Pevsner J (2009), "Bioinformatics and functional genomics", Edition 2, John Wiley and Sons 10. Primrose S. B., Twyman R. M. (2004), "Genomics: applications in human biology" Wiley-Blackwell 11. Primrose S. B., Twyman R. M. (2006), "Principles of gene manipulation and genomics" WileyBlackwell 12. Saccone C., Pesole G., (2003), "Handbook of comparative genomics: principle and methodology" John Wiley and Sons 12. Sharma, V. Munjal, A. and Shankar, A. (2008) "A text book of Bioinformatics" first edition, Rastogi Publication, Meerut – India. 13. Suhai S (2000), "Genomics and proteomics: functional and computational aspects" Springer 14. Bergman N. H. (2007), "Comparative genomics" Volume 2, Humana Press 		

Core Course	BOT-305 B TECHNIQUES IN PLANT SCIENCES	Lectures 60
<p>Course Objectives</p> <ol style="list-style-type: none"> 1. To study principles and applications of technique used in life science 2. To know the principles and application of Microscopy 3. To know the principles and application of Microtomy, Histochemical and Cytochemical techniques 4. To know the principles and application of Chromatography and Centrifugation techniques 5. To know the principles and application of Electrophoretic and Molecular biology techniques 6. To know the principles and application of Spectroscopic techniques. <p>Course Outcome</p> <ol style="list-style-type: none"> 1. Able to operate all the instruments. 2. Expertize in instrumentation calibration and Practical application. 		
Unit-1	<p>Microscopy</p> <ol style="list-style-type: none"> 1.1 Image formation (properties of light), Lens- refraction, dispersion of light, objects, images, image quality, magnification concept, resolution 1.2 Light microscopy, Confocal microscopy, Phase Contrast microscopy, Fluorescence microscopy, Electron microscopy (SEM and TEM), Flow cytometry. 	12
Unit-2	<p>Microtomy, Histochemical and Cytochemical technique</p> <ol style="list-style-type: none"> 2.1 Dissection, maceration, squash, peeling and whole mount pre-treatment and procedures 2.2 Serial sectioning, double or multiple staining, lesser assisted Microtomy 2.3 Localization of specific Compounds/reactions/ activities in tissues and cells 	12
Unit-3	<p>Chromatography techniques and Centrifugation techniques</p> <ol style="list-style-type: none"> 3.1 Introduction, concept of partition coefficient, Paper, TLC, Column, Gel filtration 3.2 Affinity, Ion exchange, HPLC 3.3 Gas Chromatography techniques 3.4 Principles, Rotors, Factors affecting centrifugation, Ultracentrifugation, 3.5 Density Gradient Centrifugation, High speed centrifuges 	12
Unit-4	<p>Electrophoretic and Molecular biology techniques</p> <ol style="list-style-type: none"> 4.1 History, Principles, Agarose gel electrophoresis, Pulsed Field Gel Electrophoresis, Polyacrylamide Gel Electrophoresis (PAGE/ Native) 4.2 Sodium Dodecyl Sulphate polyacrylamide gel electrophoresis (SDS-PAGE/ Denaturing), 4.3 Isoelectric focusing, 2 Dimensional Gel Electrophoresis (2-D method), Blotting techniques 4.4 DNA sequencing techniques- Sanger's method, Maxam- Gilbert's method, Automated DNA sequences, Pyrosequencing 4.5 Sequencing of proteins and PCR 4.6 DNA microarray 	12
Unit-5	<p>Spectroscopic techniques</p> <ol style="list-style-type: none"> 5.1 General principles, Beer and Lambert's Law, Molar extinction coefficient, Spectrophotometer (working and application) 5.2 UV-Visible spectroscopy, Nuclear Magnetic 5.3 Resonance (NMR) spectroscopy, 5.4 X-ray crystallography, Spectro-fluometry 5.5 AAS, MS, IR Spectroscopy 	12

Suggested Readings

1. Annie and Arumugam (2000). Biochemistry and Biophysics, Saras Publishing, Tamilnadu.
2. Bisen P.S. Mathur S. (2006). Life Science in Tools and Techniques. CBS Publishers, Delhi.
3. Egerton R.F. Physical Principle of Electron Microscopy: an Introduction to TEM, SEM and AEM.
4. Gamborg O.L., Philips G.C. (Eds.) (1995). Plant Cell, Tissue and Organ Culture fundamental Methods. Narosa Publishing House (P) Ltd.
5. Gunadegaram P. (1995). Laboratory Manual in Microbiology. New Age International (P) Ltd.
6. Harborne J.B. (1998). Phytochemical Methods. Springer (I) Pvt. Ltd.
7. Khasim S.M. (2002). Botanical Micro techniques: Principles and Practice. Capital Publishing Company.
8. Krishnamurthy K.V. (1999). Methods in Cell Wall Cytochemistry. CRC Press. LLC.
9. Marimuthu R. (2008). Microscopy and Microtechnique. MJP Publishers, Chennai.
10. Pal and Ghaskadabi (2009). Fundamentals of Molecular Biology. Oxford Publishing Co.
11. Plummer David (1987). An Introduction to Practical Biochemistry. 3rd Eds. Tata Mc Graw-Hill Publishing Company Ltd.
12. Prasad and Prasad (1984). Outline of Microtechnique. Emkay Publications, Delhi.
13. Sadasivam S., Manickam A. (1996). Biochemical Methods. 2nd Edn. New Age International (P) Ltd.
14. Sass John E. (1984). Botanical Microtechniques. Tata McGraw-Hill Publishing Company Ltd.
15. Sharma V.K. (1991). Techniques in Microscopy and Cell Biology. Tata McGraw-Hill Publishing Company Ltd.
16. Srivastava S. and Singhal V. (1995). Laboratory Methods in Microbiology. Anmol Publication Pvt. Ltd. Delhi.
17. Srivistava M.L. (2008). Bioanalytical Techniques. Narosa Publishing House (P) Ltd.
18. Wilson K., Walker J. (2000). Practical Biochemistry Principles and Techniques. Cambridge University Press.
19. Wilson K., Walker J. (2005). Principles and Techniques in Biochemistry and Molecular Biology. Cambridge University Press.

M.Sc. Part-II Semester-III Botany: Audit Courses

AC-301 A: Computer Skills (2 Credits)	
Unit 1	<p>Elements of Information Technology</p> <p>1.1 Information Types: Text, Audio, Video, and Image, storage formats</p> <p>1.2 Components: Operating System, Hardware and Software, firmware</p> <p>1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards.</p> <p>1.4 Processor & Memory: Processor functions, speed, Memory types: RAM/ROM/HDD/DVDROM/Flash drives, memory measurement metrics</p>
Unit 2	<p>Office Automation- Text Processing</p> <p>2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, ReadingLayout View</p> <p>2.2 Working with Files: Create New Documents, Open Existing Documents, Save Documents to different formats, Rename Documents, Close Documents</p> <p>2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins</p> <p>2.4 Lists: Bulleted and Numbered Lists,</p> <p>2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Move and Resize Tables, Moving the order of the column and/or rows inside a table, Table Properties</p> <p>2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents,</p> <p>2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters</p> <p>2.8 Types of document files: RTF, PDF, DOCX etc</p>
Unit 3	<p>Office Automation-Worksheet Data Processing</p> <p>3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets,</p> <p>3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells</p> <p>3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells</p> <p>3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts</p>
Unit 4	<p>Office Automation-Presentation Techniques and slide shows</p> <p>4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout</p> <p>4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes</p> <p>4.3 Work with text: Add text and edit options, Format text, copy text formatting, Replace fonts, Line spacing, Change case, spelling check, Spelling options</p> <p>4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing row width, Adding a row/column, Deleting a row/column, Combining cells, Splitting a cell, Adding color to cells, To align text vertically in cells, To change table borders, Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slide animation/transitions.</p>
Unit 5	<p>Internet & Applications:</p> <p>5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing the Internet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers, Uniform resource locator</p> <p>5.2 Internet Resources: Email, Parts of email,</p> <p>5.3 Protecting the computer: Password protection, Viruses, Virus protection software, Updating the software, Scanning files, Net banking precautions.</p>

	<p>5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services</p> <p>5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing</p> <p>5.6 e-learning: e-Books, e-Magazines, e-Newspapers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware</p>
Unit 6	<p>Cloud Computing Basics</p> <p>6.1 Introduction to cloud computing</p> <p>6.2 Cloud computing models: SAS, AAS, PAS</p> <p>6.3 Examples of SAS, AAS, PAS (DropBox, Google Drive, Google Docs, Office 365 Prezi, etc.)</p>

AC-301 B: Cyber Security(2 Credits)	
Unit 1	<p>Networking Concepts Overview Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet.</p>
Unit 2	<p>Security Concepts Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography. Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.</p>
Unit 3	<p>Security Threats and vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Cyber crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes,</p>
Unit 4	<p>Cryptography Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure,</p>
Unit 5	<p>System & Network Security System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.</p>
Unit 6	<p>OS Security OS Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.</p>
Unit 7	<p>Security Laws and Standards Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.</p>

M.Sc. Part II Semester IV Botany: Core Special Paper

Core Course	<p align="center">BOT-401 A</p> <p align="center">PHYCOLOGY SPECIAL PAPER-II</p>	Lectures 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To know cellular details of prokaryotic and eukaryotic algae. 2. To understand algal physiology, biochemistry and genetics. 3. To know about cultivation of algae and its application. 4. To aware about commercial utilization of algae. 5. Role of algae in industries. <p>Course Outcomes:</p> <ol style="list-style-type: none"> 1. Able to understand algal physiology, biochemistry 2. Able to cultivate algae for its utilization 		
Unit I	<p>Algal Cell Biology and Genetics:</p> <ol style="list-style-type: none"> 1. Prokaryotic, Mesokaryotic, Eukaryotic Cell structure and cellular organelles 2. Cell wall, Flagella, Cell division in algae 3. Type of Chloroplast / Plastids, Structure and arrangement of Thylakoid, Stroma. 4. Endoplasmic Reticulum, Gas vacuoles, Golgi bodies, Mitochondria 5. The nucleus and nuclear divisions, Cell Division and Chromosomes in algae 6. Extra chromosomal Inheritance 7. Plastid DNA 8. Cyanophages 9. Sexuality (All three types) 	15 L
Unit II	<p>Algal Physiology and Biochemistry:</p> <ol style="list-style-type: none"> 1. Biochemical characteristics of Algal pigments and Extracellular products 2. Biochemicals from algae: <ol style="list-style-type: none"> a) Carbohydrates and Proteins in Algae b) Essential fatty Acids c) Plant growth regulators 3. Algal toxins: Effect of toxins, mode of action, problems and prospects. 4. Nutrition in algae: <ol style="list-style-type: none"> a) Mineral nutrition: Macronutrients and Micronutrients b) Types of Nutrition: Phototropic, Chemotropic. 5. Biological nitrogen fixation: <ol style="list-style-type: none"> a) Role of enzyme nitrogenase, hydrogenase b) Mechanism of nitrogen fixation c) Nitrogen fixing blue green algae d) Heterocyst development and site of nitrogen fixation e) Factors affecting on nitrogen fixation f) Calcification and Silicification. 	15 L
Unit III	<p>Algal Cultivation</p> <ol style="list-style-type: none"> 1. Definition, General requirements for culturing of algae, types of culture media 2. Preparatory culture, isolation of algae, streak culture, nutritive solution, dilution culture 3. Types of cultures: Enrichment culture synchronous culture, continuous culture, mass culture. 4. Cultivation of algae in waste water 5. Current status of the large-scale culture of algae in India 	12 L

Unit IV	<p>Marine Algal Cultivation</p> <ol style="list-style-type: none"> 1. Introduction, Necessity of marine algal cultivation. 2. Principle methods of cultivation : <ol style="list-style-type: none"> a) Vegetative propagation / <i>Eucheuma</i> type mariculture b) Nonmotile spore type / <i>Porphyra</i> type mariculture c) Motile spore (Zoospore) type / The <i>Laminaria</i> type Mariculture. 3. Marine algal cultural status and utilization in India 	08 L
Unit V	<p>Algal Utilization</p> <ol style="list-style-type: none"> 1. Nutritional Value of Microscopic and Macroscopic algae 2. Micro algae industrial raw material. 3. Industrial uses: Agar Agar, Alginates, Carrageen and other by products of marine algae. 4. Algal fuel: Biogas from algae, algal energy products, Hydrocarbons from algae 5. Cyanobacteria in human welfare: Production of fine chemicals, polysaccharides, bioactive molecules, pigments, antioxidants, and biofertilizer, Reclamations of Usar soils 6. Algae in Pharmacy Iodine, Vitamins, Proteins, Antibiotics. 7. Human food: Role of algae as nutrients supplement. 	10 L
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. C. Van den Hoke, D. G. Mann & H.M. Jahns (1995) <i>Algae An Introduction to Phycology</i>, Cambridge University Press 2. Carr N.G. & B. A. Whitton (1982) <i>The Biology of Cyanobacteria Botanical Monograph Vol-II</i> Blackwell Scientific Publication, London, UK. 3. Janet R. Stein (1975) <i>Phycological methods</i>, Cambridge University Press. 4. John D. Dodge (1973) <i>The Fine Structure of algal cells</i>, Academic Press, New York, USA. 5. John S. Burlew (1976) <i>Algal Culture from Laboratory to Pilot Plant</i>, Crnegie Institution of Washington Publication 600, Washington, D. C., USA. 6. Peter S. Dixon (1973) <i>Biology of the Rhodophyta</i>, Oliver & Boyd Croythorn House, 23 Ravelston Terrace, Edinburgh 7. Ralph A. Lewin. (1976) <i>The Genetics of Algae (Botanical Monographs Vol. 12)</i>, Blackwell Scientific Publications, Oxford. 8. Tilden J. E. (1968) <i>The Algae and Their life relations (Fundamentals of Phycology)</i> Hafner Publishing Co, London, UK. 9. Alan J. Brook (1981) <i>The Biology of Desmids</i>. University of California Press , Berkeley. 		

M.Sc. Part II Semester IV Botany: Core Special Paper

Core Course	<p align="center">BOT-401 B</p> <p align="center">MYCOLOGY SPECIAL PAPER-II</p>	Lecture 60
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1) Identify, characterize, maintain industrially important moulds 2) To learn possibilities for fungal growth, fermentation technology, production of alcohol, antibiotics, enzymes, organic acid. 3) To study mushroom technology, fungal toxins. 4) To provide students with knowledge of harmful and beneficial soil microflora. 5) To learn role of soil microorganism, environmental aspects, symbiosis, nitrogen fixation. 6) To study the fungal ecology, make students aware about fungal biotechnology. 7) To learn the fungal genetics, improvement of fungal strains. <p>Course Outcomes:</p> <ol style="list-style-type: none"> 1) This paper acquaints students with maintenance and preservation industrial important fungi. 2) Able to know fermentation technology, mushroom technology, fungal toxins, soil microflora, importance of soil microflora, nitrogen fixation, fungal ecology, fungal genetics and fungal biotechnology. 		
Unit I	<p>Industrial Mycology:A</p> <ol style="list-style-type: none"> i) Maintenance and Preservation of Cultures ii) Methods of Sterilization: Physical, Chemical, Radiations iii) Principals of Microbial Growth: Batch Cultures, Continuous Culture, Synchronous Culture iv) Assay Methods for Fermentation Products: Physical, Chemical and Biological Methods v) Mushroom Cultivation: Important steps involved in cultivation of <i>Agaricus</i> (Button) and <i>Pleurotus</i> (Dhingri) mushrooms on large Scale. 	12 L
Unit II	<p>Industrial Mycology: B</p> <ol style="list-style-type: none"> i) Fermentation Methods for- Alcohol Production, Citric acid Production, Antibiotic (Penicillin) Production, Vitamins (Vitamin B12, Vitamin A B-Carotene, Riboflavin and Gibberellin) Production, Enzymes Production ii) Non Alcoholic Beverages: Tea, Coffee, Cocoa iii) Retting/Rotting of Fibres iv) Fungal Toxins: Fungal toxins affecting animals and man- Mycotoxins of Food and Feed, Ergot toxins, Mushroom toxins. 	12 L
Unit III	<p>Soil Microbiology:</p> <ol style="list-style-type: none"> i) Structure of soil, Types of soil, Microbial distribution in soil ii) Role of microbes in soil and their effect on plant growth. iii) Humus and its role in agriculture iv) Rhizosphere and Rhizoplane v) Microbial association in soil, Nitrogen fixation 	14 L
Unit IV	<p>Fungal Ecology:</p> <ol style="list-style-type: none"> i) Fungi in extreme environment- Thermophilic and Psychrophilic fungi ii) Heterotrophy and consequences, practical exploitation of saprotrophy iii) Fungi as control agents-Entomogenous, Nematophagus and Mycoparasites <p>Fungi and Biotechnology:</p> <ol style="list-style-type: none"> i) Fungi in Industry- Mycoprotein, Growth Hormone, Miscellaneous products as Zearalenone, Mycoinsecticides, Mycoweedicides. ii) Mycorrhiza- Mass cultivation and its uses in agriculture and forest. 	12 L

	<ul style="list-style-type: none"> iii) Protoplast isolation and fission iv) Engineering plants for resistance to disease and pest 	
Unit V	<p>Fungal Genetics:</p> <ul style="list-style-type: none"> i) Incompatibility System, Tetrad analysis ii) Sexual reproductive structures in Ascomycetes and Basidiomycetes iii) Parasexual Cycle iv) Industrial strain improvement in Penicillium, Yeast and Mushroom 	10 L

Suggested Readings:

- Barron J. H. (1975) The nematodes destroying Fungi. Can. Biol. Pub. Ltd. Gulph Ontario
- Burnett J. H. (1975) Myogenetics: Introduction to General Genetics of Fungi Wiley- Blackwell, London.
- Casida L. F.JR. (1968) Industrial Microbiology New International Publishers, New Delhi.
- Dayal R. (2000) Predaceous Fungi Common wealth Publishers.
- Dubey R. C. (1995) A text Book of Biotechnology. S. Chand and Company Ltd. New Delhi
- Essar K E and R Kuenen (1967) Genetics of Fungi Sringer-Verzlag, Berline
- Funcham (1990) Fungal Genetics Oxfort and Edinburgh, Blackwell Scientific Publication
- Griffin (1973) Ecology of Fungi, Chapman and Hall, London
- Hudson H J (1961) Fungal Sporophytism. Edward Arnold Ltd. London
- Martin A (1961) An introduction to soil microbiology Vol. I, II, III Rastogi Publication, Meerut.
- Nair M C and Balakrishinan (1986) (Eds.)Benificial Fungi and Their Utilization, Scientific Pub. Jodhpur.
- Pathak Y B (1998) Mushroom Production and Processing Technology Vol III Himalaya Publishing Bombay
- Purkyastha and Chanda (1976) Indian Edible Mushroom, Firma Klam Pvt. Ltd. Calcutta
- Singh B D (1998) Biotechnology Kalyani Pub. New Delhi
- Smith G (1969) An Introduction to Industrial Mycology, Edward Arnold London

M.Sc. Part II Semester IV Botany: Core Special Paper

Core Course	<p align="center">BOT-401 C ANGIOSPERM SPECIAL PAPER II</p>	Lecture 60												
<p>Objectives:</p> <ol style="list-style-type: none"> To study Cronquist's system of classification of angiosperms. To study phylogeny and interrelationship of different orders. To study biosystematics and ultra structural systematic. To study the numerical taxonomy of angiosperms. To study chemotaxonomy of Angiospermic plants. <p>Course outcomes:</p> <ol style="list-style-type: none"> Able to know Cronquist's system of classification. Able to know phylogeny and interrelationship of different orders and taxa. Able to understand biosystematics and ultra structural systematic. Able to understand the numerical taxonomy of angiosperms. Able to understand chemotaxonomy of Angiospermic plants. 														
Unit 1	<p>Cronquist's system of classification (1968, 1988) w.r.t.</p> <ol style="list-style-type: none"> Outline of the system. Refinements over his earlier system of 1968. Salient features of the system. Merits and demerits of system. Description, characterization and critical tendencies of the subclasses. 	12 L												
Unit 2	<p>Discussion on the orders (Sensu Cronquist):w.r.t. Morphological characters, floral variation, phylogeny and interrelationship.</p> <table border="0"> <tr> <td>2.1 Piperales</td> <td>2.2 Hamamelidales</td> <td>2.3 Caryophyllales</td> </tr> <tr> <td>2.4 Dilleniales</td> <td>2.5 Euphorbiales</td> <td>2.6 Asterales</td> </tr> <tr> <td>2.7 Najadales</td> <td>2.8 Arales</td> <td>2.9 Cyperales</td> </tr> <tr> <td>2.10 Zingiberales</td> <td>2.11 Liliales</td> <td></td> </tr> </table>	2.1 Piperales	2.2 Hamamelidales	2.3 Caryophyllales	2.4 Dilleniales	2.5 Euphorbiales	2.6 Asterales	2.7 Najadales	2.8 Arales	2.9 Cyperales	2.10 Zingiberales	2.11 Liliales		12 L
2.1 Piperales	2.2 Hamamelidales	2.3 Caryophyllales												
2.4 Dilleniales	2.5 Euphorbiales	2.6 Asterales												
2.7 Najadales	2.8 Arales	2.9 Cyperales												
2.10 Zingiberales	2.11 Liliales													
Unit 3	<p>Systematics</p> <p>3.1 Biosystematics</p> <ol style="list-style-type: none"> Concept, aims and objectives, categories. Methods in biosystematics, ecotypic variations, scope and limitations. Comparison of classical taxonomy and biosystematics. <p>3.2 Ultra structural Systematics</p> <ol style="list-style-type: none"> SEM and TEM studies and plant systematic SEM and plant surface structure. TEM and dilated cisterneae of endoplasmic reticulum and sieve element plastids. Applications of data in the classification of higher taxa 	12L												
Unit 4	<p>Numerical Taxonomy</p> <ol style="list-style-type: none"> Phenetic methods in taxonomy (taxometris) Principles, construction of taxonomic groups OTUs, unit character, measurement of resemblances, cluster analysis Phenons and ranks, discrimination, nomenclature and numerical taxonomy. Applications, merits and demerits, cladistics and cladogram, parsimony analysis, cladistics and classification. 	12 L												
Unit 5	<p>Chemotaxonomy</p> <ol style="list-style-type: none"> Origin of chemotaxonomy, classes of compounds and their biological significance. Stages in chemotaxonomic investigations, techniques. Uses of chemical criteria in plant taxonomy, protein and taxonomy, seed proteins, techniques of protein electrophoresis, Chemical protein analysis procedures, analysis of amino acid 	12L												

	sequence and its significance in systematics, 5.5 Serology and taxonomy, history, precipitation reaction, techniques, antigen, antisera antibody, application of serological data in systematics	
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Suggested readings:

1. Cronquist, A. 1981. An Integrated System of Classification of Flowering Plants. Columbia University Press, New York, USA.
2. Cronquist, A. 1988. The Evolution and Classification of Flowering Plants (2nd ed.), Allen Press, U.S.A.
3. Davis, P. H. and V. H. Heywood 1991. Principles of Angiosperm Taxonomy. Today and Tomorrow Publications, New Delhi, India.
4. Endress Peter, K. 1994. Diversity and Evolutionary Biology of Tropical Flowers. Cambridge.
5. Judd Walter S., Campbell C. S., Kollogg, E. A., Stevens P. F. and M. J. Donoghue 2008. Plant Systematics. Sinauer Associates, INC, Publisher. Sunderland, Massachusetts, USA.
6. Judd Walter S., Campbell C. S., Kollogg, E. A., Stevens P.F. and M. J. Donoghue 2008. Plant Systematics. Sinauer Associates, INC, Publishers. Sunderland, Massachusetts, USA.
7. Lawrence George H. M. 1951. Taxonomy of Vascular Plants. Oxford and IBH Publ. Co. Pvt. Ltd. New Delhi, India.
8. Naik, V. N. 1984. Taxonomy of Angiosperms Tata McGraw-Hill Publication Com. Ltd. New Delhi, India.
9. Quicke, Donald, L. J. 1993. Principles and Techniques of Contemporary Taxonomy. Blakie Academic & Professional, London, UK.
10. Rao, R. R. 1994. Biodiversity of India (Floristic Aspects). Bishen Singh Mahendra Pal Singh, Dehradun, India.
11. Richard, A. J. 1997. Plant Breeding Systems. (2ed.) Chapman and Hall.
12. Shivanna, k. R. and B. M. Johri 1985. The Angiosperm Pollen: structure and Function. Wiley Eastern limited, New Delhi, India.
13. Stace, C. A. 1989 Plant Taxonomy and Biosystematics. Edward Arnold, London, U.K.
14. Stuessy, T. F. 2002. Plant Taxonomy. The Systematics Evaluation of Comparative data. Bishen Singh Mahendra Pal Singh, Deheradun, India.
15. Taylor, D. V. and L. J. Hickey 1997. Flowering Plants: Origin, Evolution and Phylogeny. CBS Publishers & Distributers, New Delhi, India.

M.Sc. Part II Semester IV Botany: Core Special Paper

Core Course	BOT 402: A PHYCOLOGY SPECIAL PAPER - III	Lecture 60
	<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To study ecological classification of algae. 2. To understand those environmental factors which control their survival growth, distribution and causal mechanisms 3. To helps in bio-monitoring the water bodies and pollution control. 4. To know phycological techniques, for water supplies. 5. To study the role of algae in sewage disposal. <p>Course Outcomes:</p> <ol style="list-style-type: none"> 1. Able to understand ecological classification of algae , Habitats of algae. 2. Able to know algae and sewage disposal and eutrophication. 	
Unit I	<p>Ecological Classification of Algae</p> <ol style="list-style-type: none"> 1. Phytoplankton 2. Benthic algae 3. Cryophilic algae 4. Thermophilic algae 5. Soil Algae 6. Epiphytic algae 7. Lithophytes 8. Endophytic algae 9. Symbiotic algae 10. Parasitic algae 11. Epizooic Algae 	08 L
Unit II	<p>A) Fresh Water Bodies</p> <ol style="list-style-type: none"> 1. Lentic and Lotic environment: - General considerations physical and chemical factor and their influence, Types of Lakes, Zonation types of Lentic and Lotic water bodies, phytoplankton nature, adaptation, periodicity and succession. 2. Flora of Lentic and Lotic series and its feature <p>B) Marine Environment</p> <ol style="list-style-type: none"> 1. General considerations, physical and chemical factors, marine phytoplankton nature, seasonal growth cycles, productivity. 2. Marine benthic algae, shore type Zonation patterns and factors governing them, Zonation pattern of East and west Coast of India. 	15 L
Unit III	<p>Algae and Sewage Disposal</p> <ol style="list-style-type: none"> 1. Necessity of sewage disposal 2. Composition of sewage (Physical, chemical biological) 3. Treatment of waste water: Pretreatment, secondary biological treatment. 4. Types of algal stabilization ponds 5. Algal flora their periodicity and succession in sewage stabilization ponds. 	10 L
Unit IV	<p>Eutrophication and Biomonitoring of Water Quality (17 L)</p> <ol style="list-style-type: none"> 1. Definition of Water pollution 2. Types of water pollutants 3. Eutrophication Definition, Process of eutrophication, Effects of eutrophication and algal bloom, Controls of water blooms, pollution tolerant genera. 4. Saprobic zones (Kolwewitz and marson 1909); Saprobic zones (Partick 1977) 	

	<p>5. Algae in organically polluted waters and home sewage</p> <p>6. Common algae in water supplies</p> <p>7. Diatoms as indicators of water pollutions</p> <p>8. Nygaard's tropic state indices.</p> <p>9. Palmer's pollution index</p> <p>10. Filter clogging algae; Algae causing odour, taste, colour, and slime in water.</p> <p>11. Uses of algae in water supplies; Control of algae in water supplies.</p> <p>12. Water pollution monitoring and management bodies</p>	17 L
Unit V	<p>: Phycological Techniques</p> <p>1. Field Collection procedure for marine and freshwater algae, phytoplankton Phytoplankton counts methods.</p> <p>2. Ecological Field Methods: Macro algae</p> <p>3. Preservation, preparation of herbarium and permanent slides</p> <p>4. Histochemical and general methods, stains and fixatives</p> <p>5. Important organizations involved in water pollution control and monitoring in India and role of NGO's in water pollution management</p> <p>6. Some international phycological societies and journals</p>	10 L

Suggested Readings:

1. Abbasi, S.A. (1998) Water Quality Sampling and Analysis. Discovery Publishing House New Delhi, India.
2. Agrawal, S.C. (1999) Limnology. APH Publishing Corporation, New Delhi, India.
3. Anand, N. (1989) Handbook of Blue Green Algae. Bishen Singh Mahendra Pal Singh, Dehradun, India.
4. Anonymous, (1971) Algal Assay Procedure Bottle Test. Nat. Eut. Res. Prog. EPA.
5. APHA, (2017) Standard Method for the Examination of Water and Waste Water. 23rd Edition American Public Health Association, New York, U.S.A.
6. Fatma, T. (1999) Cyanobacterial And Algal Metabolism and Environmental Biotechnology. Narosa Pub. House, New Delhi, India.
7. Kachroo, P. Aquatic Biology in India. Bishen Singh Mahendra Pal Singh Dehradun, India.
8. Mark M. Littler & Diane S. Litter (1985) Hand book of Phycological Methods, Cambridge University Press.
9. Palmer, C. Wervin (1980) Algae and Water Pollution. Castle House Publications Ltd. , London, U.K.
10. R. Ramesh, M. Anbu (1996) Chemical Methods for Environmental Analysis. McMillan India Ltd., Mumbai, India.
11. Sambamurty, A.V.S.S. (2005) A Text Book of Algae. I.K. International, Mumbai, India.
12. Sharma, O.P. (2003) A Text Book of Algae. Tata Mc. Grew Hill Pub. Mumbai, India.
13. Trivedi, P.C. (2001) Algal Biotechnology. Pionter Pub., Jaipur, India.

M.Sc. Part II Semester IV Botany: Core Special Paper

Core Course	<p align="center">BOT. 402 B MYCOLOGY SPECIAL PAPER-III</p>	Lectures 60
<p>Course objectives:</p> <ol style="list-style-type: none"> 1. To know scope and significance and history of plant pathology. 2. To study pathogenesis, defense mechanism and physiology of diseased plants. 3. To make aware about Specific Plant diseases and disease management. 4. To know seed pathology, Market pathology, Forest pathology and medical mycology. <p>Course outcomes:</p> <ol style="list-style-type: none"> 1. Able to know concept, scope and importance of the plant pathology. 2. Able to describe development of disease, pathogenesis, defense mechanism. 3. Higher cognitive skills about abiotic and biotic diseases of plants will develop. 		
Unit 1	<p>Plant pathology:</p> <p>A) Definition, Objectives, Scope and significance of plant pathology. History of Plant Pathology in India.</p> <p>B) Concept of disease, Disease pyramid.</p> <p>C) Classification of Plant diseases</p> <p>D) Stages in development of disease (Disease cycle).</p>	12 L
Unit 2	<p>A) Pathogenesis (Mechanism of infection): penetration, invasion and growth.</p> <p>B) Plant-parasite relationship.</p> <p>C) Chemical Weapons of pathogen:</p> <ol style="list-style-type: none"> i) Enzymes in plant diseases ii) Microbial toxins in plant diseases, Non-Host specific toxins and Host-specific toxins. 	12 L
Unit 3	<p>A) Effect of environment on disease development</p> <p>B) Defense mechanism:</p> <ol style="list-style-type: none"> i) Structural defense mechanism ii) Biochemical defense mechanism <p>C) Physiology of diseased plants</p>	12 L
Unit 4	<p>Specific Plant diseases and disease management:</p> <p>a) Abiotic: environmental factors that cause disease- temperature, moisture, oxygen, light and mineral deficiency.</p> <p>b) Biotic : Plant diseases caused by</p> <ol style="list-style-type: none"> i) Viruses: Leaf curl of Tomato, Yellow vein mosaic of Bhendi. ii) Mycoplasmas: Little leaf of Brinjal, Grassy shoot of Sugarcane ii) Bacterial: Citrus canker, Angular leaf spot of Cotton. iv) Nematode: Root knot of vegetable, Soybean cyst nematode. v) Fungal: Downy mildew of crucifers, Downy mildew of Grapes, Powdery mildew of Grapes, Rust of Wheat, Smut of Jowar, Red rot of Sugarcane. <p>c) Physical, Chemical and Biological Control measures</p>	12L
Unit 5	<p>A) Seed Pathology: Methods of study, external and internal seed born diseases, Quarantine laws and seed certification, storage mycoflora and toxins.</p> <p>B) Forest Pathology: Forest diseases, management and wood decay.</p> <p>C) Market pathology: Post harvest fungal diseases of fruits and vegetables.</p> <p>D) Medical Mycology: Mycotic infections, Dermatophytes and Deep mycoces.</p>	12L

Suggested readings:

1. Agrios G. N. (1969). Plant Pathology. Academic Press, New York, USA
2. Ainsworth G. C. 1952. Medical Mycology. Pitma Press, London, UK
3. Bakshi B. K. 1976 Forest pathology. Controller of Pub. New Dehli, India.
4. Billgrami and Dubey 1976 Modern plant Pathology. Vikas Publ House Pvt. Ltd., New Delhi, India.
5. Butler E. J. 1973 Fungi and plant diseases in plants Thecker Spinck and Co., Culcutta
6. Cochrane V. W. 1958 Physiology of Fungi Wiley Chapman and Hall, New York, USA
7. Daniel and Roberts, Carlw. Boothroyd (II nd Ed.) 1987. Fundamentals of plant pathology. CBS Publ and distributors. New Delhi, India.
8. Dugger B. M.1998 Fungus diseases of plants, Agro Bot. Pub., New Delhi, India.
9. Ellis M. B. 1976 Medical Mycology. Led and Febiger, Philadelphia
10. Harsfall and Diamond 1971 Plant pathology Vol I – V Academic press New Delhi, India.
11. Joshi K. R. 1966 Opportunetic mycosis. Scientific Publisher, New Dehli, India.
12. Kamat M. N. 1959 Introductory Plant Pathology. Prakash Publ., Pune, India.
13. Mehrotra 1994 Plant Pathology. International Pub House, New Delhi, India.
14. Merotra R. S. Ashok Agrawal 2003 Plant Pathology. Tata Mac Graw Hill Publ Co Ltd, New Delhi, India.
15. Mukherji and Bhasin 1986 Plant diseases of India Tata Mac Graw Hill Publ Co Ltd New Delhi, India.
16. Nene Y. L. 1976 Fungicides in plant diseases controls. Oxford and IBH Publ. Co. New Delhi, India.
17. Pathak V. R. 1972 Essentials of plant pathology. Prakash publishing, Jodhpur.
18. Pathak, Khatri and Pathak 1996 Fundamentals of Plant Pathology. Agro Bot. Publ Bikaner India
19. Robertis and Boothroyd 1972 Fundamentals Plant Pathology Toppan Co. Ltd. Tokya.
20. Sharma Rajni 2000 Plant Pathology Campus Books International New Delhi, India.
21. Singh R. S. 1982 Plant Pathology Oxford and IBH Publ. Co. New Delhi, India.
22. Singh R. S. 1990 Plant diseases 6 th edition Oxford and IBH Publ. Co. New Delhi, India.
23. Stakman and Harrar 1957 Principles of Plant pathology, Ronold Press Co., New Delhi, India.
24. Suryanarayana D. 1978 Seed Pathology. Vikas Pub. House Pvt . New Delhi, India.
25. S. A. J. 1972 Principles of Plant Pathology. The McMellian Press, India
26. Walker J. C. 1974 Plant Pathology. McGraw-Hill Book Co. Inc., New York, USA.

M.Sc. Part II Semester IV Botany: Core Special Paper

Core course	<p align="center">BOT. 402 C ANGIOSPERM SPECIAL PAPER-III</p>	<p align="center">Lectures 60</p>
<p>Course objectives:</p> <ol style="list-style-type: none"> 1.To trace the origin of Angiosperms. 2.To study embryology of Angiosperm plant. 3.To study palynology of Angiosperm plant. 4.To study wood anatomy of Angiosperm plant. 5.To study ecological anatomy of Angiosperms. 		
Unit: 1	<p>Origin of Angiosperms :</p> <ol style="list-style-type: none"> 1. Time of origin of angiosperms 2. Cradle of angiosperms 3. Theories of origin of Angiosperms with respect to time, place, and possible ancestors: <ol style="list-style-type: none"> a. The <i>Isoetes</i>– monocotyledons theory, b. The Coniferales- Amentiferae theory, c. The Gnetales- Angiosperm theory, d. The Anthostrobilus- (Bennettitalean) theory, e. The CaytonialeanTheory, f. The Stachyosporo- Phyllospermae theory, g. The Pteridosperm theory, h. The Pentoxylales theory and The Durian theory 	(20 L)
Unit: 2	<p>Embryology :</p> <ol style="list-style-type: none"> 1. Different schools of embryology and their contributions, 2. Artificial pollination, fertilization, 3. Sexual incompatibility, 4. Endosperm, endosperm – ultra structure and histo-chemistry. 5. Embryo as a reaction system, homologies, experimental embryogenesis, 6. Embryo-endosperm relationship, 7. Embryology in relation to taxonomy, 8. Fertilization in <i>Tambourissa</i> and <i>Butomopsis</i> and their significance. 	(10 L)

Unit: 3	<p>Palynology:</p> <ol style="list-style-type: none"> 1. Pollen units, pollen biochemistry, and pollen physiology. 2. Pollenkitt, sporopollenin, pollen wall proteins, pollen germination <i>in vivo</i> and <i>in vitro</i>. 3. Pollen storage and viability, pollen sterility. 4. Pollen polymorphism. 5. Palynology in relation to angiosperm phylogeny. 	(15 L)
Unit: 4	<p>Wood Anatomy:</p> <ol style="list-style-type: none"> 1. Introduction 2. Hard and softwood. 3. Elements of wood, their structure and distribution. 4. Properties and uses of wood in relation to structure and composition 5. Anatomy and identification of important timbers. 	(07L)
Unit: 5	<p>Ecological Anatomy:</p> <ol style="list-style-type: none"> 1. Hydrophytes: (i) Submerged, (ii) Free floating, (iii) Anchored floating, (iv) Amphibious. 2. Xerophytes: (i) Microphyllous, (ii) Sclerophyllous, (iii) Trichophyllous, (iv) Malacophyllous 3. Halophytes 4. Parasites 5. Epiphytes 	(08 L)

Suggested readings:

vani, S. S. and Bhatnagar, S. P. 1984. Embryology of Angiosperms. Vikas Publ. House, New Delhi, India.

Bhojwani, S. S., Bhatnagar, S. P. and P. K. Dantu 2015. The Embryology of Angiosperms. Vikas Publ. House, New Delhi, India.

Carlquist, S. 1961 Comparative Plant anatomy, Hold, Rinehart and Winson, New York, USA.

Cronquist, A. 1981. An Integrated System of Classification of Flowering Plants. Columbia University Press, New York, USA.

quist A. 1988. The Evolution and Classification of Flowering Plants (2nd ed.) Allen Press, U.S.A.

P. H. and V. H. Heywood 1991. Principles of Angiosperm Taxonomy. Today and Tomorrow Publications, New Delhi, India.

an G. 1952. Pollen Morphology and Plant Taxonomy. Angiosperms. Alquist and Wiksell. Stockholm.

Erdman G. 1952. Pollen Morphology and Plant Taxonomy. Angiosperms. Hafner Publ. Co. New York, USA.

Esau K. 1960. Anatomy of Seed Plants, Wiley. New York, USA.

M.Sc. Part II Semester IV Botany: Core Course

BOT-403 Practical (Core Course) (Based on BOT. 401 A and 402 A)	
Practical 1	Preparation of culture media (De's modified Beneck's medium for Blue Green Algae)
Practical 2	Isolation and cultivation of algae by dilution and streak culture technique
Practical 3	Mass culture of blue green algae as bio-fertilizer
Practical 4	Biomass estimation, total chlorophyll / fresh and dry weight
Practical 5-6	Extraction and separation of amino acids and carbohydrates of algae by chromatography methods
Practical 7-8	Algae of unusual habitats (a) Epiphytic algae, (b) Epizoic and Endozoic algae, (c) Symbiotic algae, (d) Endophytic algae, (e) Benthic algae, (f) Aerial algae (g) phytoplankton
Practical 9-10	Algae of east & west coast of India
Practical 11-12	Qualitative and quantitative studies of phytoplankton using standard Methods Lacky's simple drop method and haemo-cytometer method.
Practical 13	Study of Palmer's pollution index for assessing the water quality of any polluted habitat
Practical 14 -17	Water analysis pH, Turbidity, Total dissolved solids dissolved oxygen, Free CO ₂ , BOD, COD, Carbonate, Bicarbonate, Total Alkalinity, Chlorides, Hardness, Calcium, Magnesium, Nitrate, Sulphate, Phosphate (any 6)
Practical 18	Cytological studies of <i>Chara</i> , <i>Hydrodictyon</i> , <i>Cladophora</i> , <i>Spirogyra</i> , <i>Oedogonium</i> (any 1)
Practical 19	Extraction of Mucilage from algal material.
Practical 20-21	Extraction of Agar-Agar, Extraction of Algenic acid from Marine algae
Practical - 22	Extraction and Estimation of algal proteins from unpolluted waters and polluted water bodies.
Practical 23	Extraction and Estimation of Photosynthetic pigments of algae from polluted and unpolluted waters using the method of Arnon (1949).
Practical 24	Culture and Test for oils of diatoms biomass.
Note:	1. Compulsory Botanical excursion of marine and fresh water habitats 2. Compulsory Botanical excursion Visit to nearby ponds rivers lakes and polluted habitats; Submission of algal photomicrograph and tour report is essential 3. Duly certified journals are compulsory at the time of practical examination.

M.Sc. Part II Semester IV Botany: Core Course

BOT-403

Practical I (Core Course)

(Based on BOT. 401 B and 402 B)

Practical 1	Basic Techniques in Plant Pathology
Practical 2	Isolation of Mycorrhiza from soil
Practical 3	Isolation of Fungal Pathogens
Practical 4 & 5	Isolation and enumeration of microorganism from soil by serial dilution plate method
Practical 6	Isolation of <i>Rhizobia</i> from root nodules
Practical 7	Study of seed pathology
Practical 8	Study of fruit pathology
Practical 9	Study of Forest plant pathogens
Practical 10	Study of diseases caused by bacteria and viruses (any two)
Practical 11	Study of diseases caused by Mastigomycotina and Plasmodiophorales (any three)
Practical 12	Study of diseases caused by Ascomycotina (any three)
Practical 13	Study of diseases caused by Basidiomycotina (any three)
Practical 14	Study of diseases caused by Deuteromycotina (any three)
Practical 15 & 16	Biochemical studies of diseased plants by paper chromatography (sugar/amino acid)
Practical 17	Biochemical studies of diseased plants (enzymes/proteins)
Practical 18 & 19	Citric acid fermentation and assay
Practical 20 & 21	Alcohol fermentation and Distillation
Practical 22 & 23	Spawn preparation and mushroom cultivation
Practical 24	Field Visit
	Note: Visit to fermentation industry, research institute, Agriculture University, tour for collection of Phytopathological organism is compulsory.

M.Sc. Part II Semester IV Botany: Core Course

BOT-403 Practical (Core Course) (Based on BOT. 401 C and 402 C)	
Practical 1-6	Study of the families with respect to morphological characters using botanical terms, floral formula, floral diagram and classification. (Sensu. Bentham and Hooker`s system at least 12 families)
Practical 7-13	<p>Study of anatomical features of ecological interest of the following:</p> <p>Hydrophytic leaves (Any two) : <i>Potamogeton, Ceratophyllum, Hydrilla, Ottelia, Vallisneria, Typha, Limnophila, Phylla nodiflora, Bacopa monieri, Nymphaea, Nelumbo.</i></p> <p>Hydrophytic stem or petiole (Any two): <i>Limnophila, Hydrilla, Potamogeton, Bacopa monieri, Nymphaea, Nelumbo.</i></p> <p>Xerophytic leaves (Any two): <i>Euphorbia nerifolia, Calotropis sp., Pentatropis sp., Nerium sp., Ficus bengalensis.</i></p> <p>Xerophytic stem (Any two): <i>Casuarina equisetifolia, Tamarix sp., Capparis deciduas, Caralluma sp., Euphorbia tirucaulli, Sarcostemasp.</i></p> <p>Specialized structure: (a) Cladode of <i>Asparagus sp.</i> (b) Phyllode of <i>Acacia auriculiformis</i></p> <p>Parasites: <i>Striga gesneroides, Cuscuta chinensis.</i></p> <p>Epiphytes: Study of velamen tissue (either from root material or permanent slide)</p>
Practical 14-15	Identification of six important timbers with the help of anatomical character and prepare an artificial key of timber wood on the basis of anatomical characters.
Practical 16-18	<p>Embryology:</p> <ol style="list-style-type: none"> To study types of tetrads, pollen unit (Polyad and Pollinia) from locally available plant material. Dissection and mounting of stages of embryo development, multiple embryos. To study different types of endosperm from locally available materials
Practical 19-22	<p>Palynology:</p> <ol style="list-style-type: none"> To observe pollen fertility and sterility. To study pollen polymorphism. Palynotaxonomy of some selected taxa (either family or a genus). To study of pollen from honey by acetolysis or any other suitable method.
Practical 23-24	Field tour.
Note:	<ol style="list-style-type: none"> Excursion report is compulsory. Any five timber block submission is compulsory Submission of five permanent slide from embryology and palynology is compulsory. Duly certified journals are compulsory at the time of practical examination.

M.Sc. Part II Semester IV Botany: Core Course

BOT-404

Practical (Core Course)

Project Dissertation

Submission of project work certified by Guide.

Presentation of project work using LCD.

Viva- voce.

M.Sc. Part II Semester IV Botany: Elective Course

Core course	BOT. 405 A PLANT ECOLOGY AND PHYTOGEOGRAPHY	Lectures 60
<p>Course objectives:</p> <ol style="list-style-type: none"> 1. To know concept, scope and importance of the discipline. 2. To study ecosystem ecology and community ecology. 3. To make aware about conservation of biodiversity, energy and Pollution. 4. To study botanical regions of India and vegetation types of Maharashtra. 5. To study Bioremediation, Global warming and climate change. <p>Course outcomes:</p> <ol style="list-style-type: none"> 1. Able to know concept, scope and importance of the discipline. 2. Able to describe ecosystem ecology and community ecology. 3. Higher cognitive skills about conservation of biodiversity, energy and pollution will develop. 		
Unit 1	<p>A) Plant Ecology: Definition, Concept and Scope of Ecology, Branches of Ecology.</p> <p>B) Ecosystem Ecology:</p> <ol style="list-style-type: none"> i) Introduction, kinds of ecosystems, structure and functions of ecosystem. ii) Productivity of ecosystem iii) Food chain and food web iv) Major ecosystems- Pond ecosystem, Ocean (Marine) ecosystem, Grassland ecosystem, Forest ecosystem, Desert ecosystem, Cropland ecosystem. v) Biogeochemical (Nutrient) cycles in ecosystem: Water cycle, Carbon cycle, Nitrogen cycle and impact of human activities on them. 	12 L
Unit 2	<p>C) Community Ecology:</p> <ol style="list-style-type: none"> i) Definition and concept of community ii) Structure- Zonation and Stratification iii) Characters used to describe community structure: Quantitative and Qualitative characters iv) Methods of community studies <p>D) Community Dynamics:</p> <ol style="list-style-type: none"> i) Ecological succession- Definition causes and types. ii) Process of succession- Hydrosere and Xerosere iii) Climax concept- Monoclimax and Polyclimax 	12 L
Unit 3	<p>Conservation Ecology:</p> <p>A) Biodiversity and its Conservation:</p> <ol style="list-style-type: none"> i) Definition and importance ii) Types of Biodiversity: Genetic, Species, Ecosystem. iii) Indian Hot spots of biodiversity: Eastern Himalayas and Western Himalayas. iv) Conservation of Biodiversity: In-situ and Ex-situ In-situ Conservation: Biosphere reserves, National parks, Wildlife Sanctuaries. Ex-situ Conservation: Botanical gardens/Herbal gardens, Seed (Germplasm) bank, Pollen bank. <p>B) Energy Conservation:</p> <ol style="list-style-type: none"> i) Sources of Energy: Conventional and non conventional ii) Non conventional sources: Solar energy, Tidal energy, Biomass energy. iii) Perspective alternatives for energy: Petroplants, Biogas energy. 	12 L

Unit 4	<p>A) Pollution:</p> <p>i) Air pollution: Sources, types, effect of air pollution on plants, effect of air pollutants on human.</p> <p>ii) Water pollution: causes, effects, control measures.</p> <p>iii) Global warming and climate change: Greenhouse effect, Ozone depletion, El NINO and LA NINA.</p> <p>B) Bioremediation:</p> <p>i) Definition, concept, need and scope.</p> <p>ii) Phytoremediation: a) Recovery of heavy metals from soil b) Reclamation of industrial waste and municipal waste water c) Revegetation of industrial deserts.</p>	12 L
Unit 5	<p>A) Phytogeography:</p> <p>i) Main Botanical Regions of India.</p> <p>ii) Detailed study of vegetation types in Maharashtra</p> <p>B) Ecological Indicators:</p> <p>i) Introduction</p> <p>ii) Plants as indicators: Soil, pH, Ground water, Minerals. Metals and Pollution</p> <p>C) Endemism: Causes and types.</p> <p>D) Biogeography: Dispersal- Barriers and means of dispersal.</p>	12L

Suggested readings:

1. Agrawal, K.C. (1996). Environmental Biology, Agro-Botanical Publisher, Bikaner India
2. Ambasta, R.S.(1988).A Text of Plant Ecology, Student Friends &Co. Varanasi, India.
3. Ambasta,R.S.(1990).Environmental and Pollution, Student Friends & co. Varanasi,India.
4. Chapman, and Reiss, M.J.(1998). Ecology: Principles and Applications. Cambridge University Press, Cambridge
5. Dash, M.C. (1993). Fundamentals of Ecology, Tata McGraw Hill Publishing Co. Ltd. New Delhi, India.
6. Heywood, V.H. and Watson, R.T.(1995). Global Biodiversity Assessment, Cambridge University Press, Cambridge.
7. Hill, M. K. (1997). Understanding Environmental Pollution, Cambridge University Press, Cambridge.
8. Kapur, P. And Govil, S.R.(2000).Experimental Plant Ecology S.K.Jain for CBS Publishers and Distributors, New Delhi, India.
9. Kothari, A. (1997). Understanding Biodiversity: Life Sustainability and Equity Orient Longman.
10. Krebs, C.J.(1989). Ecological Methodology. Harper and Row, New York, USA.
11. Kumar, H.D. (1996). Modern Concept of Ecology (4th Ed.) Vikas Publishing House (P.)Ltd. New Delhi.
12. Kumar, H.D. (1997). General Ecology, Vikas Publishing House (P.) Ltd. New Delhi,
13. Kochhar, P. L. Plant Ecology. Genetics and Evolution, S. Nagin& Co. Ltd. New Delhi.
14. Moore,P.W. and Chapman,S.B. (1986).Method in Plant Ecology. Blackwell Scientific Publications.
15. Mukherjee B. Environmental Biology. Tata McGraw Hill Publishing Ltd.
16. Purohit S.S. and Ranjan R.(2007).Ecology, Environment and Pollution. Agrobios (India)
- 17.Sharma P.D.(2018)Ecology and Environment. Rastogi Publications, Meerut-New Delhi.

M.Sc. Part II Semester IV Botany: Elective Course

Core course	<p align="center">BOT. 405 B</p> <p align="center">INDUSTRIAL BOTANY</p>	<p align="center">Lectures 60</p>
<p>Course objectives:</p> <ol style="list-style-type: none"> 1) To study importance and production of SCP. 2) To study the preservation canning and processing of fruits and vegetables. 3) To learn mushroom technology. 4) To acquire the knowledge of sugar production and fermentation technology. 5) To study the paper production technology, production of essential oils. <p>Course outcomes: This paper acquaints students with various plant materials and microbes viz. Algae, Fungi, Bacteria used on large scale for industrial purpose like food industry, Sugar industry, Paper industry, Oil industry, Medicine (Space food).</p>		
Unit 1	<ol style="list-style-type: none"> i) Introduction, scope and importance of Industrial Botany ii) Production of Single Cell Protein (SCP): Introduction, Bacterial proteins, Yeast proteins, Fungal proteins, Algal proteins. 	10L
Unit 2	<p>Food processing Industry</p> <ol style="list-style-type: none"> i) Principles of preservation: Canning and bottlings fruits and vegetables. Principle of food processing. ii) Commercial Canning: Factory site, factory building, water supply, and drainage. Machinery and equipment's, canning process, sorting and grading, washing, peelings, corning and pitting, can filling processing. Heat penetration in cans, processing methods, processing pressure and temperature. Testing for defects, labelling, sorting and packing. iii) Containers for packing: Tin and glass container, manufacture of cans, testing of cans, mechanical defects, size of cans. iv) Canning fruits: Apple, Mango, Banana, Grape, Orange, Papaya, Pineapple. v) Canning of vegetables: Cabbage, Beans, Potato, Tomato, Spinach vi) Preparation of Jams, Jellies and Squashes 	14 L
Unit 3	<p>Mushroom Industry</p> <ol style="list-style-type: none"> i) Importance of mushrooms ii) Selections of mushrooms for cultivation, mushroom house design, spawn and spawning, preparation of mother spawn and planting spawn. iii) Cultivation method of white button mushroom (<i>Agaricus bisporus</i>): Compost preparation, methods of composting, spawning, crop management, maintenance, casing, harvesting, preservation. iv) Oyster mushroom (<i>Pleurotus</i> sp.): Materials and substrates, sterilization, spawning, incubation, crop maintenance, harvesting, preservation. v) Mushroom marketing, mushroom recipe. 	12 L
Unit 4	<p>Sugar and Fermentation Industry</p> <ol style="list-style-type: none"> i) Sugar manufacture, machinery and equipment's 	

	<ul style="list-style-type: none"> ii) Crushing of sugarcane, composition of juice, juice heating, liming and sulphuration. iii) Sedimentation, filtration of mud, evaporation, syrup sulphuration, crystallization, drying. iv) Grading, bagging, storage. v) Yeast and its uses: Production of Brewers Yeast, Production of Bakers Yeast, Production of food and fodder Yeast. vi) Production of Alcohol. 	12 L
Unit 5	<p>Paper and Oil Industry</p> <ul style="list-style-type: none"> i) Sources of raw material for paper: Wood, chemistry of wood, Cellulose, hemicellulose, lignin. ii) Pulping: General principle of pulping. Types of pulping processes: mechanical, chemical, semi-chemical, sulphate process, Kraft process. Process calculations. Raw material utility requirements. Process flow sheet and description. Washing and bleaching. Common unit operation. Wood treatment, digestion, evaporation, drying with equipment used. iii) Treatment of Pulp: Screening, washing, refining, thickening of pulp. Bleaching- conventional and non-conventional bleaching techniques. Paper Making: Preliminary operations on pulp. Beating and refining of pulp. Non-fibrous materials. Fillers and loading material. Internal sizing. Wet and additive surface treatment. Paper coloring. Surface sizing. iv) Essential oil and their characteristics v) Production of essential oils. <p>Suggested readings:</p> <ol style="list-style-type: none"> 1) A. H. Patel (1985) Industrial Microbiology. Published by MACMILLAN INDIA LTD. Ansari Road, Dariyaganj, New Delhi. 110002. 2) Christopher Biermann (1996) Handbook of Pulping and Papermaking. Elsevier. 3) D. P. Kulkarni (2015) Cane Sugar Manufacture in India. Published by The Sugar Technologists Association of India, 21 Community Center, East Kailash, New Delhi- 110005 4) G. S. Siddappa ((1998) Preservation of Fruits and Vegetables. Indian Council of Agricultural Research, New Delhi 5) Henry Kraemer (1997) Applied and Economic Botany (Vo. I and II) Ambey Publications, Tank Road, Karol Bagh, New Delhi- 110005 6) L. E. Casida Jr. (2009) Industrial Microbiology. New Age International(P) Limited, Publishers, Ansari Road, Dariyaganj, New Delhi 110002. 7) O. P. Sharma (1996) Hill's Economic Botany. Tata McGraw-Hill Publishing Company Limited, New Delhi. 8) Pathak, Yadav, Gaur (1998) Mushroom Production and Processing Technology. Agrobios (India) Behind Nasrani Cinema, Chopasani Road, Jodhpur- 342002. P. Srinivasa (2013) Production Functions in Sugar Industry. Serials Publication. 	12L

**M.Sc.-II (Botany)
Equivalence of Papers**

Semester-III			
Code	Title (Old)	Code	Title (New)
BOT. - 301	Gymnosperm and Palaeobotany	BOT-301	Plant Development & Reproduction
BOT. - 302	Plant Biotechnology and Bioinformatics	BOT-305A	Biostatistics and Bioinformatics
BOT. - 331	Algae special paper – I	BOT-302 A	Phycology Special Paper-I
BOT. - 332	Mycology and Plant Pathology Special paper - I	BOT-302 B	Mycology Special Paper-I
BOT. - 333	Genetics and Plant breeding Special paper - I	----	----
BOT. - 334	Angiosperm Taxonomy Special paper – I	BOT-302 C	Angiosperm Special Paper-I
BOT. - 304	Practical - I (Based on Bot. - 301 & 302)	BOT-303	Practical Based on BOT 301
BOT. - 305	Practical - II (Based on Bot. - 331 / 332 / 333/ 334)	BOT-304	Practical Based on BOT 302 (Special Paper)
Semester-IV			
BOT-401	Developmental Botany	BOT-405 A	Plant Ecology & Phytogeography
BOT-421	Algae special paper – II	BOT-401 A	Phycology Special Paper-II
BOT-422	Mycology and Plant Pathology Special paper - II	BOT-401 B	Mycology Special Paper-II
BOT-423	Genetics and Plant breeding Special paper - II	-----	-----
BOT-424	Angiosperm Taxonomy Special paper – II	BOT-401C	Angiosperm Special Paper-II
BOT-431	Algae special paper – III	BOT-402 A	Phycology Special Paper-III
BOT-432	Mycology and Plant Pathology Special paper – III	BOT-402 B	Mycology Special Paper-III
BOT-433	Genetics and Plant breeding Special paper - III	-----	-----
BOT-434	Angiosperm Taxonomy Special paper – III	BOT-402 C	Angiosperm Special Paper-III
BOT-404	Practical – I (Based on Bot. – 401)	-----	-----
BOT-405	Practical – II (Based on Bot. – 421 & 431 /Bot. – 422 & 432 / Bot. 423 &433/ Bot. – 424 &434)	BOT-403	Practical based on BOT 401 & BOT 402
BOT-406	Project work	BOT-404	Practical: Project Dissertation

॥ अंतरी पेटवू ज्ञानज्योत ॥



Grade - A
NAAC Re - Accredited III Cycle

कवयित्री बहिणाबाई चौधरी
उत्तर महाराष्ट्र विद्यापीठ, जळगाव.

मानवविज्ञान विद्याशाखा
Choice Based Credit System

एम्. ए. मराठी
सत्र तिसरे व चौथे
(शैक्षणिक वर्ष 2022 - 2023 पासून लागू)

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Faculty of Humanities
Post Graduate Courses

Under Choice Based Credit System (CBCS)

Summary of Distribution of Credits under CBCS for PG
(w. e. f. 2021-2022)

Type of Course	Sem. I	Sem. II	Sem. III	Sem. IV
Core	12	12	12	12
Skill based / Elective	04	04	04	04
Audit	02	02	02	02
Total Credits	18	18	18	18
Total Credits = 72				
Subject Type	Core	Skill based / Elective	Audit	Total Credits
Credits	48	16	08	72

Course Credit Scheme

Semester	(A) Core Courses			(B) Skill Based/Elective			(C) Audit Courses (No weight age in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T)	Total Credits	No. of Courses	Credits (T)	Total Credits	No. of Courses	Credits (T)	Total Credits	
I	3	4	12	1	4	4	1	2	2	18
II	3	4	12	1	4	4	1	2	2	18
III	3	4	12	1	4	4	1	2	2	18
IV	3	4	12	1	4	4	1	2	2	18

List of Audit Courses (Select any ONE course of Choice from Semester II, III & IV)

Semester I (Compulsory)		Semester II (Choose ONE) Personality & Cultural Development		Semester III (Choose ONE) Technology + Value Added Course		Semester IV (Choose ONE) Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC 101	Practicing Cleanlines	AC 201 (A)	Soft Skills	AC 301 (A)	Computer Skills	AC 401 (A)	Human Rights
		AC 201 (B)	Practicing Sport Activities	AC 301 (B)	Cyber Security	AC 401 (B)	Current Affairs
		AC 201 (C)	Practicing Yoga	AC 301 (C)	Related to Concerned PG Subject	AC 401 (C)	Related to Concerned PG Subject
		AC 201 (D)	Introduction of Indian Music	AC 301 (D)	Related to Concerned PG Subject	AC 401 (D)	Related to Concerned PG Subject

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Faculty of Humanities
Post Graduate Courses
Under Choice Based Credit System (CBCS)
Semester-wise Course Structure of M. A. MARATHI
(w.e.f. A. Y. 2022-2023)

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal (CA)		External (UA)		
						T	P	T	P	
PG MAR 301	Core	चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)	4	--	4	40	--	60	--	4
PG MAR 302	Core	वर्णनात्मक भाषाविज्ञान	4	--	4	40	--	60	--	4
PG MAR 303	Core	आधुनिक गद्य वाङ्मयप्रकार – चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध	4	--	4	40	--	60	--	4
PG MAR 304	Skill based / Elective	(A) लोकसाहित्याची मूलतत्त्वे आणि खान्देशी लोकसाहित्य	4	--	4	40	--	60	--	4
		(B) मध्ययुगीन पद्यरचनांचा अभ्यास	4	--	4	40	--	60	--	4
PG AC 301 (A) / (B) / (C) / (D)	Audit Course	Choose one out of Four Courses from Technology + Value Added Courses								
	PG AC 301 (A)	Computer Skills								
	PG AC 301 (B)	Cyber Security	--	2	2	--	100	--	--	2
	PG AC 301 (C)	पारंपरिक व्याकरण								
	PG AC 301 (D)	ग्रंथव्यवहार: प्रकाशन व विक्री								

Total Credit for Semester III: 18 (T = Theory: 12; Skill Based / Elective: 4; Audit Course: 2)

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal (CA)		External (UA)		
						T	P	T	P	
PG MAR 401	Core	चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)	4	--	4	40	--	60	--	4
PG MAR 402	Core	सामाजिक भाषाविज्ञान	4	--	4	40	--	60	--	4
PG MAR 403	Core	आधुनिक गद्य वाङ्मयप्रकार – पत्र, रोजनिशी, सदर, रिपोतार्ज	4	--	4	40	--	60	--	4
PG MAR 404	Skill based / Elective	(A) ख्रिस्ती आणि मुस्लिम मराठी साहित्य	4	--	4	40	--	60	--	4
		(B) संशोधनशास्त्र व शोधनिबंध लेखन	4	--	4	40	--	60	--	4
PG AC 401 (A) / (B) / (C) / (D)	Audit Course	Choose one out of Four Courses from Professional and Social + Value Added Courses								
	PG AC 401 (A)	Human Rights								
	PG AC 401 (B)	Current Affairs	--	2	2	--	100	--	--	2
	PG AC 401 (C)	पथनाट्य: लेखन व सादरीकरण								
	PG AC 401 (D)	भाषा: सर्जनशील उपयोजन								

Total Credit for Semester IV: 18 (T = Theory: 12; Skill Based / Elective: 4; Audit Course: 2)

टीप-

- प्रत्येक सत्रातील ऑडिट कोर्ससाठी शंभर गुणांची परीक्षा महाविद्यालयाच्या स्तरावर घेतली जाईल. सदर परीक्षा ही प्रात्यक्षिक स्वरूपाची असेल. तिचे गुण अंतर्गत परीक्षा (CA) गुण म्हणून ग्राह्य धरले जातील. ऑडिट कोर्ससाठी विद्यापीठ परीक्षा (UA) नसेल.
- ऑडिट कोर्स हा Non CGPA असल्याने त्यात प्राप्त गुण विद्यार्थ्यांच्या गुणपत्रकावर नमूद केले जाणार नाहीत, तर गुणांनुसार प्राप्त ग्रेडचा उल्लेख गुणपत्रकावर असेल.
- विद्यार्थ्यांनी प्रत्येक सत्रातील कोणत्याही एका ऑडिट कोर्समध्ये उत्तीर्ण होणे अनिवार्य आहे.

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानवविज्ञान विद्याशाखा
Choice Based Credit System

एम्. ए. मराठी सत्र तिसरे व सत्र चौथे
(शैक्षणिक वर्ष 2022-23 पासून लागू)

अभ्यासपत्रिका	सत्र तिसरे	सत्र चौथे
अनिवार्य Core (04 Credits)	PG MAR 301 चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)	PG MAR 401 चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)
अनिवार्य Core (04 Credits)	PG MAR 302 वर्णनात्मक भाषाविज्ञान	PG MAR 402 सामाजिक भाषाविज्ञान
अनिवार्य Core (04 Credits)	PG MAR 303 आधुनिक गद्य वाङ्मयप्रकार – चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध	PG MAR 403 आधुनिक गद्य वाङ्मयप्रकार – पत्र, रोजनिशी, सदर, रिपोर्ताज
ऐच्छिक Skill based / Discipline Specific Elective (04 Credits)	PG MAR 304 (A) लोकसाहित्याची मूलतत्त्वे आणि खान्देशी लोकसाहित्य	PG MAR 404 (A) ख्रिस्ती आणि मुस्लिम मराठी साहित्य
	PG MAR 304 (B) मध्ययुगीन पद्यरचनांचा अभ्यास	PG MAR 404 (B) संशोधनशास्त्र व शोधनिबंध लेखन
Audit Course (02 Credits)	Any ONE from- AC 301 (A) Computer Skills AC 301 (B) Cyber Security AC 301 (C) पारंपरिक व्याकरण AC 301 (D) ग्रंथव्यवहार: प्रकाशन व विक्री	Any ONE from- AC 401 (A) Human Rights AC 401 (B) Current Affairs AC 401 (C) पथनाट्य: लेखन व सादरीकरण AC 401 (D) भाषा: सर्जनशील उपयोजन

॥ अंतरी पेटवू ज्ञानज्योत ॥



Grade ३ A

NAAC Re - Accredited III Cycle

कवयित्री बहिणाबाई चौधरी
उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानवविज्ञान विद्याशाखा

Choice Based Credit System

एम्. ए. मराठी

सत्र तिसरे व चौथे

(शैक्षणिक वर्ष 2022 - 2023 पासून लागू)

अभ्यासपत्रिका क्र. पाच

चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)

सत्र तिसरे

PG MAR 301

चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)

सत्र चौथे

PG MAR 401

चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)

अभ्यासपत्रिका क्र .सहा

भाषाविज्ञान

सत्र तिसरे

PG MAR 302

वर्णनात्मक भाषाविज्ञान

सत्र चौथे

PG MAR 402

सामाजिक भाषाविज्ञान

अभ्यासपत्रिका क्र .सात

आधुनिक गद्य वाङ्मयप्रकारांचा अभ्यास

सत्र तिसरे

PG MAR 303

आधुनिक गद्य वाङ्मयप्रकार – चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध

सत्र चौथे

PG MAR 403

आधुनिक गद्य वाङ्मयप्रकार – पत्र, रोजनिशी, सदर, रिपोतार्ज

अभ्यासपत्रिका क्र .आठ

ऐच्छिक अभ्यासपत्रिका

सत्र तिसरे

PG MAR 304 (A)

लोकसाहित्याची मूलतत्त्वे आणि खान्देशी लोकसाहित्य

सत्र चौथे

PG MAR 404 (A)

ख्रिस्ती आणि मुस्लिम मराठी साहित्य

किंवा

सत्र तिसरे

PG MAR 304 (B)

मध्ययुगीन पद्यरचनांचा अभ्यास

सत्र चौथे

PG MAR 404 (B)

संशोधनशास्त्र व शोधनिबंध लेखन

सत्र तिसरे

Audit Course (Choose any ONE)

PG AC 301 (A) Computer Skills

PG AC 301 (B) Cyber Security

PG AC 301 (C) पारंपरिक व्याकरण

PG AC 301 (D) ग्रंथव्यवहार: प्रकाशन व विक्री

सत्र चौथे

Audit Course (Choose any ONE)

PG AC 401 (A) Human Rights

PG AC 401 (B) Current Affairs

PG AC 401 (C) पथनाट्य: लेखन व सादरीकरण

PG AC 401 (D) भाषा: सर्जनशील उपयोग

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानव्यविज्ञान विद्याशाखा
Choice Based Credit System
एम्. ए. मराठी
सत्र तिसरे व चौथे
(शैक्षणिक वर्ष 2022 - 2023 पासून लागू)

सत्र तिसरे
PG MAR 301
चळवळी आणि मराठी साहित्य
(साठोत्तरी कालखंड)
(श्रेयांक – चार)

• उद्दिष्टे -

1. चळवळीची संकल्पना जाणून घेऊन चळवळ व साहित्य यांच्या संबंधाचे आकलन करून घेणे.
2. आंबेडकरी चळवळ, शेतकरी चळवळ, कामगार चळवळ यांच्या वैचारिक भूमिकेबाबत जाणून घेणे.
3. आंबेडकरी चळवळ, शेतकरी चळवळ, कामगार चळवळ यांचे स्वरूप व वाटचाल यांबाबत परामर्श घेणे.
4. आंबेडकरी चळवळ, शेतकरी चळवळ, कामगार चळवळ यांच्या मराठी साहित्यावरील प्रभावाची चर्चा करणे.
5. निवडक प्रातिनिधिक साहित्यकृतींच्या अभ्यासातून ह्या चळवळींच्या साहित्याच्या अभ्यासाची दृष्टी प्राप्त करून घेणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	चळवळ आणि साहित्य	01	15
	1.1 चळवळ: संकल्पना व स्वरूप		
	1.2 चळवळीचे साहित्यशास्त्र		
	1.3 चळवळ आणि साहित्य: परस्परांनुबंध		

2.	आंबेडकरी चळवळ आणि मराठी साहित्य	01	15
	2.1 आंबेडकरी चळवळ: तत्त्वज्ञान व स्वरूप 2.2 आंबेडकरी चळवळ: आंबेडकरपर्व व आंबेडकरोत्तर पर्व 2.3 मराठी कविता, कथा, आत्मकथन, नाटक व वैचारिक लेखन यांवर आंबेडकरी चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श) 2.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास – <ul style="list-style-type: none"> • 'वाटा पळवाटा' (दत्ता भगत, कॉन्टिनेन्टल प्रकाशन, पुणे) या नाटकाचा अभ्यास 		
3.	शेतकरी चळवळ आणि मराठी साहित्य	01	15
	3.1 शेतकरी चळवळ: तत्त्वज्ञान व स्वरूप 3.2 शेतकरी चळवळीची वाटचाल: साठपूर्व व साठोत्तरी 3.3 मराठी कविता, कथा, कादंबरी, ललितगद्य व वैचारिक लेखन यांवर शेतकरी चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श) 3.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास - <ul style="list-style-type: none"> • 'वीजेने चोरलेले दिवस' (संतोष जगताप, दर्या प्रकाशन, पुणे) या कादंबरीचा अभ्यास 		
4.	कामगार चळवळ आणि मराठी साहित्य	01	15
	4.1 कामगार चळवळ: तत्त्वज्ञान व स्वरूप 4.2 कामगार चळवळीची वाटचाल 4.3 मराठी कविता, कादंबरी, नाटक व वैचारिक लेखन यांवर कामगार चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श) 4.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास – <ul style="list-style-type: none"> • 'हॉटेल माझा देश' (धम्मपाल रत्नाकर, समृद्धी प्रकाशन, कोल्हापूर) या कवितासंग्रहाचा अभ्यास 		
एकूण श्रेयांक व घड्याळी तासिका		04	60

• **साध्ये –**

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. चळवळीची संकल्पना समजेल आणि चळवळ व साहित्य यांच्या संबंधाचे आकलन होईल.
2. आंबेडकरी चळवळ, शेतकरी चळवळ, कामगार चळवळ यांच्या वैचारिक भूमिका सुस्पष्ट होतील.

3. आंबेडकरी चळवळ, शेतकरी चळवळ, कामगार चळवळ यांचे स्वरूप व वाटचाल समजेल.
4. आंबेडकरी चळवळ, शेतकरी चळवळ, कामगार चळवळ यांच्या मराठी साहित्यावरील प्रभाव ध्यानात येईल.
5. निवडक प्रातिनिधिक साहित्यकृतीच्या अभ्यासातून ह्या चळवळींच्या साहित्याच्या अभ्यासाची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ-

1. आमुख, वसंत आबाजी उहाके, वाङ्मयीन संज्ञा-संकल्पना कोश – संपा. प्रभा गणोरकर व इतर, भटकळ फाँडेशन, मुंबई.
2. १९६० नंतरची सामाजिक परिस्थिती आणि साहित्यातील नवे प्रवाह – आनंद यादव, मेहता, पुणे.
3. साहित्याचा अवकाश – नागनाथ कोत्तापल्ले, स्वरूप, औरंगाबाद.
4. साहित्याचे समाजशास्त्र - श्रुती वडबगाळकर, डायमंड, पुणे.
5. वाङ्मयीन दृष्टिकोन आणि चळवळी – संपा. सुमती लांडे, शब्दालय, श्रीरामपूर.
6. साहित्य आणि समाज (प्रा. गो. मा. पवार गौरवग्रंथ) – संपा. नागनाथ कोत्तापल्ले व इतर, प्रतिमा, पुणे.
7. सामाजिक परिवर्तन आणि मराठी साहित्य – संपा. र. बा. मंचरकर, पद्मगंधा, पुणे.
8. आधुनिक मराठी साहित्य आणि सामाजिकता – संपा. मृणालिनी शहा, विद्यागौरी टिळक, पद्मगंधा, पुणे.
9. साठोत्तरी मराठी वाङ्मयातील प्रवाह – शरणकुमार लिंबाळे, दिलीपराज, पुणे.
10. साठोत्तरी साहित्यप्रवाह भाग १,२ – प्रल्हाद लुलेकर, सायन, पुणे.
11. साहित्यातील नवे प्रवाह – माधव पुटवाड, बळिवंश, नांदेड.
12. सामाजिक चळवळी आणि वर्तमान आव्हाने – संपा. प्रकाश दुकळे, नागनालंदा, इस्लामपूर.
13. खानदेशातील समाजप्रबोधनाची चळवळ (१९००-१९५०) – भीमराव ना. पाटील, प्रकाशक: भूषण भी. पाटील, पाचोरा.
14. चळवळी आणि साहित्य (प्रा. एकनाथ जाधव गौरवग्रंथ)– मोतीराम कटारे, गोदा, औरंगाबाद.
15. आंबेडकरी चळवळ आणि साहित्य – यशवंत मनोहर, अभय प्रकाशन, नागपूर.
16. दलित चळवळ आणि साहित्य – कृष्णा किरवले, प्रतिमा, पुणे.
17. दलित साहित्य: एक अभ्यास – संपा. अर्जुन डांगळे. म. रा. सा. सं. मं., मुंबई.
18. निळी पहाट – रा. ग. जाधव, श्रीविद्या, पुणे.
19. दलित साहित्य: वेदना आणि विद्रोह – भालचंद्र फडके, श्रीविद्या, पुणे.
20. आंबेडकरवादी मराठी साहित्य – यशवंत मनोहर, परिमल, औरंगाबाद.
21. दलित साहित्य: उद्गम आणि विकास – योगेंद्र मेश्राम, श्री मंगेश, नागपूर.
22. दलित आत्मकथन: स्वरूप आणि वैशिष्ट्ये – मनोहर जाधव, सुविद्या, पुणे.

23. दलित साहित्याचा इतिहास – म. सु. पगारे, प्रशांत, जळगाव.
24. फुले आंबेडकरी चळवळ आणि साहित्य चिंतन – मोतीराम कटारे
25. साहित्य लोक, ग्रामीण व दलित - म. सु. पगारे, दिलीपराज, पुणे.
26. ग्रामीण-दलित साहित्याचा अनुबंध – संपा. म. सु. पगारे, प्रशांत, जळगाव.
27. ग्रामीण-दलित साहित्य (चळवळ आणि समीक्षा) – मधुकर मोकाशी, स्नेहवर्धन, पुणे.
28. साहित्याचे निकष बदलावे लागतील – शरणकुमार लिंबाळे, दिलीपराज, पुणे.
29. आंबेडकरी साहित्यातील जीवनमूल्ये – अशोक इंगळे, शब्दालय, श्रीरामपूर.
30. नव्वदोत्तर आंबेडकरी कवितेची समीक्षा – अशोक इंगळे, शब्दालय, श्रीरामपूर.
31. निरूपक (मोतीराम कटारे गौरवग्रंथ) – संपा. जी. के. ऐनापुरे व अन्य, सहित प्रकाशन, गोवा.
32. शेतकरी चळवळ
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35. भूमी आणि भूमिका – भास्कर चंदनशिव, साकेत, औरंगाबाद.
36. शेतकरी आंदोलन – रमेश पाध्ये, एल्गार प्रकाशन, मुंबई.
37. शेतकरी कामगार पक्षाचे राजकारण – जगन फडणीस, अजब, कोल्हापूर.
38. अंगारवाटा...शोध शरद जोशींचा – भानू काळे, ऊर्मी प्रकाशन, पुणे.
39. शेतकरी संघटना: विचार आणि कार्यपद्धती – शरद जोशी, शेतकरी प्रकाशन, अलिबाग.
40. शेतकरी संघटना आणि मराठी साहित्याचे अनुबंध – ज्ञानदेव राऊत, गणगोत प्रकाशन, देगलूर.
41. ग्रामीण साहित्य: स्वरूप आणि समस्या – आनंद यादव, मेहता, पुणे.
42. ग्रामीण वाङ्मयाचा इतिहास – संपा. चंद्रकुमार नलगे, सुरेश एजन्सी, पुणे.
43. ग्रामीण वाङ्मयाचा इतिहास – संपा. रामचंद्र काळुंखे, कैलाश, औरंगाबाद.
44. ग्रामीण साहित्य चळवळ आणि आम्ही – संपा. वासुदेव मुलाटे, स्वरूप, औरंगाबाद.
45. मराठी ग्रामीण कादंबरी – रवींद्र ठाकूर, मेहता, पुणे.
46. ग्रामीण कादंबरी: आकलन आणि विश्लेषण – रामचंद्र काळुंखे, कैलाश, औरंगाबाद.
47. नव्वदोत्तरी मराठी ग्रामीण साहित्य – संपा. लीलावती देवरे व इतर, प्रशांत, जळगाव.
48. भारतातील कामगार चळवळ – सुकोमल सेन, नागरी सेवा प्रबोधिनी
49. भारतीय कामगार चळवळीचे जनक: नारायण मेघाजी लोखंडे, मनोहर कदम, म. फुले समता प्रतिष्ठान, अक्षर प्रकाशन, मुंबई.
50. कामगार साहित्य: दहा भाषणे – संपा. नारायण सुर्वे, महाराष्ट्र कामगार कल्याण मंडळ, मुंबई.
51. मार्क्सवाद आणि मराठी साहित्य – वि. स. जोग, विजय, नागपूर.

52. कविता श्रमाची – संपा. नारायण सुर्वे, महाराष्ट्र कामगार कल्याण मंडळ प्रकाशन, मुंबई.
53. कामगार कवितेतील सामाजिक जाणिवा - दिलीप पुंडलिक पवार, सुगावा, पुणे.
54. 'श्रमसंस्कृती आणि गेल्या पंचवीस वर्षातील मराठी कविता' (लेख), कविता: संदर्भ आणि दृष्टिकोन, आशुतोष पाटील, अक्षरवाङ्मय, पुणे.
55. आधुनिक शाहिरी आणि कामगार रंगभूमी – रमेशचंद्र पाटकर, कॉ. गोविंद पानसरे अमृतमहोत्सव समिती, कोल्हापूर.
56. दत्ता भगत यांची नाटके – शैलेश त्रिभुवन, पॅपिलॉन, पुणे.
57. दलित नाटक आणि दत्ता भगत यांचे नाट्यविश्व – शिवदास शिरसाठ, कैलाश, औरंगाबाद.
58. वाटा पळवाटा: कलन आणि आकलन – संपा. मधुकर राहेगावकर, कैलाश, औरंगाबाद.
59. 'वीजेने चोरलेले दिवस' (<https://maharashtratimes.com/editorial/samwad/dr-kailas-daund-review-on-vijene-chorlele-divas-novel-by-santosh-jagtap/articleshow/79090276.cm>)
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सत्र चौथे

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चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)

(श्रेयांक – चार)

• उद्दिष्टे -

1. आदिवासी चळवळ, भटक्या विमुक्तांची चळवळ, विस्थापितांची चळवळ, अंधश्रद्धा निर्मूलन चळवळ यांच्या वैचारिक भूमिकेबाबत जाणून घेणे.
2. आदिवासी चळवळ, भटक्या विमुक्तांची चळवळ, विस्थापितांची चळवळ, अंधश्रद्धा निर्मूलन चळवळ यांचे स्वरूप व वाटचाल यांबाबत परामर्श घेणे.
3. आदिवासी चळवळ, भटक्या विमुक्तांची चळवळ, विस्थापितांची चळवळ, अंधश्रद्धा निर्मूलन चळवळ यांच्या मराठी साहित्यावरील प्रभावाची चर्चा करणे.
4. निवडक प्रातिनिधिक साहित्यकृतीच्या अभ्यासातून ह्या चळवळींच्या साहित्याच्या अभ्यासाची दृष्टी प्राप्त करून घेणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	आदिवासी चळवळ आणि मराठी साहित्य	01	15
	1.1 आदिवासी चळवळ: तत्त्वज्ञान व स्वरूप 1.2 आदिवासी चळवळीची वाटचाल: साठपूर्व व साठोत्तरी 1.3 मराठी कविता, कादंबरी व आत्मचरित्र यांवर आदिवासी चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श) 1.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास - <ul style="list-style-type: none"> ‘आदिवासी साहित्य आणि अस्मितावेध - भुजंग मेश्राम’ (संपा. प्रफुल्ल शिलेदार, लोकवाङ्मय गृह, मुंबई) या पुस्तकातील लेख क्र. १ ते ८ यांचा अभ्यास 		
2.	भटक्या विमुक्तांची चळवळ आणि मराठी साहित्य	01	15
	2.1 भटक्या विमुक्तांची चळवळ: तत्त्वज्ञान व स्वरूप 2.2 भटक्या विमुक्तांच्या चळवळीची वाटचाल 2.3 मराठी कविता, कादंबरी व आत्मचरित्र यांवर भटक्या विमुक्तांच्या चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श) 2.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास – <ul style="list-style-type: none"> ‘गोठण’ (रावजी राठोड, शब्दालय प्रकाशन, श्रीरामपूर) या कादंबरीचा अभ्यास 		
3.	विस्थापितांची चळवळ आणि मराठी साहित्य	01	15
	3.1 विस्थापितांची चळवळ: तत्त्वज्ञान व स्वरूप 3.2 विस्थापितांच्या चळवळीची वाटचाल 3.3 मराठी कविता, कादंबरी व अन्य लेखन यांवर विस्थापितांच्या चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श) 3.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास – <ul style="list-style-type: none"> ‘असो आता चाड’ (संदीप शिवाजीराव जगदाळे, लोकवाङ्मय गृह, मुंबई) या कवितासंग्रहाचा अभ्यास 		
4.	अंधश्रद्धा निर्मूलन चळवळ आणि मराठी साहित्य	01	15
	4.1 अंधश्रद्धा निर्मूलन चळवळ: तत्त्वज्ञान व स्वरूप 4.2 अंधश्रद्धा निर्मूलन चळवळीची वाटचाल 4.3 मराठी ललित साहित्य व वैचारिक लेखन यांवर अंधश्रद्धा निर्मूलन चळवळीचा पडलेला प्रभाव (प्रमुख लेखक व साहित्यकृती यांच्या अनुषंगाने परामर्श)		

	4.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास - • 'ढोलताशे' (चं. प्र. देशपांडे, लोकवाङ्मय गृह, मुंबई) या नाटकाचा अभ्यास		
	एकूण श्रेयांक व घड्याळी तासिका	04	60

• साध्ये –

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. आदिवासी चळवळ, भटक्या विमुक्तांची चळवळ, विस्थापितांची चळवळ, अंधश्रद्धा निर्मूलन चळवळ यांच्या वैचारिक भूमिकेची सुस्पष्ट कल्पना येईल.
2. आदिवासी चळवळ, भटक्या विमुक्तांची चळवळ, विस्थापितांची चळवळ, अंधश्रद्धा निर्मूलन चळवळ यांचे स्वरूप व वाटचाल दृष्टी प्राप्त होईल.
3. आदिवासी चळवळ, भटक्या विमुक्तांची चळवळ, विस्थापितांची चळवळ, अंधश्रद्धा निर्मूलन चळवळ यांच्या मराठी साहित्यावरील प्रभावाचे स्वरूप ध्यानात येईल.
4. निवडक प्रातिनिधिक साहित्यकृतीच्या अभ्यासातून ह्या चळवळींच्या साहित्याच्या अभ्यासाची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ-

1. आदिवासी चळवळ स्वरूप आणि दिशा – दीपक गायकवाड, सुगावा, पुणे.
2. आदिवासी मराठी साहित्य: स्वरूप आणि समस्या – संपा. प्रमोद मुनघाटे, प्रतिमा, पुणे.
3. महाराष्ट्रातील आदिवासी मराठी साहित्य: एक शोध – माहेश्वरी गावीत, दास्ताने रामचंद्र आणि कंपनी, पुणे.
4. आदिवासी साहित्य: दिशा व दर्शन – विनायक तुमराम, स्वरूप, औरंगाबाद.
5. आदिवासी कवितेचा उषःकाल आणि सद्यःस्थिती – तुकाराम रोंगटे, संस्कृती, पुणे.
6. आदिवासी संस्कृती, भाषा आणि साहित्य – पुष्पा गावीत, प्रशांत, जळगाव.
7. आदिवासी मराठी साहित्य: एक अभ्यास – ज्ञानेश्वर वाल्हेकर, स्वरूप, औरंगाबाद.
8. मराठी आदिवासी साहित्य – अमर कांबळे, निर्मिती संवाद, कोल्हापूर.
9. आदिवासी साहित्य नियतकालिकातील – तुकाराम रोंगटे, डिंपल, मुंबई.
10. आदिवासी साहित्य: चिंतन आणि चिकित्सा – तुकाराम रोंगटे, दिलीपराज, पुणे.
11. आदिवासी साहित्य विविधांगी आयाम - माहेश्वरी गावीत, चिन्मय, औरंगाबाद.
12. 'आदिवासी साहित्य आणि अस्मितावेध – भुजंग मेश्राम'
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13. विमुक्तांचे स्वातंत्र्य (दोन विशेषांक) – परिवर्तनाचा वाटसरु, १ ते १५ व १६ ते ३० सप्टेंबर २०१७.

14. महाराष्ट्रातील भटके-विमुक्तः सद्यःस्थिती आणि आव्हाने – संपा. अनिल सपकाळ, नारायण भोसले, सायन, पुणे.
15. भटक्या विमुक्तांचे साहित्य आणि इतर लेख – सरला गोरे, गोदा, औरंगाबाद.
16. भटक्या विमुक्तांची आत्मकथने – द्रौपदी पंदिलवार, गोदा, औरंगाबाद.
17. वडार संस्कृती आणि साहित्य – सीमा चावरे, गोदा, औरंगाबाद.
18. अंधारवाटा – संपा. श्रीकांत मुद्दे, प्रवर्तन पब्लिकेशन्स, लातूर.
19. भटक्या विमुक्तांचे स्वातंत्र्य - लक्ष्मण गायकवाड
20. विमुक्तायन – लक्ष्मण माने, यशवंतराव चव्हाण प्रतिष्ठान, मुंबई.
21. गोर बंजारा इतिहास आणि लोकजीवन – आत्माराम कनीराम राठोड, गोरवट प्रकाशन, मोहा (द), पुसद.
22. परिघाबाहेर – लक्ष्मण गायकवाड, सकाळ प्रकाशन, पुणे.
23. भटक्या विमुक्तांचे अंतरंग – रामनाथ चव्हाण
24. भटक्या विमुक्त जमाती आणि त्यांचे प्रश्न – शंकरराव खरात, सुगावा, पुणे.
25. भटक्या विमुक्त जमाती (एक ऐतिहासिक मागोवा) – लक्ष्मण माने, 'हाकारा' त्रैमासिक जानेवारी ते मार्च १९८७, पृ. १०.
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28. विस्थापन आणि विकास प्रकल्प (मराठी विश्वकोश) – राहुल पैठणकर
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30. मेधा पाटकरः नर्मदा संघर्ष – दीपक चैतन्य
31. मोठी धरणे पर्यावरणीय व आर्थिक दुष्परिणाम – पराग चोळकर, परिसर, पुणे.
32. लढा नर्मदेचा - नंदिनी ओझा
33. नद्या आणि जनजीवनः नर्मदा खोऱ्यातील लोकांच्या संघर्षाचा ऐतिहासिक दस्तावेज – संजय संगवई
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35. महाराष्ट्रातील विस्थापित आणि मराठी कादंबरी – संजय नगरकर, स्नेहवर्धन, पुणे.
36. 'असो आता चाड' – हंसराज जाधव, अक्षरनामा ई-पोर्टल
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39. 'असो आता चाड', केशव खटिंग, मुराळी
40. अंधश्रद्धाः प्रश्नचिन्ह आणि पूर्णविराम – नरेंद्र दाभोलकर

41. अंधश्रद्धा विनाशाय – नरेंद्र दाभोलकर, राजहंस, पुणे.
42. ऐसे कैसे झाले भोंदू – नरेंद्र दाभोलकर
43. विचार तर कराल – नरेंद्र दाभोलकर, राजहंस, पुणे.
44. तिमिरातुनी तेजाकडे - नरेंद्र दाभोलकर, राजहंस, पुणे.
45. श्रद्धा-अंधश्रद्धा - नरेंद्र दाभोलकर, राजहंस, पुणे.
46. डॉ. नरेंद्र दाभोलकर: व्यक्ती आणि विचार – राजेखान शानेदिवाण, अक्षर दालन, कोल्हापूर.
47. अंधश्रद्धा निर्मूलन ते विवेकवादी मानवता, लोकसत्ता
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(<https://www.saamana.com/article-on-superstition/>)
49. अंधश्रद्धा निर्मूलन वार्तापत्राचे अंक (<https://anisvarta.co.in/>)
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(<http://www.champralekhan.com/pdf/natake/dholt-PU.pdf>)
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(<https://www.loksatta.com/manoranjan-news/dhol-tashe-play-1217305/>)

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानव्यविज्ञान विद्याशाखा
Choice Based Credit System
एम्. ए. मराठी
सत्र तिसरे व चौथे
(शैक्षणिक वर्ष 2022 - 2023 पासून लागू)

सत्र तिसरे
PG MAR 302
वर्णनात्मक भाषाविज्ञान
(श्रेयांक – चार)

• उद्दिष्टे -

1. आधुनिक भाषाविज्ञानातील मूलभूत संकल्पना समजून घेणे.
2. प्रमुख भाषाभ्यास पद्धती व इतर अभ्यासक्षेत्रे यांबाबत जाणून घेणे.
3. वर्णनात्मक भाषाविज्ञानातील स्वनविचार व रूपविचार यांचा अभ्यास करणे.
4. वर्णनात्मक भाषाविज्ञानातील वाक्यविचार व अर्थविचार यांचा अभ्यास करणे.
5. ध्वनिपरिवर्तन व अर्थपरिवर्तन यांची कारणे व प्रकार यांबाबत जाणून घेणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	भाषाविज्ञान: भाषाभ्यास पद्धती व इतर अभ्यासक्षेत्रे	01	15
	1.1 भाषाभ्यासाची आवश्यकता व स्वरूपविशेष 1.2 भाषाभ्यास पद्धती: ऐतिहासिक, वर्णनात्मक, तौलनिक, सामाजिक 1.3 भाषाविज्ञान व इतर अभ्यासक्षेत्रे: शैलीविज्ञान, कोशविज्ञान, मनोविज्ञान, मानववंशविज्ञान 1.4 मूलभूत संकल्पना: भाषिक व्यवस्था (Langue) व भाषिक परिवर्तन (Parole) – सोस्यूर, भाषिक क्षमता (Competence) व भाषिक प्रयोग (Performance) – चॉम्स्की, वाचिक वर्तन – ब्लूमफिल्ड		

2.	वर्णनात्मक भाषाविज्ञानाचे स्वरूप (स्वन व रूपविचार) 2.1 स्वनविचारः <ul style="list-style-type: none"> स्वननिर्मिती (उच्चारणस्थानावर व प्रयत्नांवर आधारलेले स्वन) आणि वागेंद्रियाची रचना व कार्य स्वन-स्वनिम-स्वनांतरः संकल्पना व स्वरूपविशेष स्वनिमनिश्चितीची तत्त्वे (पूरक विनियोग, वैकल्पिक विनियोग, वैधर्म्ययुक्त विनियोग) स्वनिमाचे प्रकार (वर्गीकरण) – अल्पतमयुग्म, खंडयुक्त, खंडाधिष्ठित, स्वरस्वनिम व व्यंजनस्वनिम 2.2 रूपिमविचारः <ul style="list-style-type: none"> रूपिका-रूपिम-रूपिकांतरः संकल्पना व स्वरूपविशेष रूपिमांचे प्रकार (आशयबोधक, कार्यकर, बद्ध, मिलन, अनन्यसाधारण) स्वनिमाश्रयी व रूपिमाश्रयी रूपिकांतरे, शून्य रूपिकांतर 	01	15
3.	वर्णनात्मक भाषाविज्ञानाचे स्वरूप (वाक्य व अर्थविचार) 3.1 वाक्यविचारः <ul style="list-style-type: none"> वाक्यविचाराचे स्वरूपः शब्दबंध, उपवाक्य, वाक्य रचना, रचनांचे प्रकार व प्रथमोपस्थित संघटक प्रथमोपस्थित संघटक पद्धतीने वाक्यविश्लेषण 3.2 अर्थविचारः <ul style="list-style-type: none"> अर्थविचाराचे स्वरूपः अर्थाचे स्वरूप व व्याख्या अर्थनिष्पत्ती, अर्थनिर्धारण, अर्थसंयोग अर्थाचे प्रकार (सहज अर्थ, साहचर्यपर अर्थ, शैलीगत अर्थ, भावपर अर्थ) 	01	15
4.	भाषिक परिवर्तन 4.1 भाषिक परिवर्तनाचे स्वरूप 4.2 ध्वनिपरिवर्तनः <ul style="list-style-type: none"> ध्वनिपरिवर्तनाची कारणे ध्वनिपरिवर्तनाचे प्रकार 4.3 अर्थपरिवर्तनः <ul style="list-style-type: none"> अर्थपरिवर्तनाची कारणे अर्थपरिवर्तनाचे प्रकार 	01	15
एकूण श्रेयांक व घड्याळी तासिका		04	60

• साध्ये —

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. आधुनिक भाषाविज्ञानातील मूलभूत संकल्पना समजतील.
2. प्रमुख भाषाभ्यास पद्धती व इतर अभ्यासक्षेत्रे यांबाबत सुस्पष्ट कल्पना येईल.
3. वर्णनात्मक भाषाविज्ञानातील स्वनविचार व रूपविचार यांचा सूक्ष्म अभ्यास करता येईल.
4. वर्णनात्मक भाषाविज्ञानातील वाक्यविचार व अर्थविचार यांचा सूक्ष्म अभ्यास करता येईल.
5. ध्वनिपरिवर्तन व अर्थपरिवर्तन यांची कारणे व प्रकार यांबाबत माहिती मिळेल.

• संदर्भग्रंथ-

1. आधुनिक भाषाविज्ञान — संपा. कल्याण काळे, अंजली सोमण, प्रतिमा, पुणे.
2. सुबोध भाषाशास्त्र — प्र. न. जोशी, स्नेहवर्धन, पुणे.
3. भाषाशास्त्रविचार — र. बा. मंचरकर, युनिव्हर्सल, कोल्हापूर.
4. भाषा आणि भाषाशास्त्र - श्री. न. गजेंद्रगडकर, व्हीनस, पुणे.
5. आधुनिक भाषाविज्ञान: सिद्धांत आणि उपयोजन — मिलिंद मालशे, लोकवाङ्मय गृह, मुंबई.
6. वर्णनात्मक भाषाविज्ञान — लीला गोविलकर, आरती, डोंबिवली.
7. भाषा: इतिहास आणि भूगोल — ना. गो. काललेकर, मौज, मुंबई.
8. वैखरी: भाषा आणि भाषाव्यवहार — अशोक रा. केळकर, स्नेहवर्धन, पुणे.
9. भाषाविज्ञान: वर्णनात्मक आणि ऐतिहासिक — संपा. मालशे, इनामदार, सोमण, संजय, पुणे.
10. सुलभ भाषाविज्ञान — द. दि. पुंडे, स्नेहवर्धन, पुणे.
11. भाषाविज्ञान आणि मराठी भाषा — अनिल गवळी, हिरण्यकेशी, कोल्हापूर.
12. मराठीचे वर्णनात्मक भाषाविज्ञान — महेंद्र कदम, स्नेहवर्धन, पुणे.
13. अभिनव भाषाविज्ञान — गं. ना. जोगळेकर, सुविचार, पुणे.
14. सुलभ भाषाविज्ञान व व्याकरण — व्ही. एन. पाटील
15. मराठीचा भाषिक अभ्यास — मु. श्री. कानडे, श्रीविद्या, पुणे.
16. मराठी भाषेचा आर्थिक संसार — अशोक रा. केळकर, मराठवाडा साहित्य परिषद, औरंगाबाद.

सत्र चौथे
PG MAR 402
सामाजिक भाषाविज्ञान
(श्रेयांक – चार)

• **उद्दिष्टे -**

1. सामाजिक भाषाविज्ञानाचे स्वरूप व या अभ्यासशाखेची व्याप्ती जाणून घेणे.
2. सामाजिक भाषाविज्ञानातील मूलभूत संकल्पना अवगत करणे.
3. सामाजिक-सांस्कृतिक दृष्ट्या निर्माण होणाऱ्या भाषिक भेदांचे स्वरूप ध्यानात घेणे.
4. बोलीविज्ञान ही संकल्पना जाणून घेऊन मराठीच्या प्रमुख बोलींचा परिचय करून घेणे.
5. भाषा व लिपी यांचे संबंध जाणून घेऊन देवनागरी लिपीची स्वरूपवैशिष्ट्ये समजून घेणे.

• **घटक विश्लेषण -**

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	सामाजिक भाषाविज्ञान: स्वरूप व व्याप्ती	01	15
	1.1 सामाजिक भाषाविज्ञान: भाषेचा समाजसापेक्ष अभ्यास (भाषा, समाज व संस्कृती यांच्या सहसंबंधाचा विचार) 1.2 सामाजिक भाषाविज्ञान: आंतरविद्याशाखीय अभ्यासदृष्टी (समाजशास्त्र, मानववंशशास्त्र, संस्कृतीविज्ञान आणि सामाजिक भाषाविज्ञान) 1.3 सामाजिक भाषाविज्ञानाचे वेगळेपण (सपीर, वॉर्फ, मॅलिनोव्हस्की यांचे विचार) 1.4 सामाजिक भाषाविज्ञान: मूलभूत संकल्पना (भाषिक सापेक्षतावाद, संदेशवहनक्षमता, भाषिक भांडार व लघुक्षेत्र, भाषासंपर्क, भाषानियोजन, भाषाशुद्धी, भाषानिषिद्धता, भाषाप्रदूषण, भाषामिश्रण, द्वैभाषिकता, बहुभाषिकता)		
2.	भाषा: सामाजिक व सांस्कृतिक स्तरभेद	01	15
	2.1 भाषा व आर्थिक वर्गव्यवस्था 2.2 भाषा व जातीव्यवस्था 2.3 भाषा व लिंगव्यवस्था (स्त्रियांची व पुरुषांची भाषा) 2.4 व्यावसायिकांची भाषा 2.5 सांकेतिक व गुप्त भाषा		

3.	भाषा आणि बोली	01	15
	3.1 प्रमाणभाषा व बोली: सहसंबंध 3.2 बोलीभूगोल, पिजिन व क्रिऑल भाषा संकल्पना 3.3 बोलीनिर्मितीची कारणे व विशेष 3.4 मराठीच्या प्रमुख बोलींचा परिचय: कोकणी, वऱ्हाडी, अहिराणी (सामाजिक भाषाविज्ञानाच्या अंगाने बोलींच्या विशेषांचा परिचय)		
4.	भाषा आणि लिपी	01	15
	4.1 भाषा आणि लिपी: परस्परसंबंध 4.2 भारतीय भाषांसाठी उपयोजिल्या जाणाऱ्या विविध लिपी 4.3 भारतात सर्वच भाषांसाठी एकाच लिपीची शक्याशक्यता, देवनागरी की रोमन ? वादग्रस्त प्रश्न 4.4 देवनागरी लिपी: स्वरूप, वैशिष्ट्ये व मर्यादा 4.5 देवनागरी लिपी सुधारण्याचे विविध प्रयत्न		
एकूण श्रेयांक व घड्याळी तासिका		04	60

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. सामाजिक भाषाविज्ञानाचे स्वरूप व या अभ्यासशाखेची व्याप्ती ध्यानात येईल.
2. सामाजिक भाषाविज्ञानातील मूलभूत संकल्पना अवगत होतील.
3. सामाजिक-सांस्कृतिक दृष्ट्या निर्माण होणाऱ्या भाषिक भेदांचे स्वरूप येईल.
4. बोलीविज्ञान संकल्पनेचे आकलन होईल आणि मराठीच्या प्रमुख बोलींबाबत जाण निर्माण होईल.
5. भाषा व लिपी यांचे संबंध समजतील आणि देवनागरी लिपीची स्वरूपवैशिष्ट्ये समजतील.

• संदर्भग्रंथ-

1. समाजभाषाविज्ञान: प्रमुख संकल्पना – रमेश वरखेडे, शब्दालय, श्रीरामपूर.
2. सामाजिक भाषाविज्ञान – संपा. प्रभाकर जोशी, चारुता गोखले, निराली, पुणे.
3. सामाजिक भाषाविज्ञान – संपा. जयश्री पाटणकर, स्नेहवर्धन, पुणे.
4. सामाजिक भाषाविज्ञान – रमेश धोंगडे, दिलीपराज, पुणे.
5. समाजभाषाविज्ञान आणि मराठी कादंबरी – नंदकुमार मोरे, पद्मगंधा, पुणे.
6. समाजभाषाविज्ञान: कक्षा आणि अभ्यास – जयश्री पाटणकर, ससंदर्भ, नाशिक.
7. भाषाव्यवहार व भाषाशिक्षण – संपा. सुरेंद्र ग्रामोपाध्ये, कासेगाव एज्यु. सोसा., कासेगाव.

8. सामाजिक भाषाविज्ञान: एक नवे अभ्यासक्षेत्र (लेख) – मिलिंद मालशे, मराठी संशोधन पत्रिका, जाने. फेब्रु. मार्च १९७८, पृ. ८३-११७.
9. भाषा: इतिहास आणि भूगोल – ना. गो. काललेकर, मौज, मुंबई.
10. भाषा आणि संस्कृती – ना. गो. काललेकर, मौज, मुंबई.
11. बोलीविज्ञान – औदुंबर सरवदे, भाषाविकास संशोधन संस्था, कोल्हापूर.
12. समाजभाषाविज्ञान: बोलींचा अभ्यास – सुधाकर चौधरी, अथर्व, जळगाव.
13. बोलीभाषा संशोधनाच्या नव्या दिशा – संपा. म. सु. पगारे, आशुतोष पाटील, प्रशांत, जळगाव.
14. बोली: समाज, साहित्य आणि संस्कृती – कैलास सार्वेकर, प्रतिभास, परभणी.
15. वऱ्हाडी बोलीचा शब्दकोश खंड १, २, ३, ४ – राज्य मराठी विकास संस्था, मुंबई.
16. अहिराणी शब्दकोश – रमेश सूर्यवंशी, अभ्यासिका प्रकाशन, कन्नड.
17. अहिराणीच्या निमित्ताने – सुधीर देवरे, पद्मगंधा, पुणे.
18. अहिराणी बोली: भाषावैज्ञानिक अभ्यास – रमेश सूर्यवंशी, अभ्यासिका प्रकाशन, कन्नड.
19. खानदेशी वैखरी: अहिराणी (लेख) – फुला बागुल, भाषा आणि जीवन, नोव्हेंबर २०१२.
20. बागलानी, सुरती, नंदुरबारी अहिराणी (लेख) – फुला बागुल, भाषा आणि जीवन, दिवाळी २०१६.
21. पूर्व खानदेशच्या बोलींचा परस्परांवर प्रभाव: एक अभ्यास (लेख) – वासुदेव वले, भाषा आणि जीवन, उन्हाळा २००८.
22. लोकवैखरीचा संसार: सांकेतिक व व्यवसायनिष्ठ भाषा (लेख) – फुला बागुल, भाषा आणि जीवन, ऑक्टोबर २०१८.
23. सिंधुकालीन लिपी आणि भारतीय भाषांचा इतिहास – रवींद्र इंगळे चावरेकर, हस्ताक्षर प्रकाशन गृह, नांदेड.
24. देवनागरी लिपी (<https://vishwakosh.marathi.gov.in/19484/>)
25. देवनागरी लिपी (<https://www.loksatta.com/sampadkiya-news/devanagari-font-should-use-as-a-marathi-culture-38329/>)

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानव्यविज्ञान विद्याशाखा

Choice Based Credit System

एम्. ए. मराठी

सत्र तिसरे व चौथे

(शैक्षणिक वर्ष 2022 - 2023 पासून लागू)

सत्र तिसरे

PG MAR 303

आधुनिक गद्य वाङ्मयप्रकार – चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध
(श्रेयांक – चार)

• उद्दिष्टे -

1. चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध या गद्य वाङ्मयप्रकारांची संकल्पना व त्यांचे स्वरूप जाणून घेणे.
2. चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध यांच्या लेखनाची साधने व घटक यांचा परिचय करून घेणे.
3. मराठीतील चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध लेखनाचा परामर्श घेणे.
4. चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध या गद्य वाङ्मयप्रकारांतील प्रातिनिधिक साहित्यकृतींचा अभ्यास करणे.

• घटक विश्लेषण –

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	गद्य वाङ्मयप्रकार : चरित्र	01	15
	1.1 चरित्र: संकल्पना व स्वरूप 1.2 चरित्रलेखनाची साधने व घटक 1.3 मराठीतील चरित्रलेखनाचा परामर्श (स्वातंत्र्यपूर्व आणि स्वातंत्र्योत्तर कालखंड) 1.4 प्रातिनिधिक साहित्यकृतींचा अभ्यास- • 'डॉ. रखमाबाई: एक आर्त' (मोहिनी वर्दे, पॉप्युलर, मुंबई)		
2.	गद्य वाङ्मयप्रकार : आत्मचरित्र	01	15
	2.1 आत्मचरित्र: संकल्पना व स्वरूप 2.2 आत्मचरित्रलेखनाची साधने व घटक 2.3 मराठीतील आत्मचरित्रलेखनाचा परामर्श • १९६० पूर्व कालखंडातील आत्मचरित्रांचा परामर्श		

	<ul style="list-style-type: none"> • १९६० नंतरच्या आत्मचरित्रांचा परामर्श (आत्मचरित्र व आत्मकथन: स्वरूपभेदाचा विशेष विचार) <p>2.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास-</p> <ul style="list-style-type: none"> • 'रास' (सुमा करंदीकर, मौज प्रकाशन गृह, मुंबई) 		
3.	गद्य वाङ्मयप्रकार : प्रवासवर्णन	01	15
	<p>3.1 प्रवासवर्णन: संकल्पना व स्वरूप</p> <p>3.2 प्रवासवर्णन लेखनाची साधने व घटक</p> <p>3.3 मराठीतील प्रमुख प्रवासवर्णनांचा परामर्श (स्वातंत्र्यपूर्व आणि स्वातंत्र्योत्तर कालखंड)</p> <p>3.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास-</p> <ul style="list-style-type: none"> • 'ते आठ दिवस' (अरुणा सबाने, हर्मिस प्रकाशन, पुणे) 		
4.	गद्य वाङ्मयप्रकार : ललित निबंध	01	15
	<p>4.1 ललित निबंध: संकल्पना व स्वरूप</p> <p>4.2 ललित निबंध लेखनाची साधने व घटक</p> <p>4.3 मराठीतील प्रमुख ललित निबंधकारांच्या ललित निबंध लेखनाचा परामर्श (स्वातंत्र्यपूर्व आणि स्वातंत्र्योत्तर कालखंड)</p> <p>4.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास-</p> <ul style="list-style-type: none"> • 'गाई घरा आल्या' (इंद्रजित भालेराव, प्रतिभास प्रकाशन, परभणी) 		
	एकूण श्रेयांक व घड्याळी तासिका	04	60

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध या गद्य वाङ्मयप्रकारांची संकल्पना सुस्पष्ट होईल व त्यांचे स्वरूप समजेल.
2. चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध यांच्या लेखनाची साधने व घटक यांचा परिचय होईल.
3. मराठीतील चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध लेखनाची माहिती मिळेल.
4. चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध या गद्य वाङ्मयप्रकारांतील साहित्यकृतींच्या अभ्यासाची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ -

1. वाङ्मयप्रकारः संकल्पना व स्वरूप (विजय निंबाळकर गौरवग्रंथ) – संपा. आनंद वास्कर, अन्वय, पुणे.
2. मराठी चरित्रः रूप आणि इतिहास – जयंत वष्ट, पद्मगंधा, पुणे.
3. चरित्र आणि आत्मचरित्रः तंत्र आणि इतिहास – अ. म. जोशी, स्नेहवर्धन, पुणे.
4. चरित्र आणि आत्मचरित्रे – सदा कऱ्हाडे, लोकवाङ्मय गृह, मुंबई.
5. अर्वाचीन मराठी साहित्य – संपा. वि. पां. नेने, बडोदे.
6. अर्वाचीन मराठी वाङ्मय (संक्षिप्त) – संपा. ग. रं. दण्डवते, आर्य सुधारक प्रेस.
7. आधुनिक मराठी वाङ्मयाचा इतिहास खंड १, २ – अ. ना. देशपांडे, व्हीनस, पुणे.
8. प्रदक्षिणा खंड १ व २ – संपा. अ. अं. कुलकर्णी, कॉन्टिनेन्टल, पुणे.
9. मराठी वाङ्मयाचा इतिहास खंड ३, ४, ५, ६, ७ – महाराष्ट्र साहित्य परिषद, पुणे.
10. मराठी साहित्यः प्रेरणा आणि स्वरूप (१९५०-१९७५) – संपा. गो. मा. पवार, म. द. हातकणंगलेकर, पॉप्युलर, मुंबई.
11. मराठी साहित्याची रूपरेषा – वि. पां. दांडेकर, बडोदे.
12. चरित्र चिंतन – द. न. गोखले, मौज, मुंबई.
13. मराठी चरित्रः मूलतत्त्वे व समीक्षा – ग. का. रावते, समर्थ प्रकाशन.
14. रखमाबाई राऊत (<https://www.bbc.com/marathi/india-53866033>)
15. डॉ. रखमाबाई – एक दीपशिखा (<https://aisiakshare.com/index.php?q=node/2220>)
16. डॉ. रखमाबाईः भारतातील वैद्यकीय सेवेच्या पहिल्या मानकरी – अलका पावनगडकर (<https://www.thinkmaharashtra.com/node/3309>)
17. आत्मचरित्रमीमांसा – आनंद यादव, मेहता, पुणे.
18. मराठीतील आत्मचरित्रपर लेखन – उषा हस्तक, स्नेहवर्धन, पुणे.
19. निवडक मराठी आत्मकथा – संपा. राम शेवाळकर, साहित्य अकादमी, नवी दिल्ली.
20. चरित्र-आत्मचरित्र – जान्हवी संत, मोघे, कोल्हापूर.
21. गतकाळाची गाज – नीलिमा गुंडी, मौज, मुंबई.
22. प्रवासवर्णनः एक वाङ्मयप्रकार – वसंत सावंत, महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई.
23. साहित्याचे मानदंड – गंगाधर गाडगीळ, पॉप्युलर, मुंबई.
24. प्रस्तावना, मजल दरमजल, रा. भि. जोशी, मौज, मुंबई.
25. 'रास' - सुमा करंदीकर
https://nehajyotipradip.blogspot.com/2019/12/blog-post_31.html
<https://divyamarathi.bhaskar.com/news/MAG-janhavi-khandekar-about-sumatainchi-raas-5453555-NOR.html>
26. मुक्त गद्यः संकल्पना आणि उपयोजन – वि. शं. चौघुले, मॅजेस्टिक, मुंबई.
27. लघुनिबंध ते मुक्तगद्य – वि. शं. चौघुले, मॅजेस्टिक, मुंबई.
28. ललितगद्य – चंद्रकांत वर्तक, श. रा. राणे, य. च. म. मु. वि., नाशिक.
29. ललितगद्य विशेषांक, ललित, ऑगस्ट १९८८.

30. ललितगद्य विशेषांक, ललित, मार्च २०१३.
31. लोकरंग – संपा. चंद्रकुमार नलगे, गंगाधर पानतावणे, रिया, कोल्हापूर.
32. मराठीतील ललित गद्य: विचार आणि विस्तार – अक्षरयात्रा विशेषांक २०११-२०१२.
33. ललितगद्य ते मुक्त गद्य – रणधीर शिंदे, महाराष्ट्र टाईम्स, संवाद पुरवणी
(<https://maharashtratimes.com/editorial/samwad/-/articleshow/28060110.cms>)

सत्र चौथे

PG MAR 403

आधुनिक गद्य वाङ्मयप्रकार – पत्र, रोजनिशी, सदर, रिपोतार्ज (श्रेयांक – चार)

• उद्दिष्टे -

1. पत्र, रोजनिशी, सदर, रिपोतार्ज या गद्य वाङ्मयप्रकारांची संकल्पना व त्यांचे स्वरूप जाणून घेणे.
2. पत्र, रोजनिशी, सदर, रिपोतार्ज यांच्या लेखनामागील भूमिका व अशा लेखनाचे वाङ्मयीन विशेष समजून घेणे.
3. मराठीतील पत्र, रोजनिशी, सदर, रिपोतार्ज लेखनाचा परामर्श घेणे.
4. पत्र, रोजनिशी, सदर, रिपोतार्ज या गद्य वाङ्मयप्रकारांतील प्रातिनिधिक साहित्यकृतींचा अभ्यास करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	<p>गद्य वाङ्मयप्रकार : पत्रलेखन</p> <p>1.1 पत्रलेखन: संकल्पना व स्वरूप</p> <p>1.2 पत्रात्मक लेखनामागील भूमिका व अशा लेखनाचे वाङ्मयीन विशेष</p> <p>1.3 पत्रात्मक स्वरूपाच्या लेखनाचा परामर्श (वाङ्मयीन पत्रव्यवहार आणि गद्य साहित्यात पत्रलेखनाचा झालेला वापर)</p> <p>1.4 प्रातिनिधिक साहित्यकृतींचा अभ्यास-</p> <ul style="list-style-type: none"> • ‘पत्रास कारण की...’ (अरविंद जगताप, ग्रंथाली, मुंबई) <p>या पुस्तकातील क्र. ३, ४, ७, ८, ९, १०, ३४, ३५, ३७, ४३ या पत्रलेखांचा अभ्यास</p>	01	15
2.	गद्य वाङ्मयप्रकार : रोजनिशी लेखन	01	15

	<p>2.1 रोजनिशी: संकल्पना व स्वरूप</p> <p>2.2 रोजनिशी लेखनामागील भूमिका व अशा लेखनाचे वाङ्मयीन विशेष</p> <p>2.3 रोजनिशी लेखनाचा परामर्श (रोजनिशी स्वरूपाचे लेखन व गद्य साहित्यात रोजनिशी लेखनाचा झालेला वापर)</p> <p>2.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास-</p> <ul style="list-style-type: none"> • ‘महर्षी विठ्ठल रामजी शिंदे यांची रोजनिशी’ (संपा. गो. मा. पवार, मराठवाडा साहित्य परिषद, औरंगाबाद) या पुस्तकातील ‘इंग्लडची रोजनिशी’ या भागाचा अभ्यास. (https://virashinde.com या संकेतस्थळावर सॉफ्ट कॉपी उपलब्ध) 		
3.	<p>गद्य वाङ्मयप्रकार : सदर लेखन</p> <p>3.1 सदर लेखन: संकल्पना व स्वरूप</p> <p>3.2 सदर लेखनामागील भूमिका व अशा लेखनाचे वाङ्मयीन विशेष</p> <p>3.3 सदर लेखनाचा परामर्श (पुस्तकरूपाने प्रकाशित – पत्रकार, साहित्यिक, कलावंत, डॉक्टर, समाजसेवक यांचे सदर लेखन)</p> <p>3.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास-</p> <ul style="list-style-type: none"> • ‘सदरा बदलेली माणसं’ (मनोहर सोनवणे, समकालीन प्रकाशन, पुणे) 	01	15
4.	<p>गद्य वाङ्मयप्रकार : रिपोतार्ज लेखन</p> <p>4.1 रिपोतार्ज लेखन: संकल्पना व स्वरूप</p> <p>4.2 रिपोतार्ज लेखनामागील भूमिका व अशा लेखनाचे वाङ्मयीन विशेष</p> <p>4.3 रिपोतार्ज लेखनाचा परामर्श (अनिल अवचट, उत्तम कांबळे, जगन फडणीस आदींचे रिपोतार्ज लेखन)</p> <p>4.4 प्रातिनिधिक साहित्यकृतीचा अभ्यास-</p> <ul style="list-style-type: none"> • ‘कोरडी शेतं...ओले डोळे’- आत्महत्याग्रस्त शेतकरी विधवा...अंधारात असलेली एक सामाजिक समस्या (दीप्ती राऊत, य. दि. फडके प्रगत संशोधन केंद्र आणि रोहन प्रकाशन, पुणे) 	01	15
	एकूण श्रेयांक व घड्याळी तासिका	04	60

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. पत्र, रोजनिशी, सदर, रिपोतार्ज या गद्य वाङ्मयप्रकारांची संकल्पना सुस्पष्ट होईल व त्यांचे स्वरूप समजेल.
2. पत्र, रोजनिशी, सदर, रिपोतार्ज यांच्या लेखनामागील भूमिका व अशा लेखनाचे वाङ्मयीन विशेष ध्यानात येतील.
3. मराठीतील पत्र, रोजनिशी, सदर, रिपोतार्ज लेखनाची माहिती मिळेल.
4. पत्र, रोजनिशी, सदर, रिपोतार्ज या गद्य वाङ्मयप्रकारांतील साहित्यकृतींच्या अभ्यासाची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ-

1. मुक्त गद्य: संकल्पना आणि उपयोजन – वि. शं. चौघुले, मॅजेस्टिक, मुंबई.
2. लघुनिबंध ते मुक्तगद्य – वि. शं. चौघुले, मॅजेस्टिक, मुंबई.
3. ललितगद्य – चंद्रकांत वर्तक, श. रा. राणे, य. च. म. मु. वि., नाशिक.
4. ललितगद्य विशेषांक, ललित, ऑगस्ट १९८८.
5. ललितगद्य विशेषांक, ललित, मार्च २०१३.
6. कुसुमानिल – आ. रा. देशपांडे, कुसुमावती देशपांडे
7. विश्रब्ध शारदा – ह. वि. मोटे
8. जी. एं. ची निवडक पत्रे – संपा. म. द. हातकणंगलेकर, श्री. पु. भागवत
9. इंदु काळे सरला भोळे – वा. म. जोशी
10. सावित्री – पु. शि. रेगे
11. बाळूताई, धडा घे – मालतीबाई बेडेकर
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17. एका स्वागताध्यक्षाची डायरी – उत्तम कांबळे
18. अस्वस्थ दशकाची डायरी – अविनाश धर्माधिकारी
19. निवडक विठ्ठल रामजी शिंदे – संपा. गो. मा. पवार, साहित्य अकादमी, नवी दिल्ली.
20. महर्षी विठ्ठल रामजी शिंदे: जीवन व कार्य - गो. मा. पवार, लोकवाङ्मय गृह, मुंबई.
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26. फीचर रायटिंग, प्रसन्नकुमार अकलूजकर, श्रीविद्या, पुणे.

27. पत्रकारिता: स्वरूप आणि चिकित्सा – महावीर जोंधळे, सुविद्या, पुणे.

28. वृत्तपत्रकारिता – विकिपीडिया (<https://vishwakosh.marathi.gov.in/32929/>)

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30. मुक्त पत्रकारितेविषयी सर्व काही – कविता राव, चारुशीला रामदुरई, अनुवाद: संजय विष्णु तांबट, साकेत, औरंगाबाद.

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानव्यविज्ञान विद्याशाखा
Choice Based Credit System
एम्. ए. मराठी
सत्र तिसरे व चौथे
(शैक्षणिक वर्ष 2022 - 2023 पासून लागू)

सत्र तिसरे

ऐच्छिक अभ्यासपत्रिका

PG MAR 304 (A)

लोकसाहित्याची मूलतत्त्वे आणि खान्देशी लोकसाहित्य

(श्रेयांक – चार)

• उद्दिष्टे -

1. लोकसाहित्याची संकल्पना समजून घेऊन मूलतत्त्वे ध्यानात घेणे.
2. लोकसाहित्याच्या अभ्यासपद्धतींचा परिचय करून घेणे.
3. लोकसाहित्याच्या भारतीय अभ्यासकांचे कार्य जाणून घेणे व प्रमुख मराठी अभ्यासकांचे योगदान समजून घेणे.
4. खान्देशच्या इतिहासाची व सांस्कृतिक विशेषांची माहिती करून घेणे.
5. खान्देशातील लोकगीते, लोककथा, लोकनाट्य, म्हणी, उखाणे, वाक्प्रचार यांचा अभ्यास करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	लोकसाहित्य: संकल्पना व स्वरूप 1.1 लोकसाहित्याच्या व्याख्या – पाश्चात्य व भारतीय 1.2 लोकसाहित्याच्या उत्पत्तीविषयक विविध उपपत्ती 1.3 लोकसाहित्य आणि अन्य ज्ञानशाखा (मानववंशशास्त्र, समाजशास्त्र, मानसशास्त्र, भाषाशास्त्र, इतिहास, धर्मशास्त्र यांच्याशी लोकसाहित्याचे अनुबंध) 1.4 लोकसाहित्याचे स्वरूप: • शाब्द लोकसाहित्य (गीते, कथा, वाक्प्रचार, म्हणी) • लोककला (लोकनाट्य, लोकनृत्य, लोकवाद्य) • लोकरुढी (लोकभ्रम, लोकतत्त्व, लोकविधी)	01	15
2.	लोकसाहित्याचा अभ्यास	01	15

	<p>2.1 लोकसाहित्याच्या अभ्यासपद्धती:</p> <ul style="list-style-type: none"> • दैवतकथाशास्त्र, निसर्गरूपकवादी, भ्रांतकल्पनावादी, हेतुकथावादी, मिथकमीमांसा <p>2.2 लोकसाहित्याच्या अभ्यासाची भारतीय परंपरा:</p> <ul style="list-style-type: none"> • लोकसाहित्याच्या प्रमुख भारतीय अभ्यासकांच्या कार्याचा परिचय <p>2.3 लोकसाहित्याच्या मराठीतील अभ्यासकांच्या कार्याचा परिचय (दुर्गा भागवत, सरोजिनी बाबर, प्रभाकर मांडे, मधुकर वाकोडे, दा. गो. बोरसे)</p> <p>2.4 लोकसाहित्याच्या अभ्यासकांचे गुणविशेष, लोकसाहित्याच्या अभ्यासातील अडचणी व अभ्यासकाने पाळावयाची पथ्ये</p>		
3.	खान्देश: इतिहास व संस्कृती	01	15
	<p>3.1 खान्देश: प्राचीन ते आधुनिक कालखंडातील इतिहास (भौगोलिक, राजकीय व सांस्कृतिक विशेषांचा परामर्श)</p> <p>3.2 खान्देश: कृषिजीवन, पिके, जंगलक्षेत्र, नद्या, उद्योग-व्यवसाय</p> <p>3.3 खान्देश: संतपरंपरा, प्रमुख दैवते व तीर्थक्षेत्रे, जत्रा-यात्रा, प्रमुख सण-उत्सव</p>		
4.	खान्देश: लोकसाहित्य	01	15
	<p>4.1 खान्देशातील लोकगीते (स्त्रीगीते, दैवतगीते, विवाहगीते): स्वरूपविशेष</p> <p>4.2 खान्देशातील लोककथा (अहिराणी व आदिवासी): स्वरूपविशेष</p> <p>4.2 खान्देशातील लोककला (तमाशा, वही, गोंधळ, आदिवासी लोकनाट्य): स्वरूपविशेष</p> <p>4.4 खान्देशातील म्हणी, वाक्प्रचार व उखाणे: स्वरूपविशेष</p>		
	एकूण श्रेयांक व घड्याळी तासिका	04	60

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. लोकसाहित्याची संकल्पना समजेल व मूलतत्त्वे ध्यानात येतील.
2. लोकसाहित्याच्या अभ्यासपद्धतीचा परिचय होईल.
3. लोकसाहित्याच्या भारतीय अभ्यासकांचे कार्य व प्रमुख मराठी अभ्यासकांचे योगदान यांबाबत माहिती प्राप्त होईल.
4. खान्देशच्या इतिहासाची व सांस्कृतिक विशेषांची माहिती मिळेल.

5. खान्देशातील लोकगीते, लोककथा, लोकनाट्य, म्हणी, उखाणे, वाक्प्रचार यांच्या अभ्यासाची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ-

1. लोकसाहित्याची रूपरेषा – दुर्गा भागवत
2. लोकसाहित्याचे स्वरूप – प्रभाकर मांडे, गोदावरी, औरंगाबाद.
3. लोकसाहित्याचे अंतःप्रवाह - प्रभाकर मांडे, गोदावरी, औरंगाबाद.
4. लोकरंगभूमी – प्रभाकर मांडे, गोदावरी, औरंगाबाद.
5. लोकसाहित्य: सिद्धांत आणि रचनाप्रकारबंध – गंगाधर मोरजे, पद्मगंधा, पुणे.
6. लोकसाहित्य: क्षेत्रीय अभ्यास – गंगाधर मोरजे, पद्मगंधा, पुणे.
7. लोकसाहित्याची मीमांसा – विश्वनाथ शिंदे, स्नेहवर्धन, पुणे.
8. साहित्य: लोक, ग्रामीण आणि दलित खंड १ – म. सु. पगारे, दिलीपराज, पुणे.
9. लोकसाहित्य: शोध आणि समीक्षा – रा. चिं. ढेरे, पद्मगंधा, पुणे.
10. लोकसाहित्य: संकल्पना व स्वरूप – शरद व्यवहारे, कैलाश, औरंगाबाद.
11. लोकसाहित्य: संकल्पना व स्वरूप – मोहन पाटील, मानसन्मान, पुणे.
12. लोकसंचित – तारा भवाळकर, राजहंस, पुणे.
13. लोकपरंपरा-लोकधाटी – संपा. परशुराम गिमेकर व इतर, स्वरूप, औरंगाबाद.
14. मराठी लोकसंस्कृतीचे उपासक – रा. चिं. ढेरे, ज्ञानराज, पुणे.
15. लोकसाहित्याचे प्रातिभ दर्शन –संपा. अरुणा ढेरे, वर्षा गजेन्द्रगडकर, पद्मगंधा, पुणे.
16. लोकसाहित्य: उद्गम आणि विकास – शरद व्यवहारे, विश्वभारती, नागपूर.
17. लोकसाहित्य: रंग आणि रूपरेखा - शरद व्यवहारे, विश्वभारती, नागपूर.
18. मराठी लोकगीते: स्वरूप-विशेष - शरद व्यवहारे, विश्वभारती, नागपूर.
19. स्त्री-गीतांची सामाजिक पार्श्वभूमी – विद्या व्यवहारे
20. लोकसाहित्य व लोकसंस्कृती – विद्या व्यवहारे, प्रतिमा, पुणे.
21. लोकसाहित्य व लोकसंस्कृती – संपा. रमेश वरखेडे
22. लोकसंस्कृती: स्वरूपविशेष – द. ता. भोसले, पद्मगंधा, पुणे.
23. मराठी लोकनाट्य तमाशा: कला आणि साहित्य – नामदेव व्हटकर, अजब, कोल्हापूर.
24. मौखिक वाङ्मयाची परंपरा: स्वरूप आणि भवितव्य – प्रभाकर मांडे, गोदावरी, औरंगाबाद.
25. लोकसाहित्य: लोकतत्त्व, इहतत्त्व – किसन पाटील, कस्तुरी, अमळनेर.
26. लोकधाटीच्या वहिवाटी - मधुकर वाकोडे, स्वरूप, औरंगाबाद.
27. गोंधळ: परंपरा, स्वरूप आणि आविष्कार – रामचंद्र देखणे, पद्मगंधा, पुणे.
28. खानदेशचा राजकीय व सांस्कृतिक इतिहास – टी. टी. महाजन, कॉन्टिनेन्टल, पुणे.
29. खानदेशचा सांस्कृतिक इतिहास खंड १ ते ५ – संपा. मु. ब. शहा, का. स. वाणी मराठी प्रगत अध्ययन संस्था, धुळे.

30. खानदेशातील कृषक जीवन सचित्र कोश -रमेश सूर्यवंशी, महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई.
31. अहिराणी लोकसाहित्य दर्शन (सण आणि उत्सव) – कृष्णा पाटील, म. रा. सा. सं. मंडळ, मुंबई.
32. अहिराणी लोकसाहित्य दर्शन (नातीगोती) – कृष्णा पाटील, म. रा. सा. सं. मंडळ, मुंबई.
33. खानदेशी अहिराणी लोककथा – बी. एन्. पाटील, प्रशांत, जळगाव.
34. अहिराणी लोकगीतातील लोकतत्त्व, इहवाद आणि लोकभाषा – म. सु. पगारे, प्रशांत, जळगाव.
35. भिल्लांचे वाग्वैभव – संपा. विजया सोनार, गोदावरी, औरंगाबाद.
36. खानदेशातील लोकदेवता: कानबाई – पुष्पलत करनकाळ, गोदावरी, औरंगाबाद.
37. खानदेशातील अहिराणी स्त्रीगीते – उषा सावंत, प्रतिमा, पुणे.
38. वही वाङ्मयातील लोकजीवन – म. सु. पगारे, सागर, जळगाव.
39. अहिराणी म्हणीतील समाजभाषा – म. सु. पगारे
40. आदिवासी संस्कृती, भाषा आणि साहित्य – पुष्पा गावीत, प्रशांत, जळगाव.
41. पश्चिम खानदेशातील आदिवासी लोकसाहित्य - पुष्पा गावीत, प्रशांत, जळगाव.
42. खानदेश आणि विदर्भ: सीमा प्रदेशातील लोकसाहित्य – वासुदेव वले, अथर्व, जळगाव.
43. खानदेशातील वहीवाङ्मय – शालिनी नारखेडे, गोदावरी, औरंगाबाद.
44. खानदेशातील लोकदैवते व कुलाचार (लेख) – फुला बागुल, आमची श्रीवाणी, जानेवारी २०१६.
45. पावरा समाज व संस्कृती – डी. जी. पाटील, भाषा संशोधन केंद्र, बडोदा.
46. मावची बोली, समाज आणि संस्कृती – सुधीर कोटावदे, आशापुरी, साक्री.
47. अहिराणी लोकसंस्कृती – सुधीर देवरे, पद्मगंधा, पुणे.
48. अहिराणी लोकपरंपरा – सुधीर देवरे, ग्रंथाली, मुंबई.
49. अहिराणी गोत - सुधीर देवरे, पद्मगंधा, पुणे.
50. अहिराणी म्हणी: अनुभवाच्या खाणी – बाळासाहेब गुंजाळ, शब्दालय, श्रीरामपूर.
51. बागलाणी लोकगीते आणि लोकसंस्कृती – सुरेश पाटील, प्रज्ञा, नाशिक.
52. खानदेशातील लोककथा – यादव भिवसन पाटील, गोदावरी, औरंगाबाद.
53. अहिराणी लोकसाहित्याची वैशिष्ट्ये – दा. गो. बोरसे, गिरिजा साहित्य प्रका.न, नागपूर.
54. खानदेशातील ग्रामदैवते आणि लाकेगीते – सयाजी निंबाजी पगार, का. स. वाणी मराठी प्रगत अध्ययन संस्था, धुळे.
55. कोकणांचे मौखिक वाङ्मय - विजया जडे-सोनार, गोदावरी, औरंगाबाद.
56. अहिराणी भाषा आणि संस्कृती – भा. रं. कुलकर्णी
57. आदिवासी पावरांच्या कथा – डी. जी. पाटील, गोदावरी, औरंगाबाद.
58. आदिवासी लोककथामीमांसा – मीनाक्षी सामंत, शब्दालय, श्रीरामपूर.

सत्र चौथे
ऐच्छिक अभ्यासपत्रिका
PG MAR 404 (A)
ख्रिस्ती आणि मुस्लिम मराठी साहित्य
(श्रेयांक – चार)

• उद्दिष्टे -

1. ख्रिस्ती व मुस्लिम मराठी साहित्याचा उदय व निर्मिती यांमागील प्रेरणांचे आकलन करून घेणे.
2. ख्रिस्ती व मुस्लिम मराठी साहित्याची वाटचाल जाणून घेणे.
3. ख्रिस्ती व मुस्लिम मराठी साहित्यातील प्रधान जाणिवांची नोंद घेणे.
4. ख्रिस्ती व मुस्लिम मराठी साहित्यातील प्रातिनिधिक साहित्यकृतींचा अभ्यास करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	ख्रिस्ती मराठी साहित्य: प्रेरणा, वाटचाल व स्वरूप 1.1 ख्रिस्ती मराठी साहित्य: उदय व निर्मिती यांमागील प्रेरणा (राजकीय, धार्मिक, सामाजिक-सांस्कृतिक प्रेरणा) 1.2 ख्रिस्ती मराठी साहित्य संमेलनांचा स्थूल परामर्श 1.3 ख्रिस्ती मराठी साहित्य: प्रधान जाणिवा व वाटचाल <ul style="list-style-type: none">• मध्ययुगीन कालखंडातील ख्रिस्ती मराठी साहित्याचे स्वरूप (प्रमुख ग्रंथकारांच्या अनुषंगाने परामर्श)• एकोणिसाव्या शतकातील ख्रिस्ती मराठी साहित्याचे स्वरूप (प्रमुख ग्रंथकारांच्या अनुषंगाने परामर्श)• विसाव्या शतकाच्या पूर्वार्धातील ख्रिस्ती मराठी साहित्याचे स्वरूप (प्रमुख ग्रंथकारांच्या अनुषंगाने परामर्श)• विसाव्या शतकाच्या उत्तरार्धातील ख्रिस्ती मराठी साहित्याचे स्वरूप (प्रमुख ग्रंथकारांच्या अनुषंगाने परामर्श)	01	15
2.	ख्रिस्ती मराठी साहित्य: प्रातिनिधिक साहित्यकृतींचा अभ्यास 2.1 'यमुनापर्यटन' (कादंबरी) – बाबा पदमनजी, स्नेहवर्धन प्रकाशन, पुणे.	01	15

	2.2 'कन्फेशन' (कवितासंग्रह) – सायमन मार्टिन, सहयोग प्रकाशन, वसई. वितरक – मौज प्रकाशन गृह, मुंबई.		
3.	मुस्लिम मराठी साहित्य: प्रेरणा, वाटचाल व स्वरूप	01	15
	3.1 मुस्लिम मराठी साहित्य: उदय व निर्मिती यांमागील प्रेरणा (राजकीय, धार्मिक, सामाजिक-सांस्कृतिक प्रेरणा) 3.2 मुस्लिम समाजसुधारणा चळवळी व मुस्लिम मराठी साहित्य संमेलने यांचा स्थूल परामर्श 3.3 मुस्लिम मराठी साहित्य: प्रधान जाणिवा व वाटचाल • मध्ययुगीन कालखंडातील मुस्लिम मराठी साहित्याचे स्वरूप (प्रमुख ग्रंथकारांच्या अनुषंगाने परामर्श) • आधुनिक काळातील (स्वातंत्र्यपूर्व) मुस्लिम मराठी साहित्याचे स्वरूप (प्रमुख ग्रंथकारांच्या अनुषंगाने परामर्श) • विसाव्या शतकाच्या उत्तरार्धातील मुस्लिम मराठी साहित्याचे स्वरूप (कथा, कविता व आत्मचरित्र या वाङ्मयप्रकारांच्या अनुषंगाने)		
4.	मुस्लिम मराठी साहित्य: प्रातिनिधिक साहित्यकृतींचा अभ्यास	01	15
	4.1 'इंधन' (कादंबरी) – हमीद दलवाई, मौज प्रकाशन गृह, मुंबई. 4.2 'भोगले जे दुःख त्याला' (आत्मचरित्र) – आशा आपराद, मेहता पब्लिशिंग हाऊस, पुणे.		
	एकूण श्रेयांक व घड्याळी तासिका	04	60

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. ख्रिस्ती व मुस्लिम मराठी साहित्याचा उदय व निर्मिती यांमागील प्रेरणांचे आकलन होईल.
2. ख्रिस्ती व मुस्लिम मराठी साहित्याची वाटचाल समजेल.
3. ख्रिस्ती व मुस्लिम मराठी साहित्यातील प्रधान जाणिवांची कल्पना येईल.
4. ख्रिस्ती व मुस्लिम मराठी साहित्यातील प्रातिनिधिक साहित्यकृतींच्या अभ्यासाची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ-

1. वाङ्मयीन प्रवृत्ती: तत्त्वशोध – संपा. केशव मेश्राम व इतर
2. वाङ्मयीन दृष्टिकोन आणि चळवळी – संपा. सुमती लांडे, शब्दालय, श्रीरामपूर.
3. सामाजिक परिवर्तन आणि मराठी साहित्य – संपा. र. बा. मंचरकर, पद्मगंधा, पुणे.
4. आधुनिक मराठी साहित्य आणि सामाजिकता – संपा. मृणालिनी शहा, विद्यागौरी टिळक, पद्मगंधा, पुणे.
5. साठोत्तरी मराठी वाङ्मयातील प्रवाह – शरणकुमार लिंबाळे, दिलीपराज, पुणे.
6. साठोत्तरी साहित्यप्रवाह भाग १,२ – प्रल्हाद लुलेकर, सायन, पुणे.
7. स्वदेशी आणि विदेशी ख्रिस्ती लेखकांची मराठी ग्रंथसंपदा – अनिल दहिवाडकर
https://www.aksharnama.com/client/article_detail/5406
8. महाराष्ट्रातील सांस्कृतिक परिवर्तन आणि ख्रिस्ती धर्मीय – गंगाधर मोरजे, लोकवाङ्मय गृह, मुंबई.
9. सामवेदी ख्रिस्ती समाज (सांस्कृतिक इतिहास) – फादर फ्रान्सिस कोरिया
10. फादर थॉमस स्टीफन्स, मराठी विश्वकोश (<https://marathivishwakosh.org/48222>)
11. ख्रिस्ती मराठी वाङ्मय – गंगाधर मोरजे, स्नेहल, पुणे.
12. गोमंतकातील ख्रिस्ती मराठी वाङ्मय: शोध आणि बोध – गंगाधर मोरजे, पद्मगंधा, पुणे.
13. ज्ञानवृक्षाची सावली – सिसिलिया कार्दालो, अक्षरमुद्रा प्रकाशन, नाशिक.
14. मध्ययुगीन साहित्याविषयी – सतीश बडवे, मीरा बुक्स अॅण्ड पब्लिकेशन्स, औरंगाबाद.
15. अरुणोदय – बाबा पदमनजी
16. मराठी ख्रिस्ती साहित्य
https://mr.wikipedia.org/wiki/%E0%A4%AE%E0%A4%B0%E0%A4%BE%E0%A4%A0%E0%A5%80_%E0%A4%96%E0%A5%8D%E0%A4%B0%E0%A4%BF%E0%A4%B8%E0%A5%8D%E0%A4%A4%E0%A5%80_%E0%A4%B8%E0%A4%BE%E0%A4%B9%E0%A4%BF%E0%A4%A4%E0%A5%8D%E0%A4%AF
17. धार आणि काठ – नरहर कुरुंदकर, देशमुख आणि कं., पुणे.
18. मराठी कादंबरीचे पहिले शतक – कुसुमावती देशपांडे, मुं. म. सा. सं., मुंबई.
19. शालोम: येशू ख्रिस्त आणि संबंधित मराठी कविता – संपा. नारायण लाळे, साहित्य अकादमी, नवी दिल्ली.
20. कानोसा: भारतीय मुस्लिम मनाचा – हमीद दलवाई, साधना, पुणे.
21. मुस्लिम मराठी साहित्य: स्वरूप आणि समीक्षा – नसीम एहतेशाम देशमुख, अध्यक्ष, महाराष्ट्र मुस्लिम मराठी साहित्य चळवळ, जळगाव.
22. मुस्लिम मराठी साहित्य: प्रेरणा आणि स्वरूप – फ. म. शहाजिंदे, फारुक तांबोळी, भूमी, लातूर.
23. मुस्लिम मराठी संतकवी – रा. चिं. ढेरे, पद्मगंधा, पुणे.
24. मुसलमानी संतांचे मराठी साहित्य – यू.पठाण .म . महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई.

25. अजीज नदाफ यांचा लेख, मराठी वाङ्मयाचा इतिहास खंड सातवा, भाग पहिला – संपा. रा. ग. जाधव, म. सा. प., परिषद, पुणे.
26. दस्तक (मुस्लिम मराठी कविता) – संपा. रफिक सूरज, दर्या, पुणे.
27. मुस्लिम मराठी साहित्य: प्रेरणा आणि स्वरूप - फ. म. शहाजिंदे, भूमी, लातूर.
28. मुस्लिम मराठी साहित्य: परंपरा, स्वरूप आणि लेखकसूची - फ. म. शहाजिंदे, भूमी, लातूर.
29. मुस्लिम कवींची मराठी कविता – किशोरकुमार कांबळे, कविता सागर प्रकाशन, जयसिंगपूर.
30. मुस्लिम मराठी कविता – उज्ज्वला तुपसुंदरे
31. मुस्लिम मराठी साहित्य – अक्रम पठाण, युगसाक्षी, नागपूर.
32. मुस्लिम आत्मचरित्रे: एक दृष्टिक्षेप – राजेखान शानेदिवाण, भूमी, लातूर.
33. स्पंदन भारतीय मुस्लिम मनाचं - राजेखान शानेदिवाण, अक्षर दालन, कोल्हापूर.
34. मंथन (फ. म. शहाजिंदे यांच्या कवितेची समीक्षा) – संपा. जी. के. ऐनापुरे, कलीम अजीम, भूमी, लातूर.
35. फकरुद्दिन बेन्नूर यांचा लेख, परिवर्तनाचा वाटसरु, १ ते १५ जुलै २००१, पृ. १३.
36. गतकाळाची गाज (स्त्री आत्मकथनांद्वारे सामाजिक संक्रमणाचे दर्शन) – नीलिमा गुंडी, मौज, मुंबई.
37. मराठी कथा: विसावे शतक – संपा. के. ज. पुरोहित, सुधा जोशी, मॅजेस्टिक, मुंबई.

किंवा

सत्र तिसरे

ऐच्छिक अभ्यासपत्रिका

PG MAR 304 (B)

मध्ययुगीन पद्यरचनांचा अभ्यास

(श्रेयांक – चार)

• उद्दिष्टे -

1. मध्ययुगीन कालखंडातील निवडक पद्यरचनांचे आकलन करून करणे.
2. महानुभाव पंथातील कवयित्री महदंबा यांच्या धवळे या पद्यरचनेचा अभ्यास करणे.
3. वारकरी पंथातील संत चोखामेळा यांच्या अभंगांचा अभ्यास करणे.
4. संत, शाहीर व पद्यरचनाकारांच्या गौळण रचनांचा अभ्यास करणे.
5. शाहीरांच्या पोवाडा रचनांचा अभ्यास करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	धवळे : महंदबा • महदंबेचे धवळे (समीक्षा व संहिता) – सुहासिनी इर्लेकर, स्नेहवर्धन पब्लिशिंग हाऊस, पुणे.	01	15
2.	अभंग : संत चोखामेळा • श्री संत चोखामेळा: चरित्र व अभंग – संपा. स. भा. कदम, शब्दालय प्रकाशन, श्रीरामपूर. (सोयराबाई, बंका, कर्ममेळा, निर्मळाबाई यांचे अभंग वगळून)	01	15
3.	गौळण: संत, शाहीर व पदरचनाकार • मराठी गौळण – वसंत स. जोशी, मेहता पब्लिशिंग हाऊस, पुणे.	01	15
4.	पोवाडा : शाहीर • ऐतिहासिक पोवाडे किंवा मराठ्यांचा काव्यमय इतिहास (भाग पहिला) – यशवंत नरसिंह केळकर, डायमंड पब्लिकेशन्स, पुणे. (पोवाडा क्र. १, २, ६, ९, १०, ११, १४, १९, २०, २१, ३८, ३९, ४६ यांचा अभ्यास)	01	15
एकूण श्रेयांक व घड्याळी तासिका		04	60

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. मध्ययुगीन कालखंडातील निवडक पद्यरचनांचे आकलन होईल.
2. महानुभाव पंथातील कवयित्री महदंबा यांच्या धवळे या पद्यरचनेची स्वरूपवैशिष्ट्ये सुस्पष्ट होतील.
3. वारकरी पंथातील संत चोखामेळा यांच्या अभंगांची स्वरूपवैशिष्ट्ये सुस्पष्ट होतील.
4. संत, शाहीर व पदरचनाकारांच्या गौळण रचनांची स्वरूपवैशिष्ट्ये सुस्पष्ट होतील.
5. शाहीरांच्या पोवाडा रचनांची स्वरूपवैशिष्ट्ये सुस्पष्ट होतील.

• संदर्भग्रंथ-

1. मराठी साहित्य: इतिहास व संस्कृती – वसंत आबाजी डहाके, भटकळ फाँडेशन, मुंबई.
2. महाराष्ट्र सारस्वत खंड १,२ – वि. ल. भावे, पॉप्युलर, मुंबई.
3. मराठी वाङ्मयाचा इतिहास खंड १, २, ३ – संपा. रा. श्री. जोग, म. सा. प., मुंबई.
4. प्राचीन मराठी वाङ्मयाचा इतिहास खंड १ ते ४ – अ. ना. देशपांडे, कॉन्टिनेन्टल, मुंबई.

5. पदरचना व पदरचनाकार – रमेश तेंडुलकर, मराठी वाङ्मयकोश, खंड चौथा, समीक्षा संज्ञा, समन्वयक संपा. विजया राजाध्यक्ष, महाराष्ट्र राज्य साहित्य व संस्कृती मंडळ, मुंबई.
6. महानुभाव पंथ आणि त्यांचे वाङ्मय – शं. गो. तुळपुळे, व्हीनस, पुणे.
7. प्राचीन मराठी वाङ्मयाचे स्वरूप – ह. श्री. शेणोलीकर, डायमंड, पुणे.
8. पाच भक्तिसंप्रदाय – र. रा. गोसावी, मोघे, पुणे.
9. श्री संत चोखामेळा समग्र अभंगगाथा आणि चरित्र – अप्पासाहेब पुजारी, तेजस पब्लिकेशन, कोल्हापूर.
10. संत चोखामेळा: एक चिकित्सक अभ्यास (शोधप्रबंध) – वसंत घारगे
<https://shodhganga.inflibnet.ac.in/handle/10603/144594>
11. चोखोबाची कविता – सरिता हरिदास जांभुळे, सुगावा, पुणे.
12. संत चोखामेळा अभंगवाणी – संपा. मु. श्री कानडे, भालचंद्र खांडेकर, अनमोल, पुणे.
13. चोखामेळा: संत, कवी आणि माणूस – माधव पुटवाड, बीजग्रंथ, शेगाव.
14. गौळणी-विरहिणी- मराठी संतसाहित्यप्रकार
(<https://www.thinkmaharashtra.com/node/2419>)
15. मराठी साहित्यातील मधुराभक्ती – प्र. न. जोशी, व्हीनस, पुणे.
16. ऐतिहासिक पोवाडे किंवा मराठ्यांचा काव्यमय इतिहास – (पहिला भाग) यशवंत नरसिंह केळकर या पुस्तकाची सॉफ्ट कॉपी उपलब्ध -
([https://ia801606.us.archive.org/2/items/in.ernet.dli.2015.365247/2015.365247.Ai tihaasik-Povaade.pdf](https://ia801606.us.archive.org/2/items/in.ernet.dli.2015.365247/2015.365247.Ai%20tihaasik-Povaade.pdf))
17. शाहिरी कविता: एक चिकित्सा – प्रकाश देशपांडे केजकर, स्वरूप, औरंगाबाद.
18. मराठी कवितेचा उषःकाल किंवा मराठी शाहीर – श्री. म. वर्दे, मुंबई मराठी साहित्य संघ, मुंबई.
19. मराठी शाहीर आणि शाहिरी वाङ्मय – य. न. केळकर
20. मराठी शाहिरी कविता – संपा. मनोहर जाधव, पृथ्वीराज तौर, चिन्मय, औरंगाबाद.

सत्र चौथे

ऐच्छिक अभ्यासपत्रिका

PG MAR 404 (B)

संशोधनशास्त्र व शोधनिबंधलेखन लेखन

(श्रेयांक – चार)

• उद्दिष्टे -

1. साहित्यसंशोधनाची संकल्पना व त्याचे स्वरूप जाणून घेणे.
2. साहित्यसंशोधनाच्या पद्धती व अभ्यासक्षेत्रांची ओळख करून घेणे.
3. साहित्यसंशोधनाच्या प्रक्रियेचे आकलन करून घेणे.
4. शोधनिबंधलेखनाचे स्वरूप जाणून घेऊन त्याचे उपयोजन करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	<p>साहित्यसंशोधन: संकल्पना व स्वरूप</p> <p>1.1 साहित्यसंशोधन: स्वरूप, प्रेरणा, प्रयोजन व आवश्यकता 1.2 साहित्यसंशोधनाची पूर्वतयारी, संशोधकाचे अनिवार्य गुण 1.3 साहित्यसंशोधन प्रक्रियेतील विविध टप्पे 1.4 साहित्यसंशोधनाची साधने: संदर्भग्रंथ, नियतकालिके, वृत्तपत्रे, कोशवाङ्मय, सूचिङ्मय, हस्तलिखिते, शिलालेख, ताम्रपट, आदी</p>	01	15
2.	<p>साहित्यसंशोधन: पद्धती व अभ्यासक्षेत्रे</p> <p>2.1 संशोधन पद्धती: विगमन, निगमन, विमर्शक, क्षेत्रीय, सर्वेक्षणात्मक, तुलनात्मक, ऐतिहासिक, विश्लेषणात्मक आदी पद्धती 2.2 संशोधनाची अभ्यासक्षेत्रे: साहित्यकृतीनिष्ठ संशोधन, साहित्यप्रकारनिष्ठ संशोधन, लेखकाचा अभ्यास, कालखंडाचा अभ्यास, भाषिक संशोधन, संहिता संपादन व विश्लेषण, लोकसाहित्यविषयक संशोधन, तौलनिक साहित्याभ्यास, वाङ्मयेतिहासासंबंधी संशोधन</p>	01	15
3.	<p>साहित्यसंशोधन: प्रक्रिया</p> <p>3.1 संशोधन विषयाची निवड 3.2 संशोधनाचा आराखडा (विषयनिवडीमागील भूमिका, पूर्वसंशोधनाचा परामर्श, गृहितक, उद्दिष्टे, व्याप्ती, मर्यादा, संशोधन पद्धती, प्रकरणांची मांडणी) 3.3 संशोधन प्रबंधाचे लेखन: स्वरूप, मांडणी, लेखनतंत्र, भाषा, संदर्भाचे उपयोजन व संदर्भाची नोंद करण्याची पद्धत</p>	01	15
4.	<p>शोधनिबंधलेखन: स्वरूप व उपयोजन</p> <p>4.1 शोधनिबंध: स्वरूप, मांडणी, लेखनतंत्र, भाषा 4.2 शोधनिबंध: संदर्भाचे उपयोजन व संदर्भाची नोंद करण्याची पद्धत 4.1 संशोधनातील संगणकाचे उपयोजन व इंटरनेटवरील साधनांचे उपयोजन</p>	01	15
एकूण श्रेयांक व घड्याळी तासिका		04	60

टीप-

- सदर अभ्यासपत्रिकेच्या चाळीस गुणांच्या अंतर्गत मूल्यमापनासाठी विद्यार्थ्यांनी विशिष्ट विषयांवरील दोन शोधनिबंधांचे लेखन करणे अनिवार्य आहे.

• साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. साहित्यसंशोधनाची संकल्पना समजेल व त्याचे स्वरूप सुस्पष्ट होईल.
2. साहित्यसंशोधनाच्या पद्धती व अभ्यासक्षेत्रांची ओळख होईल.
3. साहित्यसंशोधनाच्या प्रक्रियेचे आकलन होईल.
4. शोधनिबंधलेखनाचे स्वरूप ध्यानात येईल व त्याचे उपयोजन करण्याची दृष्टी प्राप्त होईल.

• संदर्भग्रंथ-

1. संशोधन पद्धती: प्रक्रिया व अंतरंग - दु. का. संत, पुणे विद्यार्थी गृह, पुणे.
2. शोधविज्ञान कोश - दु. का. संत, पुणे विद्यार्थी गृह, पुणे.
3. वाङ्मयीन विद्वत्ता - दु. का. संत, पुणे विद्यापीठ प्रकाशन, पुणे.
4. संशोधनाचे पद्धतिशास्त्र - रमेश नारायण वरखेडे, मंगला रमेश वरखेडे, ॐ ग्रामण्ये इन्स्टिट्यूट ऑफ एज्युकेशनल एक्सलन्स, पुणे.
5. मराठी साहित्य संशोधन - संपा. अविनाश आवलगावकर, प्रतिमा, पुणे.
6. संशोधन: सिद्धांत आणि पद्धती - सदा कऱ्हाडे, लोकवाङ्मय गृह, मुंबई.
7. मराठी साहित्य संशोधन-स्वरूप आणि दिशा - श. रा. राणे, का. स. वाणी मराठी प्रगत अध्ययन संस्था, धुळे.
8. प्राचीन मराठी हस्तलिखिते: संशोधन आणि संपादन - श्री. रं. कुलकर्णी, का. स. वाणी मराठी प्रगत अध्ययन संस्था, धुळे.
9. संशोधकाचा मित्र - ग. ह. खरे, भारत इतिहास संशोधक मंडळ, पुणे.
10. भाषा व साहित्य संशोधन खंड १, २, ३ - संपा. वसंत जोशी व इतर, म. सा. प., पुणे.
11. शोधनिबंधाची लेखनपद्धती - स. गं. मालशे, लोकवाङ्मय गृह, मुंबई.
12. संशोधन: स्वरूप आणि पद्धती - संपा. सु. रा. चुनेकर व इतर, शिक्षण प्रसारक संस्था, संगमनेर.
13. सूचींची सूची - सु. रा. चुनेकर, मराठी विभाग, मुंबई विद्यापीठ व प्रतिमा, पुणे.
14. संहितासमीक्षा आणि पारिभाषिक संज्ञा - वसंत दावतर, महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई.
15. संशोधनाची क्षितिजे (डॉ. वि. भि. कोलते अमृतमहोत्सवी गौरवग्रंथ) - संपा. भा. ल. भोळे
16. कोश व सूची वाङ्मय: स्वरूप आणि साध्य - संपा. सरोजिनी वैद्य व इतर, राज्य मराठी विकास संस्था, मुंबई.

17. साहित्यसंशोधन : वाटा आणि वळणे –सुधाकर शेलार, अक्षरवाङ्मय, पुणे.
18. मराठी प्रबंध सूची – व. वि. कुलकर्णी, साहित्य प्रसार केंद्र, नागपूर.

Audit Courses Sem. III**Choose Any ONE****PG AC-301(A): Computer Skills****Course Objectives:**

- To inculcate different daily useful computer skills among students.

Unit 1	Elements of Information Technology 1.1 Information Types: Text, Audio, Video, and Image, storage formats 1.2 Components: Operating System, Hardware and Software, firmware 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics	2 hrs
Unit 2	Office Automation-Text Processing 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, ReadingLayout View 2.2 Working with Files: Create New Documents, Open Existing Documents, SaveDocuments to different formats, Rename Documents, Close Documents 2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins 2.4 Lists: Bulleted and Numbered Lists, 2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Moveand Resize Tables, Moving the order of the column and/or rows inside a table, TableProperties 2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents, 2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters 2.8 Types of document files: RTF, PDF, DOCX etc.	5 hrs
Unit 3	Office Automation-Worksheet Data Processing 3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets, 3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells 3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells 3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts	5 hrs
Unit 4	Office Automation- Presentation Techniques and slide shows 4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout 4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes 4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check, Spelling options	6 hrs

	4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing rowwidth, Adding a row/column, Deleting a row/column, Combining cells ,Splitting a cell,Adding color to cells, To align text vertically in cells, To change table borders,Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slideanimation/transitions.	
Unit 5	Internet & Applications: 5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing theInternet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers,Uniform resource locator 5.2 Internet Resources: Email, Parts of email, 5.3 Protecting the computer: Password protection, Viruses, Virus protection software,Updating the software, Scanning files, Net banking precautions. 5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services 5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing 5.6 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware	4 hrs
Unit 6	Cloud Computing Basics 6.1 Introduction to cloud computing 6.2 Cloud computing models: SAS, AAS, PAS 6.3 Examples of SAS, AAS, PAS (DropBox, Google Drive, Google Docs, Office 365 Prezi, etc.)	3 hrs

Suggested readings:

1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & BartlettLearning, 2010, ISBN: 1449609821, 9781449609825
2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: CengageLearning, 2010, ISBN: 0538472464, 9780538472463
3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5,Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552
4. Cloud computing online resources

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC301A.1	Identify their lacunas about some computer skills and try to overcome the same.
AC301A.2	Practice the learned computer skills in real life and do their jobs more effectively.

PG AC-301(B): Cyber Security

Course Objectives:

- To make students aware of different daily useful cyber security skills/rules.

Unit 1	Networking Concepts Overview Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet	3 hrs
Unit 2	Security Concepts Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography. Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.	7 hrs
Unit 3	Security Threats and vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Cyber crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes	7 hrs
Unit 4	Cryptography Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure	5 hrs
Unit 5	System & Network Security System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.	3 hrs
Unit 6	OS Security OS Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.	2 hrs
Unit 7	Security Laws and Standards Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.	3 hrs
Suggested readings:		

1. Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon
2. BPB Publication, “Fundamentals of Cyber Security”, Mayank Bhushan, Rajkumar Singh Rathore , Aatif Jamshed
3. CreateSpace Independent Publishing Platform, “Cyber Security Basics”, Don Franke, ISBN-13: 978-1522952190 ISBN-10: 1522952195
4. Online references

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC301B.1	Practice learned cyber security skills/rules in real life.
AC301B.2	Provide guidance about cyber security skills/rules to their friends, parents and relatives.

PG AC 301(C)
पारंपरिक व्याकरण
(श्रेयांक – दोन)

• उद्दिष्टे -

1. व्याकरणाची संकल्पना व आवश्यकता जाणून घेणे.
2. मराठी व्याकरणातील मूलभूत संकल्पना, त्यांचे प्रकार व स्वरूपविशेष समजून घेणे.
3. मराठी व्याकरणातील मूलभूत संकल्पनांच्या आकलनातून त्यांचे उपयोजन करण्यास शिकणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	व्याकरण: संकल्पना व स्वरूप	01	15
	1.1 व्याकरण: संकल्पना व आवश्यकता 1.2 मराठीची वर्णमाला 1.3 शब्दजाती: विकारी व अविकारी 1.4 विभक्ती विचार 1.5 प्रयोग विचार 1.6 लिंग व वचन विचार 1.7 काळ व समास		
2.	व्याकरण: उपयोजन	01	15
	2.1 गद्य उताऱ्यातून शब्दजातींचा (विकारी व अविकारी) शोध घेणे. (किमान पाच उताऱ्यांचा विचार) 2.2 गद्य उताऱ्यातील विभक्ती प्रत्यय व त्यांची विभक्ती यांचा शोध घेणे. (किमान पाच उताऱ्यांचा विचार) 2.3 प्रयोग ओळखून अन्य प्रयोगात रूपांतर करा. (किमान दहा वाक्यांचा विचार) 2.4 लिंग व वचन बदला. (प्रत्येकी किमान दहा शब्दांचा विचार) 2.5 काळ ओळखून अन्य काळात रूपांतर करा. (किमान दहा वाक्यांचा विचार) 2.6 समास ओळखा. (किमान दहा शब्दांचा विचार) (याशिवाय उपयोजनासाठी अन्य काही बाबींचा विचार महाविद्यालयाच्या स्तरावर करता येईल.)		
	एकूण श्रेयांक व घड्याळी तासिका	02	30

- **साध्ये -**

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. व्याकरणाची संकल्पना व आवश्यकता यांचे भान प्राप्त होईल.
2. मराठी व्याकरणातील मूलभूत संकल्पना, त्यांचे प्रकार व स्वरूपविशेष आकलन होईल.
3. मराठी व्याकरणातील मूलभूत संकल्पनांच्या आकलनातून त्यांचे उपयोजन करण्याची दृष्टी प्राप्त होईल.

- **संदर्भग्रंथ-**

1. मराठीचे व्याकरण – लीला गोविलकर, शब्दालय, श्रीरामपूर.
2. सुगम मराठी व्याकरण व लेखन – मो. रा. वाळिंबे, नितीन, पुणे.
3. सुगम मराठी व्याकरण व लेखन – पद्मिनी बिनीवाले, नवनीत, मुंबई.
4. मराठी व्याकरण परिचय – राजशेखर हिरेमठ
5. सुलभ भाषाविज्ञान व मराठी व्याकरण - व्ही. एन्. पाटील
6. मराठी लेखन कोश – यास्मिन शेख, मनोविकास, पुणे.

PG AC 301(D)
ग्रंथव्यवहार: प्रकाशन व विक्री
(श्रेयांक – दोन)

• उद्दिष्टे -

1. ग्रंथप्रकाशनाच्या प्रक्रियेचे आकलन करून घेणे.
2. ग्रंथविक्री व वितरणाचा व्यवहार अवगत करून घेणे.
3. विविध उपक्रमांच्या माध्यमातून ग्रंथव्यवहाराच्या निरनिराळ्या अंगांबाबत दृष्टी प्राप्त करून घेणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	ग्रंथव्यवहार: प्रकाशन व विक्री	01	15
	1.1 ग्रंथप्रकाशनाची प्रक्रिया: मुद्रणप्रत, मुद्रितशोधन, मुखपृष्ठ, मांडणी, सजावट, मुद्रक, कागदनिवड, मुद्रणपद्धती, बांधणी 1.2 ग्रंथप्रकाशनाशी संबंधित बाबी: स्वामित्वहक्क, लेखक करार, ग्रंथनोंदणी, आवृत्ती, पुनर्मुद्रण 1.3 ग्रंथविक्री व वितरण: वितरक, वितरणव्यवस्था, विक्रेताप्रकार, ग्रंथालय, ऑनलाईन विक्री, उपलब्ध संकेतस्थळे, ई-बुक, जाहिराती, प्रोमो, प्रकाशन कार्यक्रम, ग्रंथपरीक्षणे 1.4 ग्रंथविक्री: प्रकाशकांच्या गृहपत्रांची भूमिका <ul style="list-style-type: none"> • 'ललित' (मॅजेस्टिक प्रकाशन), 'वाङ्मयवृत्त' (लोकवाङ्मय गृह), 'प्रिय रसिक' (पॉप्युलर प्रकाशन) यांच्या कार्याचा परिचय 		
2.	ग्रंथव्यवहार: उपयोजन	01	15
	2.1 प्रकाशनसंस्थेच्या कार्यालयास भेट देऊन ग्रंथप्रकाशनाचे काम कशाप्रकारे केले जाते याची माहिती घेणे आणि त्याबाबतचा ग्रंथप्रकाशक भेट अहवाल लिहून सादर करणे. 2.2 ग्रंथविक्रेत्याच्या दुकानास भेट देऊन ग्रंथ वितरण व विक्रीचे काम कशाप्रकारे केले जाते याची माहिती घेणे आणि त्याबाबतचा ग्रंथविक्रेता भेट अहवाल लिहून सादर करणे. 2.3 महाविद्यालयाचे ग्रंथालय वा सार्वजनिक ग्रंथालय अथवा वाचनालय याचे सर्वसाधारण स्वरूप व कामकाज, तेथील		

	<p>ग्रंथ खरेदी व्यवस्था, वाचकांना ग्रंथ उपलब्ध करून देण्याची व्यवस्था यांची माहिती प्राप्त करून त्याबाबतचा अहवाल लिहून सादर करणे.</p> <p>2.4 एखादे विशिष्ट सूत्र घेऊन त्याबाबतच्या ग्रंथांचे प्रदर्शन महाविद्यालयात आयोजित करणे. (विद्यार्थ्यांचे गट करून हे करता येईल.)</p> <p>2.5 एखाद्या नवीन प्रकाशित पुस्तकाची जाहिरात टक्-श्राव्य पद्धतीने तयार करणे किंवा एखाद्या नवीन पुस्तकाची वैशिष्ट्ये लक्षात आणून देण्यासाठी प्रत्यक्ष वा दूरदृश्यप्रणालीद्वारा ग्रंथचर्चेच्या कार्यक्रमाचे आयोजन करणे.</p> <p>(याशिवाय उपयोजनासाठी अन्य काही बाबींचा विचार महाविद्यालयाच्या स्तरावर करता येईल.)</p>		
	एकूण श्रेयांक व घड्याळी तासिका	02	30

• **साध्ये -**

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. ग्रंथप्रकाशनाच्या प्रक्रियेचे आकलन होईल.
2. ग्रंथविक्री व वितरणाचा व्यवहार अवगत होईल.
3. विविध उपक्रमांच्या माध्यमातून ग्रंथव्यवहाराच्या निरनिराळ्या अंगांबाबत दृष्टी प्राप्त होईल.

• **संदर्भग्रंथ-**

1. व्यावहारिक मराठी – ल. रा. नशिराबादकर, फडके, कोल्हापूर.
2. व्यावहारिक मराठी – संपा. स्नेहल तावरे, स्नेहवर्धन, पुणे.
3. पॉप्युलर रीतिपुस्तक – रामदास भटकळ, मृदुला जोशी, पॉप्युलर, मुंबई.
4. हे लेखकाला माहित हवेच – अ. अं. कुलकर्णी, कॉन्टिनेन्टल, पुणे.
5. मराठी ग्रंथप्रकाशनाची २०० वर्षे – शरद गोगटे, राजहंस, पुणे.
6. बखर एका प्रकाशकाची – पं. अ. कुलकर्णी, मेनका, पुणे.
7. मराठी ग्रंथनिर्मितीची वाटचाल – शं. गो. तुळपुळे, महाराष्ट्र ग्रंथोत्तेजक संस्था, पुणे.
8. साहित्याची भूमी – श्री. पु. भागवत, ग्रंथाली, मुंबई.
9. मराठी प्रकाशनांचे स्वरूप, प्रेरणा आणि परंपरा – अ. ह. लिमये, प्रसाद, पुणे.
10. पॉप्युलरचे अंतरंग – संपा. किशोर आरास

Audit Courses Sem. IV Choose Any ONE		
PG AC-401(A): Human Rights		
	Course Objectives: • To make students aware about human rights and human values.	
Unit 1	Introduction to Human Rights 1.1 Concept of Human Rights 1.2 Nature and Scope of Human Rights 1.3 Fundamental Rights and Fundamental Duties 1.4 Interrelation of Rights and Duties	6 hrs.
Unit 2	Human Rights in India 2.1 Meaning and Significance of : 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies. 2.2 Constitutional Provisions for Human Rights 2.3 Declaration of Human Rights 2.4: National Human Rights Commission	8 hrs.
Unit 3	Human Values 3.1: Meaning and Definitions of Values 3.2: Importance of values in the life of Individual 3.3: Types of Values 3.4: Programmes for conservation of Values	8 hrs.
Unit 4	Status of Social and Economically Disadvantaged people and their rights 4.1: Rights of women and children in the context of Social status 4.2: The Minorities and Human Rights 4.3: Status of SC/ST and other Indigenous People in the Indian Scenario 4.4: Human rights of economically disadvantaged Society	8 hrs.
Suggested readings: 1. Human rights education – YCMOU, Nasik 2. Value education – SCERT, Pune 3. Human rights reference handbook – Lucille whare		

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC401A.1	Practice the learned issues under human rights and human values in real life.
AC401A.2	Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.

PG AC-401(B): Current Affairs			
	Course Objectives:		
	<ul style="list-style-type: none"> To make students updated about current affairs of India and world. 		
	Title	Content	Hours
Unit 1	Politics & Economy	<ul style="list-style-type: none"> National & International Political Activity, Organization. Economy & Business, Corporate world 	08
Unit 2	Awards and recognitions	<ul style="list-style-type: none"> National & International Awards and recognitions Books and authors 	07
Unit 3	Science & Technology	<ul style="list-style-type: none"> Software, Automobile, Space Research New inventions and discoveries 	07
Unit 4	Environment & Sports	<ul style="list-style-type: none"> Summit & conference, Ecology & Climate, Organization. National & International Games, Olympics, commonwealth etc. 	08

Suggested readings (Use recent years' data and current literature):

1. India 2019, by Publications Division Government of India
2. Manorama Year Book by Philip Mathew,
3. India 2019, Rajiv Maharshi
4. Quick General Knowledge 2018 with Current Affairs Update, Disha Experts
5. General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board.

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC401B.1	Identify important issues currently/ recently happening in India or world.
AC401B.2	Summarize current affairs regularly.

PG AC 401 (C)
पथनाट्य: लेखन व सादरीकरण
(श्रेयांक – दोन)

• उद्दिष्टे -

1. पथनाट्याची संकल्पना समजून घेऊन त्याचे स्वरूप जाणून घेणे.
2. पथनाट्य लेखनाचे व सादरीकरणाचे तंत्र अवगत करणे.
3. पथनाट्य लेखन व सादरीकरण करून सदर कौशल्य आत्मसात करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	पथनाट्य: संकल्पना व स्वरूप	01	15
	1.1 पथनाट्याची संकल्पना 1.2 पथनाट्याच्या निर्मितीमागील भूमिका (समाजप्रबोधन, विविध चळवळींशी असलेले नाते) 1.3 पथनाट्याचा भारतातील इतिहास 1.4 पथनाट्याचे लेखन: रचनाघटक, लेखनतंत्र व भाषा 1.5 पथनाट्याचे सादरीकरण: स्वरूप, तंत्र, साधने व कौशल्य		
2.	पथनाट्य: उपयोजन	01	15
	2.1 कोणत्याही एखाद्या विषयावर पथनाट्य लेखन करणे. (विद्यार्थ्यांचे गट करून हे करता येईल.) 2.2 कोणत्याही एका पथनाट्याचे सादरीकरण करणे. (विद्यार्थ्यांचे गट करून हे करता येईल.) 2.3 पथनाट्य लेखन वा सादरीकरण करणाऱ्या व्यक्ती, गट वा संस्था यांची भेट घेऊन त्यांची मुलाखत घेणे व ती लिहून सादर करणे. (याशिवाय उपयोजनासाठी अन्य काही बाबींचा विचार महाविद्यालयाच्या स्तरावर करता येईल.)		
	एकूण श्रेयांक व घड्याळी तासिका	02	30

- साध्ये -

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. पथनाट्याची संकल्पना समजेल व त्याचे स्वरूप ध्यानात येईल.
2. पथनाट्य लेखनाचे व सादरीकरणाचे तंत्र अवगत होईल.
3. पथनाट्य लेखन व सादरीकरण केल्याने सदर कौशल्य आत्मसात होईल.

- संदर्भग्रंथ-

1. नाट्य, लोकनाट्य ते पथनाट्य – संजय भागवत, अक्षर मानव, पुणे.
2. 'अहो काका, अहो मामा...जरा ऐका'
<https://maharashtratimes.com/editorial/ravivar-mata/-/articleshow/16986198.cms>
3. युवक म्हणतात, अवेअरनेससाठी पथनाट्य 'कूल' ऑप्शन
<https://divyamarathi.bhaskar.com/news/MAH-MAR-AUR-youth-street-play-2751765.html>
4. पथनाट्य – वर्षा देशपांडे, लेक लाडकी अभियान, सातारा.
5. पथनाट्य: सामाजिक प्रबोधनाचे साधनरूप (लेख) – राजशेखर शिंदे, Review of Research, एप्रिल २०१८.
6. सातासमुद्रा पलीकडे (पथनाट्य संग्रह) – प्रभाकर दुपारे
7. हुंडा नको ग बाई – ज्योती म्हापसेकर

PG AC 401 (D)
भाषा: सर्जनशील उपयोजन
(श्रेयांक – दोन)

• उद्दिष्टे -

1. भाषिक सर्जनशीलतेचे स्वरूप समजून घेणे.
2. शब्दनिष्ठ, विचारनिष्ठ, वाङ्मयीन सर्जनशीलता यांचा परिचय करून घेणे.
3. भाषिक सर्जनशीलतेचे उपयोजन करून लेखनकौशल्य आत्मसात करणे.

• घटक विश्लेषण -

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	भाषिक सर्जनशीलता: संकल्पना व स्वरूप 1.1 भाषिक सर्जनशीलतेचे स्वरूप 1.2 शब्दनिष्ठ सर्जनशीलता: समानार्थी शब्द, अनेकार्थी शब्द, विरुद्धार्थी शब्द, शब्दसमूहासाठी एक शब्द, अभ्यस्त शब्द, शब्दकोडी 1.3 विचारनिष्ठ सर्जनशीलता: व्याख्या करणे, सूत्र करणे, निष्कर्ष काढणे, तात्त्विक मांडणी करणे 1.4 वाङ्मयीन सर्जनशीलता: मुद्यावरून गोष्ट, कल्पनाविस्तार, व्यक्तिचित्र, प्रवासवर्णन, अनुभवकथन, भाषेचा आलंकारिक वापर (अतिशयोक्ती, यमक, अनुप्रास यांचा वापर)	01	15
2.	भाषा: सर्जनशील उपयोजन 2.1 मुद्यांवरून गोष्ट लिहा. 2.2 एखादी कल्पना समोर ठेवून तिचा विस्तार करा. 2.3 व्यक्तिचित्र लिहा. 2.4 प्रवासवर्णनपर लेख लिहा. 2.5 एखाद्या अनुभवाचे कथन करा. (याशिवाय उपयोजनासाठी अन्य काही बाबींचा विचार महाविद्यालयाच्या स्तरावर करता येईल.)	01	15
	एकूण श्रेयांक व घड्याळी तासिका	02	30

- **साध्ये -**

या अभ्यासपत्रिकेचे अध्ययन केल्यानंतर विद्यार्थ्यांना पुढील बाबी प्राप्त होतील.

1. भाषिक सर्जनशीलतेचे स्वरूप समजेल.
2. शब्दनिष्ठ, विचारनिष्ठ, वाङ्मयीन सर्जनशीलता यांचा परिचय होईल.
3. भाषिक सर्जनशीलतेचे उपयोजन केल्याने लेखनकौशल्य आत्मसात होईल.

- **संदर्भग्रंथ-**

1. साहित्याची निर्मितीप्रक्रिया – आनंद यादव, मेहता, पुणे.
2. सर्जनशीलता आणि लिहिता लेखक – विलास सारंग, मौज, मुंबई.
3. सृजनात्मक लेखन – आनंद पाटील, पद्मगंधा, पुणे.
4. प्रतिभा आणि सर्जनशीलता – सुधाकर देशमुख, पद्मगंधा, पुणे.
5. सर्जनशीलता – म. बा. कुंडले, नूतन, पुणे.
6. भाषासंवाद – अनिल गवळी, नंदकुमार मोरे, सायन, पुणे.
7. साहित्याची भाषा – भालचंद्र नेमाडे, साकेत, औरंगाबाद.
8. ललितलेखन व शैली – वा. के. लेले. साहित्यप्रसार केंद्र, नागपूर.
9. सर्जनप्रेरणा आणि कवित्वशोध – म. सु. पाटील, मौज, मुंबई.
10. साहित्य, भाषा आणि समाज – मिलिंद बोकील, मौज, मुंबई.

अंतर्गत व विद्यापीठ परीक्षेबाबत -

- **Core & Skill based / Elective** अशा चारही सत्रांतील प्रत्येक अभ्यासपत्रिकेसाठी चाळीस गुणांचे अंतर्गत मूल्यमापन केले जाईल. त्यासाठी वीस गुणांच्या दोन चाचण्या घेण्यात याव्यात.
- प्रत्येक सत्रातील **Audit Course** अभ्यासपत्रिकेचे मूल्यमापन अंतर्गत स्वरूपाचे आणि शंभर गुणांचे असेल. **Audit Course** अभ्यासपत्रिकेच्या अभ्यासक्रमानुसार प्रात्यक्षिक / उपयोजनात्मक (प्रत्यक्ष कृती, उपक्रम किंवा उपयोजनात्मक स्वरूपाचे प्रश्न असलेली लेखी परीक्षा) अशी शंभर गुणांची परीक्षा महाविद्यालयाच्या स्तरावर घ्यावयाची आहे. सदर परीक्षेचे स्वरूप महाविद्यालयाच्या स्तरावर संबंधित विषयशिक्षकांनी ठरवायचे आहे. मात्र ते प्रात्यक्षिक / उपयोजनात्मक स्वरूपाचे असणे अनिवार्य आहे.
- **Core & Skill based / Elective** अशा चारही सत्रांतील प्रत्येक अभ्यासपत्रिकेसाठी साठ गुणांची विद्यापीठ परीक्षा घेतली जाईल. त्यासाठी प्रश्नपत्रिकेचे स्वरूप खालीलप्रमाणे असेल.

विद्यापीठ परीक्षेसाठी प्रश्नपत्रिकेचे स्वरूप (एकूण गुण साठ)		
प्रश्न क्रमांक	प्रश्नाचे स्वरूप	गुण
पहिला	खालील प्रश्नांच्या उत्तराचे योग्य पर्याय निवडा. (सोळापैकी बारा)	बारा
दुसरा	खालीलपैकी एका प्रश्नाचे दीर्घोत्तरी उत्तर लिहा. (दोनपैकी एक)	बारा
तिसरा	खालीलपैकी कोणत्याही दोन प्रश्नांची उत्तरे लिहा. (चारपैकी दोन)	बारा
चौथा	खालीलपैकी कोणत्याही तीन प्रश्नांची उत्तरे लिहा. (पाचपैकी तीन)	बारा
पाचवा	खालीलपैकी कोणत्याही दोन टीपा लिहा. (चारपैकी दोन)	बारा

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव

एम्. ए. मराठी
सत्र तिसरे व चौथे

2018-2019	CBCS 2022-2023
MAR 231 स्वातंत्र्योत्तर कालखंडातील साहित्यप्रवाह MAR 241 स्वातंत्र्योत्तर कालखंडातील साहित्यप्रवाह	PG MAR 301 चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड) PG MAR 401 चळवळी आणि मराठी साहित्य (साठोत्तरी कालखंड)
MAR 232 वर्णनात्मक भाषाविज्ञान MAR 242 समाजभाषाविज्ञान	PG MAR 302 वर्णनात्मक भाषाविज्ञान PG MAR 402 सामाजिक भाषाविज्ञान
MAR 233 मध्ययुगीन पद्य रचनाप्रकारांचा अभ्यास (अभंग आणि भारुड) MAR 243 मध्ययुगीन पद्य रचनाप्रकारांचा अभ्यास (आख्यान काव्य आणि लावणी)	PG MAR 303 आधुनिक गद्य वाङ्मयप्रकार: चरित्र, आत्मचरित्र, प्रवासवर्णन, ललित निबंध PG MAR 403 आधुनिक गद्य वाङ्मयप्रकार: पत्र, रोजनिशी, सदर, रिपोर्ताज
MAR 234 A लोकसाहित्य MAR 244 A खानदेशी लोकसाहित्य	PG MAR 304 A लोकसाहित्याची मूलतत्त्वे आणि खानदेशी लोकसाहित्य PG MAR 404 A मध्ययुगीन पद्यरचनांचा अभ्यास
MAR 234 B मराठी: व्यवसायाभिमुख लेखनकौशल्ये MAR 244 B मराठी: व्यवसायाभिमुख लेखनकौशल्ये	PG MAR 304 B ख्रिस्ती आणि मुस्लिम मराठी साहित्य PG MAR 404 B संशोधनशास्त्र व शोधनिबंध लेखन
	सत्र तिसरे Any ONE from- PG AC 301 (A) Computer Skills / PG AC 301 (B) Cyber Security / PG AC 301 (C) पारंपरिक व्याकरण / PG AC 301 (D) ग्रंथव्यवहारप्रकाशन व : विक्री
	सत्र चौथे Any ONE from- PG AC 401 (A) Human Rights / PG AC 401 (B) Current Affairs / PG AC 401 (C) पथनाट्य: लेखन व सादरीकरण / PG AC 401 (D) भाषा: सर्जनशील उपयोजन



Kavayitri Bahinabai Chaudhari North Maharashtra
University, Jalgaon

M.A. English
(Part II)

Curriculum Specifics

**(Program Specific Objectives and Outcomes, Course Objectives
and Course Outcomes)**

(w.e.f. July 2022)

Faculty of Humanities

MA English Part II

Paper I (Core Paper)

PG-ENG-CC 301 & PG-ENG-CC 401

LITERARY CRITICISM AND THEORY

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce the students to a wide range of critical approaches and literary theories.
2. To help the learners to develop logical thinking and analytical ability through intellectually challenging content.
3. To familiarize the learners with the trends and cross-disciplinary nature of literary theories.
4. To develop sensibility and competence in them for practical application of various critical theories in the analysis of literary and cultural texts.

SEM- III

(PG-ENG-CC 301)

Unit: 1

1. Aristotle: *Poetics* (Chapters 6-11)
2. Longinus: *On the Sublime*

Unit: 2

1. Wordsworth: *Preface to the Lyrical Ballads*
2. Coleridge: *Biographia Literaria* (Chapter 13 & 14)

Unit: 3

1. Matthew Arnold: *The Function of Criticism at the Present Time*
2. T. S. Eliot: *Tradition and the Individual Talent*

Unit: 4

1. Indian Aesthetics: *rasa, dhvani, alankara, vakrokti*

SEM- IV
(PG-ENG-CC 401)

Unit: 1

1. Paul de Man: Resistance to Theory
2. M H Abrams: The Deconstructive Angel

Unit: 2

1. Terry Eagleton: Capitalism, Modernism and Postmodernism
2. Roland Barthes: The Death of the Author

Unit: 3

1. Edward Said: Introduction to Orientalism
2. Mikhail Bakhtin: From the Prehistory of Novelistic Discourse

Unit: 4

1. Helen Cixous: Sorties
2. Slovic Scott: A Basic Introduction to Ecocriticism and Environmental Literature

Suggested Reading:

1. Habib M. A. R. *A History of Literary Criticism: from Plato to the Present*. Blackwell, 2005.
2. Selden, Raman, Peter Widdowson and Peter Brooker. *A Reader's Guide to Contemporary Literary Theory*. 4th edn. Hemel Hempstead: Prentice Hall 1997.
3. Seturaman V. S. (ed.) *Contemporary Criticism: An Anthology*. Macmillan, 2011 edition.
4. Seturaman V. S. (ed.) *Indian Aesthetics: An Introduction*. Macmillan, 1992.
5. Barry, Peter. *Beginning Theory: An Introduction to Literacy and Cultural Theory*, New Delhi: Viva Books, 2008.
6. Raghavan V. and Nagendra (ed.) *An Introduction to Indian Poetics*. Madras: MacMillan, 1970.
7. Wood, Nigel and David Lodge (ed): *Modern Criticism and Theory A Reader* (2nd ed.). UK, Pearson Education Limited, 2000
8. Lodge, David and Nigel Wood (Ed.) *Modern Criticism and Theory: A Reader*. New Delhi: Pearson, 2003

9. Abrams M. H. *A Glossary of Literary Terms*. THOMSON HEINLE. 1999. ISBN 981-243-668-5
10. Nayar, Pramod K. *Contemporary Literary and Cultural Theory*. PEARSON. 2010.
11. Sinha, M. P., Niraj Agnihotri. *Critical Theories: Indian and Western*. Atlantic Publishers and Distributers (P) Ltd. New Delhi. 2013.

Outcomes:

Sr.No.	Outcomes	Level
1.	The students will develop ability to associate between literature and critical theories.	3
2.	The students will be able to evaluate a literary text by applying various theories to it.	4
3	The students will be able to devise/ modify theories relevant to texts.	6

Pattern of Evaluation

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Question Paper Format for Semester III and IV

Time: 03 Hours

Total Marks: 60

- | | |
|---|----------|
| Q. No. 1. Long Answer Type Question on Unit 1- A / B | 12 Marks |
| Q. No. 2. Long Answer Type Question on Unit 2- A / B | 12 Marks |
| Q. No. 3. Long Answer Type Question on Unit 3- A / B | 12 Marks |
| Q. No. 4. Long Answer Type Question on Unit 4- A / B | 12 Marks |
| Q. No. 5. Short Notes on all Units (any 02 out of 04) | 12 Marks |

(Core Paper-II)
PG-ENG-CC 302 & PG-ENG-CC 402
STUDY OF NOVEL

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To acquaint the students with the growth, trends, tendencies and development of English novel.
2. To familiarize students with trends and movements in English literature with special reference to English novel.
3. To introduce the students with major novelists in English literature.
4. To make them able to appreciate and critically analyze a novel.
5. To sensitize the students, through the study of novels, about the world around.

SEM- III
(PG ENG CC: 302)

Unit I:

The background study of the growth and development of English novel from its origin to the end of nineteenth century with reference to trends, movements, tendencies and contribution by major novelists.

Unit II:

Henry Fielding: *Tom Jones*

Unit III:

Charles Dickens: *Hard Times*

Unit IV:

H. G. Wells: *The War of the Worlds*

SEM- IV
(PG ENG CC: 402)

Unit I:

The background study of the growth and development of English novel from early twentieth century to the present times with reference to trends, movements, tendencies and contribution by major novelists.

Unit II:

Virginia Woolf: *To The Light House*

Unit III:

George Orwell: *Animal Farm*

Unit IV:

Monica Ali: *Brick Lane*

Suggested Reading:

1. Albert, E.: *History of English Literature* (5th ed.) New Delhi: Oxford University Press. 1979
2. Anthony, Burgess. *The Novel Now*. London: Faber and Faber, 1991.
3. Apter, T.E. *Virginia Woolf: A Study of Her Novels*. London: Macmillan Press Ltd., 1979.
4. Bentley, Nick. *Contemporary British Fiction*. Edinburgh: Edinburgh University Press, 2008.
5. Bradbury, Malcolm. *The Modern British Novel*. London: Penguin Books, 1994.
6. Brantlinger, Patrick and William B. Thesing, eds. *A Companion to the Victorian Novel*. Oxford: Blackwell Publishers Ltd, 2002.
7. David, Dierdre, ed. *Cambridge Companion to the Victorian Novel*. New York: Cambridge University Press, 2001.
8. Head, Dominic. *The Cambridge Introduction to Modern British Fiction, 1950-2002*. Cambridge: Cambridge University Press, 2002.
9. Kettle, A. *An Introduction to the English novel*. New Delhi: Universal Book Stall. 1967.
10. Parrinder, Patrick. *Nation and Novel: The English Novel from Its Origins to the Present Day*. New York: Oxford University Press, 2006.
11. Richetti, John, et al., eds. *The Columbia History of the British Novel*. New York: Columbia University Press, 1994.

Outcomes:

Sr.No.	Outcomes	Level
1	The students will be able to associate reality and literary world by reading a novel	2
2	The student will be able to apply the literary solutions to face real problems	3

3	The students will be able to distinguish between the measures to be taken to lead real life qualitatively by reading novels	5
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Pattern of Evaluation

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: Three Hours

Marks-60

Question 1: Broad question on Unit-I (1/2)	12 Marks
Question 2: Broad question on Unit II (1/2)	12 Marks
Question 3: Broad question on Unit III (1/2)	12 Marks
Question 4: Broad question on Unit IV (1/2)	12 Marks
Question 5: Short Notes on all Units. (3/5)	12 Marks

(Core Paper- III)
PG-ENG-CC 303 & PG-ENG-CC 403
ACADEMIC AND RESEARCH WRITING

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce students to various theories and practices in academic and research writings
2. To familiarize students with the writing styles for academic and corporate purposes
3. To enable students to learn and practice writing skills for their career development
4. To introduce students' various concepts in writing research related documents
5. To inculcate research aptitude among the students through theory and application.

SEM-III

PG-ENG-CC 303

ACADEMIC WRITING

Unit-I Introducing Writing Skills

- a. Writing as Communicating
- b. Writing Instructions
- c. Writing Descriptions and Explanations

Unit-II Writing Review Reports

- a. Definitions and nature of review
- b. Mechanics of writing review
- c. Book Review
- d. Introduction to writing review for media (Radio, TV, Newspaper)

Unit-III Writing for Media

- a. Definitions and nature of Script and Screenplay Writing (TV & Radio)
- b. Writing Screenplay Captions or subtitles
- c. Drafting for Press Release
- d. Introduction to writing and Editing News

Unit-IV Technical Writing for Business

- a. E-mail in the workplace: Ethics and Consequences
- b. Introduction to marketing content (promotions, brochures, and product specifications)
- c. Introduction to product reviews and analysis

SEM- IV
PG-ENG-CC 403
RESEARCH WRITING

Unit I: Research: Meaning and Nature

- a. Research: definition and meaning
- b. Fundamentals of Research
- c. Characteristics of Research
- d. Types of Research
- e. Qualities of a good researcher

Unit II: Steps in Research Process (Preparing Research)

- a. Selection of research topic and Formulation of Research Problem
- b. Defining-Aims and Objectives
- c. Introduction to Research Methodology
- d. Defining Scope and Limitations in research
- e. Developing Hypothesis

Unit-III Methods and Techniques of Research

- a. Data Collection Method (Questionnaire, Interview, Survey, Experiments)
- b. Primary and Secondary Sources
- c. Citations, References, Bibliography (*Brief Introduction to MLA (8th Edition) & APA (7th Edition)*)

Unit-IV Basics in Writing Research Document

- a. Requirements of a Research Paper
- b. Format and Components of Research Proposal (Synopsis)
- c. Format and Components of Dissertation / Thesis

Suggested Readings:

1. Turk, C.& John K. *Effective Writing*, 2nd ed. NY: Foundation. 1996
2. Princeton (2011). "Book reviews". *Scholarly definition document*. Princeton.
3. Sharma, R.C & Krishna M. *Business Correspondence and Report Writing*.3rd Ed. Noida: Tata McGraw Hill. 2008
4. Raman, Usha. *Writing for Media*. Oxford University Press, 2009.

5. Scott A. Kuehn. *The Basics of Media Writing-A Strategic Approach*. Clarion University of Pennsylvania, USA.
6. Hunt, Andy , *Your Research Project*, New Delhi: Foundation Books 2005
7. Abdul Rahim, F., *Thesis Writing: A Manual for Researchers* (New Delhi: New Age International) 2005
8. Gibaldi, Joseph, *MLA Handbook for Writers of Research Papers*, New York: MLA Association 8th ed. 2016
9. Miller, R. H., *Handbook of Literary Research*, Methuen 1995
10. S. Chand Kothari, C.R. *Research Methodology: Methods & Techniques*, Delhi: New Age International Ltd 1985
11. Booth, Wayne C. *The Craft of Research*, University of Chicago Press.2003
12. *MLA handbook* 5th to 9th Editions.
13. *APA handbook* 7th Edition

Outcomes:

Sr.No.	Outcomes	Level
1	The students will be able to interpret difference between academic and research writing	2
2	The students will be able to reframe their writing relevant to the purpose of writing	5
3	The students will be able to integrate their language skill with the requirements of academic and research writing	6

External and Internal Evaluation Pattern

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation / short project– 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: 3 Hours

Max. Marks: 60

- | | |
|---|----------|
| 1) Answer Any Two of the following (2/3) (Unit-I) | 12 marks |
| 2) Answer Any Two of the following (2/3) (Unit-II) | 12 marks |
| 3) Answer Any Two of the following (2/3) (Unit-III) | 12 marks |

- 4) Answer Any Two of the following(2/3) (Unit-IV) 12 marks
- 5) Write Short Notes Any Three of the following (3/5) (On All 4 Units) 12 marks

(Optional Paper)
PG-ENG-OC 304 (A) & PG-ENG-OC: 404 (A)
AMERICAN LITERATURE

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To acquaint students with the growth, trends, tendencies and development of American literature.
2. To familiarize students with trends and movements in American literature with special reference to major poets and poetry.
3. To introduce the students with major poets in American literature.
4. To acquaint the students with major novelists in American literature.
5. To make the students able to appreciate and critically analyze American literature (poetry and novel).
6. To make students aware about socio-political and cultural issues reflected in American literature.

SEM-III
PG-ENG-OC 304 (A)

Unit I: The Background Study:

The growth and development of American poetry and novel from origin to the early Twentieth century with reference to trends, movements, tendencies and contributions of major poets and novelists.

Unit II: Poetry: (Selections from *Columbia Anthology of American Poetry*, Ed. Jay Parini)

- i) **Ralph Waldo Emerson:** - Each and All
- Give All to Love
- ii) **Walt Whitman:** - Out of the Cradle Endlessly Rocking
- The Wound Dresser
- iii) **Emily Dickinson:** - A Bird Came Down the Walk
- Because I Could Not Stop for Death
- iv) **Robert Frost:** - Mowing
- Storm Fear

Unit III:

Nathaniel Hawthorne: *The Scarlet Letter*

Unit IV:

John Steinbeck: *The Grapes of Wrath*

Suggested Reading:

1. *Columbia Anthology of American Poetry*. Ed. Jay Parini. Columbia University Press, 1995
2. Allen, Gay Wilson. *Ralph Waldo Emerson*. Viking Press, New York, 1981
3. Buell Lawrence. *Emerson*. Belknap University Press of Harvard University Press, 2003
4. Loving, Jerome. *Walt Whitman: The Song of Himself*. University of California Press, 1999
5. *The Cambridge History of American Poetry*. ed. Alfred Bendixen and Stephen Burt. Cambridge University Press, 2014
6. *The Cambridge Companion to F. Scott Fitzgerald*. Ed. Ruth Prigozy. Cambridge University Press, 2014
7. Steinbeck, John. *The Grapes of Wrath*. Cambridge University Press, 2014
8. Fitzgerald, F. Scott. *The Great Gatsby*. Cambridge University Press, 2000

Outcomes:

Sr.No.	Outcomes	Level
1	The students will be able to identify the difference between different types of literature	2
2	The students will be able to compare different types of realities presented in different literature	4
3	The students will be able to integrate their knowledge of other literatures with American literature	6

Sem. IV**PG-ENG-OC 404 (A)****Unit I**

1. The growth and development of Drama in American literature.
2. The growth and development of Poetry in 20th century American literature.

Unit II

1. "Fences" (1985)

By: August Wilson

Unit III

2. "Death of a Salesman" (1949)

By: Arthur Miller

Unit IV Poetry

1. Ezra Pound (1885-1972)

- i. In a station of the metro

- ii. The Return

2. E. E. Cummings (1894-1962)

- i. The Cambridge ladies who live in furnished souls

- ii. Anyone lived in pretty how town

3. Wallace Stevens (1879-1955)

- i. The Sunday morning

- ii. Continuous Conversation with Silent Man

4. Randall Jarrell (1914-1965)

- i. Children Selecting Books in a Library

- ii. The Woman at the Washington Zoo

Suggested reading:

1. Wilson, August (1986). *Fences: A Play* (First ed.). New York: Plume. ISBN 0-452-26401-4.
2. Vecsey, George (May 10, 1987). "Sports of the Times; Ray Dandridge, The Hall of Fame and 'Fences'". *The New York Times*. Retrieved June 15, 2009.
3. Napierkowski, Marie Rose, ed. (January 2006) [1998]. "Fences". *Drama for Students*. Vol. 3. Detroit: Gale; eNotes.com. Retrieved June 26, 2008.
4. Hurell, John D. (1961). *Two Modern American Tragedies: Reviews and Criticism of Death of a Salesman and A Streetcar Named Desire*. New York: Scribner. OCLC 249094.
5. Sandage, Scott A. (2005). *Born Losers: A History of Failure in America*. Cambridge: Harvard University Press. ISBN 978-0-674-01510-4.
6. www.poetryfoundation.org

Pattern of Evaluation

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: 3 Hours	Marks-60
Question 1: Broad question on Unit-I (1/2)	12 Marks
Question 2: Broad question on Unit II (1/2)	12 Marks
Question 3: Broad question on Unit III (1/2)	12 Marks
Question 4: Broad question on Unit IV. (1/2)	12 Marks
Question 5: Short Notes on all Units. (3/5)	12 Marks

(Optional Paper)
PG-ENG-OC 304 (B) & PG-ENG-OC 404 (B)
INTRODUCTION TO CULTURAL STUDIES

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce students to the interdisciplinary terrain of Cultural studies.
2. To acquaint students with the key concepts and major debates in the field of Cultural studies.
3. To acquaint students with the constructed nature of notions such as culture, identity, nation, society etc.
4. To impart analytical tools and investigative skills required for cultural analysis to students.

SEM- III
PG-ENG-OC 304 (B)

UNIT-I

1. Concept of Culture:

- i) Culture – Raymond Williams (From- *Keywords: A Vocabulary of Culture and Society*)
- ii) Interpretations of Culture- Base and Superstructure, Ideology, Hegemony, Habitus.

UNIT-II

2. Origin and Development of Cultural Studies:

- i) A Brief History of Centre of Contemporary Cultural Studies (CCCS) at Birmingham, UK.
- ii) American Cultural Studies.

UNIT-III

3. Theorizing Culture: Key Concepts-I

Body, Canon, Capitalism, Circuit of culture, City, Class, Caste, Counterculture, Cultural capital, Encoding-decoding, Ethnicity.

UNIT-IV Essay:

- 1 *Cultural Studies and Its Theoretical Legacies*- Stuart Hall

SEM- IV
PG-ENG-OC 404 (B)

UNIT-I

4. Theorizing Culture: Key Concepts-

Gender, Globalization, Identity Politics, Imagined community, Mass culture, Multiculturalism, Nation-state, Other, Power/ knowledge, Popular culture, Subculture, Text.

UNIT-II

5. Imagining the Nation:

i) Raja Rao- *Kanthapura*

Note: The prescribed text should be theoretically analyzed in terms of discourse of nation, nationalism and the other as projected in the text.

UNIT-III

6. The Identity Question:

i) Tony Morrison- *The Bluest Eye*

Note: The prescribed text should be theoretically analyzed in terms of how identities are historically arrived at, sociologically presented and discursively constituted and represented.

UNIT-IV

7. Images of Motherhood

i) Sane Guruji - *Shyamachi Aai* (English Translation by Shanta Gokhale)

Note- the teachers are expected to discuss the stereotypes of images of womanhood in general and motherhood in particular with the help of prescribed text and also throw light on the changing image of womanhood/ motherhood

Suggested Reading:

1. Adams, R. and Saravan, D. *The Masculinity Studies Reader*. Oxford, Blackwell.2002
2. Anderson, B. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. New York, Verso. 2001
3. Barker, C. *Cultural Studies: Theory and Practice*. London, CA, Sage. 2000

4. Barker, C. *The Sage Dictionary of Cultural Studies*. London, CA, Sage. 2004
5. Du Gay *Doing Cultural Studies*. London, CA, Sage. 1997
6. During, S. (Ed.)*The Cultural Studies Reader*. London, Routledge. 1999
7. Hartley *A Short History of Cultural Studies*. London, CA, Sage. 2003
8. Inden, R. *Imagining India*. Oxford, Blackwell.1990
9. Storey, J. (Ed.)*What is Cultural Studies?* London, Routledge.1997
10. Williams, R. *Keywords*. Oxford, OUP. 1985

Outcomes:

Sr.No.	Outcomes	Level
1	The students will able to explain the role of culture in fixing the images of human beings	3
2	The students will able to criticize the impact of culture in creating stereotypes	5
3	The students will be able to negotiate the role of individual in crossing the stereotypes	6

External and Internal Evaluation Pattern

Internal Assessment: 40 Marks (First Test – 20 Marks, Second Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: Three Hours

Max. Marks: 60

- | | |
|---|----------|
| 1) One Long answer question (Unit I) (1/2) | 12 marks |
| 2) One Long answer question (on Unit-II) (1/2) | 12 marks |
| 3) One Long answer question (on Unit-III) (1/2) | 12 marks |
| 4) One Long answer question (on Unit-IV) (1/2) | 12 marks |
| 5) Short notes (on all units) (3/5) | 12 marks |

Equivalence

Old Syllabus	New Syllabus (CBCS)
ENG 231 and 241 Literary Theory and Concepts	PG ENG CC 301 and 401 Literary Criticism and Theory
ENG 232 and 242 English Novel	PG ENG CC 302 and 402 English Novel
ENG 233 and 243 Basics of Research in English Language and Literature	PG ENG CC 303 and 403 Academic and Research Writing
ENG 234 and 244 (A) Post-Colonial Literature	PG ENG OC 304 and 404 (A) American Literature
ENG 234 and 244 (B) American Literature	PG ENG OC 304 and 404 (B) Introduction to Cultural Studies



Kavayitri Bahinabai Chaudhari North Maharashtra
University, Jalgaon

M.A. English
(Part II)

Curriculum Specifics

**(Program Specific Objectives and Outcomes, Course Objectives
and Course Outcomes)**

(w.e.f. July 2022)

Faculty of Humanities

MA English Part II

Paper I (Core Paper)

PG-ENG-CC 301 & PG-ENG-CC 401

LITERARY CRITICISM AND THEORY

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce the students to a wide range of critical approaches and literary theories.
2. To help the learners to develop logical thinking and analytical ability through intellectually challenging content.
3. To familiarize the learners with the trends and cross-disciplinary nature of literary theories.
4. To develop sensibility and competence in them for practical application of various critical theories in the analysis of literary and cultural texts.

SEM- III

(PG-ENG-CC 301)

Unit: 1

1. Aristotle: *Poetics* (Chapters 6-11)
2. Longinus: *On the Sublime*

Unit: 2

1. Wordsworth: *Preface to the Lyrical Ballads*
2. Coleridge: *Biographia Literaria* (Chapter 13 & 14)

Unit: 3

1. Matthew Arnold: *The Function of Criticism at the Present Time*
2. T. S. Eliot: *Tradition and the Individual Talent*

Unit: 4

1. Indian Aesthetics: *rasa, dhvani, alankara, vakrokti*

SEM- IV
(PG-ENG-CC 401)

Unit: 1

1. Paul de Man: Resistance to Theory
2. M H Abrams: The Deconstructive Angel

Unit: 2

1. Terry Eagleton: Capitalism, Modernism and Postmodernism
2. Roland Barthes: The Death of the Author

Unit: 3

1. Edward Said: Introduction to Orientalism
2. Mikhail Bakhtin: From the Prehistory of Novelistic Discourse

Unit: 4

1. Helen Cixous: Sorties
2. Slovic Scott: A Basic Introduction to Ecocriticism and Environmental Literature

Suggested Reading:

1. Habib M. A. R. *A History of Literary Criticism: from Plato to the Present*. Blackwell, 2005.
2. Selden, Raman, Peter Widdowson and Peter Brooker. *A Reader's Guide to Contemporary Literary Theory*. 4th edn. Hemel Hempstead: Prentice Hall 1997.
3. Seturaman V. S. (ed.) *Contemporary Criticism: An Anthology*. Macmillan, 2011 edition.
4. Seturaman V. S. (ed.) *Indian Aesthetics: An Introduction*. Macmillan, 1992.
5. Barry, Peter. *Beginning Theory: An Introduction to Literacy and Cultural Theory*, New Delhi: Viva Books, 2008.
6. Raghavan V. and Nagendra (ed.) *An Introduction to Indian Poetics*. Madras: MacMillan, 1970.
7. Wood, Nigel and David Lodge (ed): *Modern Criticism and Theory A Reader* (2nd ed.). UK, Pearson Education Limited, 2000
8. Lodge, David and Nigel Wood (Ed.) *Modern Criticism and Theory: A Reader*. New Delhi: Pearson, 2003

9. Abrams M. H. *A Glossary of Literary Terms*. THOMSON HEINLE. 1999. ISBN 981-243-668-5
10. Nayar, Pramod K. *Contemporary Literary and Cultural Theory*. PEARSON. 2010.
11. Sinha, M. P., Niraj Agnihotri. *Critical Theories: Indian and Western*. Atlantic Publishers and Distributers (P) Ltd. New Delhi. 2013.

Outcomes:

Sr.No.	Outcomes	Level
1.	The students will develop ability to associate between literature and critical theories.	3
2.	The students will be able to evaluate a literary text by applying various theories to it.	4
3	The students will be able to devise/ modify theories relevant to texts.	6

Pattern of Evaluation

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Question Paper Format for Semester III and IV

Time: 03 Hours

Total Marks: 60

- | | |
|---|----------|
| Q. No. 1. Long Answer Type Question on Unit 1- A / B | 12 Marks |
| Q. No. 2. Long Answer Type Question on Unit 2- A / B | 12 Marks |
| Q. No. 3. Long Answer Type Question on Unit 3- A / B | 12 Marks |
| Q. No. 4. Long Answer Type Question on Unit 4- A / B | 12 Marks |
| Q. No. 5. Short Notes on all Units (any 02 out of 04) | 12 Marks |

(Core Paper-II)
PG-ENG-CC 302 & PG-ENG-CC 402
STUDY OF NOVEL

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To acquaint the students with the growth, trends, tendencies and development of English novel.
2. To familiarize students with trends and movements in English literature with special reference to English novel.
3. To introduce the students with major novelists in English literature.
4. To make them able to appreciate and critically analyze a novel.
5. To sensitize the students, through the study of novels, about the world around.

SEM- III
(PG ENG CC: 302)

Unit I:

The background study of the growth and development of English novel from its origin to the end of nineteenth century with reference to trends, movements, tendencies and contribution by major novelists.

Unit II:

Henry Fielding: *Tom Jones*

Unit III:

Charles Dickens: *Hard Times*

Unit IV:

H. G. Wells: *The War of the Worlds*

SEM- IV
(PG ENG CC: 402)

Unit I:

The background study of the growth and development of English novel from early twentieth century to the present times with reference to trends, movements, tendencies and contribution by major novelists.

Unit II:

Virginia Woolf: *To The Light House*

Unit III:

George Orwell: *Animal Farm*

Unit IV:

Monica Ali: *Brick Lane*

Suggested Reading:

1. Albert, E.: *History of English Literature* (5th ed.) New Delhi: Oxford University Press. 1979
2. Anthony, Burgess. *The Novel Now*. London: Faber and Faber, 1991.
3. Apter, T.E. *Virginia Woolf: A Study of Her Novels*. London: Macmillan Press Ltd., 1979.
4. Bentley, Nick. *Contemporary British Fiction*. Edinburgh: Edinburgh University Press, 2008.
5. Bradbury, Malcolm. *The Modern British Novel*. London: Penguin Books, 1994.
6. Brantlinger, Patrick and William B. Thesing, eds. *A Companion to the Victorian Novel*. Oxford: Blackwell Publishers Ltd, 2002.
7. David, Dierdre, ed. *Cambridge Companion to the Victorian Novel*. New York: Cambridge University Press, 2001.
8. Head, Dominic. *The Cambridge Introduction to Modern British Fiction, 1950-2002*. Cambridge: Cambridge University Press, 2002.
9. Kettle, A. *An Introduction to the English novel*. New Delhi: Universal Book Stall. 1967.
10. Parrinder, Patrick. *Nation and Novel: The English Novel from Its Origins to the Present Day*. New York: Oxford University Press, 2006.
11. Richetti, John, et al., eds. *The Columbia History of the British Novel*. New York: Columbia University Press, 1994.

Outcomes:

Sr.No.	Outcomes	Level
1	The students will be able to associate reality and literary world by reading a novel	2
2	The student will be able to apply the literary solutions to face real problems	3

3	The students will be able to distinguish between the measures to be taken to lead real life qualitatively by reading novels	5
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Pattern of Evaluation

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: Three Hours

Marks-60

Question 1: Broad question on Unit-I (1/2)	12 Marks
Question 2: Broad question on Unit II (1/2)	12 Marks
Question 3: Broad question on Unit III (1/2)	12 Marks
Question 4: Broad question on Unit IV (1/2)	12 Marks
Question 5: Short Notes on all Units. (3/5)	12 Marks

(Core Paper- III)
PG-ENG-CC 303 & PG-ENG-CC 403
ACADEMIC AND RESEARCH WRITING

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce students to various theories and practices in academic and research writings
2. To familiarize students with the writing styles for academic and corporate purposes
3. To enable students to learn and practice writing skills for their career development
4. To introduce students' various concepts in writing research related documents
5. To inculcate research aptitude among the students through theory and application.

SEM-III

PG-ENG-CC 303

ACADEMIC WRITING

Unit-I Introducing Writing Skills

- a. Writing as Communicating
- b. Writing Instructions
- c. Writing Descriptions and Explanations

Unit-II Writing Review Reports

- a. Definitions and nature of review
- b. Mechanics of writing review
- c. Book Review
- d. Introduction to writing review for media (Radio, TV, Newspaper)

Unit-III Writing for Media

- a. Definitions and nature of Script and Screenplay Writing (TV & Radio)
- b. Writing Screenplay Captions or subtitles
- c. Drafting for Press Release
- d. Introduction to writing and Editing News

Unit-IV Technical Writing for Business

- a. E-mail in the workplace: Ethics and Consequences
- b. Introduction to marketing content (promotions, brochures, and product specifications)
- c. Introduction to product reviews and analysis

SEM- IV
PG-ENG-CC 403
RESEARCH WRITING

Unit I: Research: Meaning and Nature

- a. Research: definition and meaning
- b. Fundamentals of Research
- c. Characteristics of Research
- d. Types of Research
- e. Qualities of a good researcher

Unit II: Steps in Research Process (Preparing Research)

- a. Selection of research topic and Formulation of Research Problem
- b. Defining-Aims and Objectives
- c. Introduction to Research Methodology
- d. Defining Scope and Limitations in research
- e. Developing Hypothesis

Unit-III Methods and Techniques of Research

- a. Data Collection Method (Questionnaire, Interview, Survey, Experiments)
- b. Primary and Secondary Sources
- c. Citations, References, Bibliography (*Brief Introduction to MLA (8th Edition) & APA (7th Edition)*)

Unit-IV Basics in Writing Research Document

- a. Requirements of a Research Paper
- b. Format and Components of Research Proposal (Synopsis)
- c. Format and Components of Dissertation / Thesis

Suggested Readings:

1. Turk, C.& John K. *Effective Writing*, 2nd ed. NY: Foundation. 1996
2. Princeton (2011). "Book reviews". *Scholarly definition document*. Princeton.
3. Sharma, R.C & Krishna M. *Business Correspondence and Report Writing*.3rd Ed. Noida: Tata McGraw Hill. 2008
4. Raman, Usha. *Writing for Media*. Oxford University Press, 2009.

5. Scott A. Kuehn. *The Basics of Media Writing-A Strategic Approach*. Clarion University of Pennsylvania, USA.
6. Hunt, Andy , *Your Research Project*, New Delhi: Foundation Books 2005
7. Abdul Rahim, F., *Thesis Writing: A Manual for Researchers* (New Delhi: New Age International) 2005
8. Gibaldi, Joseph, *MLA Handbook for Writers of Research Papers*, New York: MLA Association 8th ed. 2016
9. Miller, R. H., *Handbook of Literary Research*, Methuen 1995
10. S. Chand Kothari, C.R. *Research Methodology: Methods & Techniques*, Delhi: New Age International Ltd 1985
11. Booth, Wayne C. *The Craft of Research*, University of Chicago Press.2003
12. *MLA handbook* 5th to 9th Editions.
13. *APA handbook* 7th Edition

Outcomes:

Sr.No.	Outcomes	Level
1	The students will be able to interpret difference between academic and research writing	2
2	The students will be able to reframe their writing relevant to the purpose of writing	5
3	The students will be able to integrate their language skill with the requirements of academic and research writing	6

External and Internal Evaluation Pattern

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation / short project– 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: 3 Hours

Max. Marks: 60

- | | |
|---|----------|
| 1) Answer Any Two of the following (2/3) (Unit-I) | 12 marks |
| 2) Answer Any Two of the following (2/3) (Unit-II) | 12 marks |
| 3) Answer Any Two of the following (2/3) (Unit-III) | 12 marks |

- 4) Answer Any Two of the following(2/3) (Unit-IV) 12 marks
- 5) Write Short Notes Any Three of the following (3/5) (On All 4 Units) 12 marks

(Optional Paper)
PG-ENG-OC 304 (A) & PG-ENG-OC: 404 (A)
AMERICAN LITERATURE

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To acquaint students with the growth, trends, tendencies and development of American literature.
2. To familiarize students with trends and movements in American literature with special reference to major poets and poetry.
3. To introduce the students with major poets in American literature.
4. To acquaint the students with major novelists in American literature.
5. To make the students able to appreciate and critically analyze American literature (poetry and novel).
6. To make students aware about socio-political and cultural issues reflected in American literature.

SEM-III
PG-ENG-OC 304 (A)

Unit I: The Background Study:

The growth and development of American poetry and novel from origin to the early Twentieth century with reference to trends, movements, tendencies and contributions of major poets and novelists.

Unit II: Poetry: (Selections from *Columbia Anthology of American Poetry*, Ed. Jay Parini)

- i) **Ralph Waldo Emerson:** - Each and All
- Give All to Love
- ii) **Walt Whitman:** - Out of the Cradle Endlessly Rocking
- The Wound Dresser
- iii) **Emily Dickinson:** - A Bird Came Down the Walk
- Because I Could Not Stop for Death
- iv) **Robert Frost:** - Mowing
- Storm Fear

Unit III:

Nathaniel Hawthorne: *The Scarlet Letter*

Unit IV:

John Steinbeck: *The Grapes of Wrath*

Suggested Reading:

1. *Columbia Anthology of American Poetry*. Ed. Jay Parini. Columbia University Press, 1995
2. Allen, Gay Wilson. *Ralph Waldo Emerson*. Viking Press, New York, 1981
3. Buell Lawrence. *Emerson*. Belknap University Press of Harvard University Press, 2003
4. Loving, Jerome. *Walt Whitman: The Song of Himself*. University of California Press, 1999
5. *The Cambridge History of American Poetry*. ed. Alfred Bendixen and Stephen Burt. Cambridge University Press, 2014
6. *The Cambridge Companion to F. Scott Fitzgerald*. Ed. Ruth Prigozy. Cambridge University Press, 2014
7. Steinbeck, John. *The Grapes of Wrath*. Cambridge University Press, 2014
8. Fitzgerald, F. Scott. *The Great Gatsby*. Cambridge University Press, 2000

Outcomes:

Sr.No.	Outcomes	Level
1	The students will be able to identify the difference between different types of literature	2
2	The students will be able to compare different types of realities presented in different literature	4
3	The students will be able to integrate their knowledge of other literatures with American literature	6

Sem. IV**PG-ENG-OC 404 (A)****Unit I**

1. The growth and development of Drama in American literature.
2. The growth and development of Poetry in 20th century American literature.

Unit II

1. "Fences" (1985)

By: August Wilson

Unit III

2. "Death of a Salesman" (1949)

By: Arthur Miller

Unit IV Poetry

1. Ezra Pound (1885-1972)

- i. In a station of the metro

- ii. The Return

2. E. E. Cummings (1894-1962)

- i. The Cambridge ladies who live in furnished souls

- ii. Anyone lived in pretty how town

3. Wallace Stevens (1879-1955)

- i. The Sunday morning

- ii. Continuous Conversation with Silent Man

4. Randall Jarrell (1914-1965)

- i. Children Selecting Books in a Library

- ii. The Woman at the Washington Zoo

Suggested reading:

1. Wilson, August (1986). *Fences: A Play* (First ed.). New York: Plume. ISBN 0-452-26401-4.
2. Vecsey, George (May 10, 1987). "Sports of the Times; Ray Dandridge, The Hall of Fame and 'Fences'". *The New York Times*. Retrieved June 15, 2009.
3. Napierkowski, Marie Rose, ed. (January 2006) [1998]. "Fences". *Drama for Students*. Vol. 3. Detroit: Gale; eNotes.com. Retrieved June 26, 2008.
4. Hurrell, John D. (1961). *Two Modern American Tragedies: Reviews and Criticism of Death of a Salesman and A Streetcar Named Desire*. New York: Scribner. OCLC 249094.
5. Sandage, Scott A. (2005). *Born Losers: A History of Failure in America*. Cambridge: Harvard University Press. ISBN 978-0-674-01510-4.
6. www.poetryfoundation.org

Pattern of Evaluation

Internal Assessment: 40 Marks (First Written Test – 20 Marks, Second Written Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: 3 Hours	Marks-60
Question 1: Broad question on Unit-I (1/2)	12 Marks
Question 2: Broad question on Unit II (1/2)	12 Marks
Question 3: Broad question on Unit III (1/2)	12 Marks
Question 4: Broad question on Unit IV. (1/2)	12 Marks
Question 5: Short Notes on all Units. (3/5)	12 Marks

(Optional Paper)
PG-ENG-OC 304 (B) & PG-ENG-OC 404 (B)
INTRODUCTION TO CULTURAL STUDIES

Course Credits: 4 Credits for each Sem.

Teaching Hours: 60hrs for each Sem.

Objectives:

1. To introduce students to the interdisciplinary terrain of Cultural studies.
2. To acquaint students with the key concepts and major debates in the field of Cultural studies.
3. To acquaint students with the constructed nature of notions such as culture, identity, nation, society etc.
4. To impart analytical tools and investigative skills required for cultural analysis to students.

SEM- III
PG-ENG-OC 304 (B)

UNIT-I

1. Concept of Culture:

- i) Culture – Raymond Williams (From- *Keywords: A Vocabulary of Culture and Society*)
- ii) Interpretations of Culture- Base and Superstructure, Ideology, Hegemony, Habitus.

UNIT-II

2. Origin and Development of Cultural Studies:

- i) A Brief History of Centre of Contemporary Cultural Studies (CCCS) at Birmingham, UK.
- ii) American Cultural Studies.

UNIT-III

3. Theorizing Culture: Key Concepts-I

Body, Canon, Capitalism, Circuit of culture, City, Class, Caste, Counterculture, Cultural capital, Encoding-decoding, Ethnicity.

UNIT-IV Essay:

- 1 *Cultural Studies and Its Theoretical Legacies*- Stuart Hall

SEM- IV
PG-ENG-OC 404 (B)

UNIT-I

4. Theorizing Culture: Key Concepts-

Gender, Globalization, Identity Politics, Imagined community, Mass culture, Multiculturalism, Nation-state, Other, Power/ knowledge, Popular culture, Subculture, Text.

UNIT-II

5. Imagining the Nation:

i) Raja Rao- *Kanthapura*

Note: The prescribed text should be theoretically analyzed in terms of discourse of nation, nationalism and the other as projected in the text.

UNIT-III

6. The Identity Question:

i) Tony Morrison- *The Bluest Eye*

Note: The prescribed text should be theoretically analyzed in terms of how identities are historically arrived at, sociologically presented and discursively constituted and represented.

UNIT-IV

7. Images of Motherhood

i) Sane Guruji - *Shyamachi Aai* (English Translation by Shanta Gokhale)

Note- the teachers are expected to discuss the stereotypes of images of womanhood in general and motherhood in particular with the help of prescribed text and also throw light on the changing image of womanhood/ motherhood

Suggested Reading:

1. Adams, R. and Saravan, D. *The Masculinity Studies Reader*. Oxford, Blackwell.2002
2. Anderson, B. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. New York, Verso. 2001
3. Barker, C. *Cultural Studies: Theory and Practice*. London, CA, Sage. 2000

4. Barker, C. *The Sage Dictionary of Cultural Studies*. London, CA, Sage. 2004
5. Du Gay *Doing Cultural Studies*. London, CA, Sage. 1997
6. During, S. (Ed.)*The Cultural Studies Reader*. London, Routledge. 1999
7. Hartley *A Short History of Cultural Studies*. London, CA, Sage. 2003
8. Inden, R. *Imagining India*. Oxford, Blackwell.1990
9. Storey, J. (Ed.)*What is Cultural Studies?* London, Routledge.1997
10. Williams, R. *Keywords*. Oxford, OUP. 1985

Outcomes:

Sr.No.	Outcomes	Level
1	The students will able to explain the role of culture in fixing the images of human beings	3
2	The students will able to criticize the impact of culture in creating stereotypes	5
3	The students will be able to negotiate the role of individual in crossing the stereotypes	6

External and Internal Evaluation Pattern

Internal Assessment: 40 Marks (First Test – 20 Marks, Second Test / Seminar / Presentation – 20 Marks)

External Evaluation – 60 Marks

Format of Question Paper for Sem. III and IV

Time: Three Hours

Max. Marks: 60

- | | |
|---|----------|
| 1) One Long answer question (Unit I) (1/2) | 12 marks |
| 2) One Long answer question (on Unit-II) (1/2) | 12 marks |
| 3) One Long answer question (on Unit-III) (1/2) | 12 marks |
| 4) One Long answer question (on Unit-IV) (1/2) | 12 marks |
| 5) Short notes (on all units) (3/5) | 12 marks |

Equivalence

Old Syllabus	New Syllabus (CBCS)
ENG 231 and 241 Literary Theory and Concepts	PG ENG CC 301 and 401 Literary Criticism and Theory
ENG 232 and 242 English Novel	PG ENG CC 302 and 402 English Novel
ENG 233 and 243 Basics of Research in English Language and Literature	PG ENG CC 303 and 403 Academic and Research Writing
ENG 234 and 244 (A) Post-Colonial Literature	PG ENG OC 304 and 404 (A) American Literature
ENG 234 and 244 (B) American Literature	PG ENG OC 304 and 404 (B) Introduction to Cultural Studies



**KAVAYITRI BAHINABAI CHAUDHARI
NORTH MAHARASHTRA UNIVERSITY,
JALGAON**

FACULTY OF HUMANITIES

**UNDER CHOICE BASED CREDIT SYSTEM
(CBCS)**

SEMESTER WISE COURSE SYLLABUS OF M. A. HISTORY

M. A. PART II - SEMESTER III & IV

HISTORY

(W. E. F. 2022-2023)

**M. A. (HISTORY) PART- II
SEMESTER- III
CORE COURSES**

PG-HIS CC 301 - HISTORIOGRAPHY : TRENDS AND APPROCHES

PG-HIS CC 302 - HISTORY OF INDIA AFTER INDEPENDENCE (PART-I)

PG-HIS CC 303 –MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART I)

SKILL BASED / ELECTIVE COURSE

PG-HIS DSE 304 (A) MODERN MAHARASHTRA (PART I)

OR

PG-HIS DSE 304 (B) INTRODUCTION TO HISTORICAL TOURISM

AUDIT COURSE

AC-301: C

AC 301 D

**SEMESTER- IV
CORE COURSES**

PG-HIS CC 401 - HISTORIOGRAPHY : METHODOLOGY AND THEORIES

PG-HIS-CC-402 - HISTORY OF INDIA AFTER INDEPENDENCE (Part-II)

PG-HIS CC 403 –MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART II)

SKILL BASED / ELECTIVE COURSE

PG-HIS DSE 404 (A) MODERN MAHARASHTRA (PART II)

OR

PG-HIS DSE 404 (B) INTRODUCTION OF INDIAN ARCHIVES

AUDIT COURSE

AC-401 C

AC 401 D

टीप : दोनही सत्रातील AUDIT COURSE चे प्रत्येकी १०० मार्कांचे Practical संबंधित सत्रास महाविद्यालय मार्फत घेतले जाईल. यासंबंधी Grade दिली जाईल.

Faculty of Humanities Post Graduate Courses
Under Choice Based Credit System (CBCS)
Summary of Distribution of Credits under CBCS for PG
(HISTORY)(w.e.f. 2022-2023)

Type of Course	Sem. I	Sem. II	Sem. III	Sem. IV
Core	12	12	12	12
Skill based / Elective	04	04	04	04
Audit	02	02	02	02
Total Credits	18	18	18	18
Total Credits = 72				

Subject Type	Core	Skill based / Elective	Audit	Total Credits
Credits	48	16	08	72

Course Credit Scheme

Semester	(A) Core Courses			(B) Skill Based/Elective			(C) Audit Courses (No weight age in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T)	Total Credits	No. of Courses	Credits (T)	Total Credits	No. of Courses	Credits (T)	Total Credits	
I	3	4	12	1	4	4	1	2	2	18
II	3	4	12	1	4	4	1	2	2	18
III	3	4	12	1	4	4	1	2	2	18
IV	3	4	12	1	4	4	1	2	2	18

LIST OF AUDIT COURSES

(SELECT ANY ONE COURSE OF CHOICE FROM SEMESTER II, III & IV)

Semester I (Compulsory)		Semester II(Choose One) Personality & Cultural Development		Semester III (Choose ONE) Technology + Value Added Course		Semester IV (Choose ONE) Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC 101	Practicing Cleanliness	AC 201 (A)	Soft Skills	AC 301 (A)	Computer Skills	AC 401 (A)	Human Rights
		AC 201 (B)	Sport Activities	AC 301 (B)	Cyber Security	AC 401 (B)	Current Affairs
		AC 201 (C)	Yoga	AC 301 (C)	Related to Concerned PG Subject	AC 401 (C)	Related to Concerned PG Subject
		AC 201 (D)	Music	AC 301 (D)	Related to Concerned PG Subject	AC 401 (D)	Related to Concerned PG Subject

**Faculty of
Humanities Post
Graduate Courses
Under Choice Based Credit System (CBCS)
Semester-wise Course Structure of M. A. HISTORY (W.E.F. A. Y. 2022-2023)
Semester III**

Course	Course Type	Course Title	Teaching Hours/Week			Marks (Total 100)				Credits
			T	P	Total	Internal (CA)		External (UA)		
						T	P	T	P	
PG HIS CC 301	Core	Historiography : Trends and Approaches	4	--	4	40	--	60	--	4
PG HIS CC 302	Core	History of India After Independence (Part I)	4	--	4	40	--	60	--	4
PG HIS CC 303	Core	Medieval Maharashtra: Ideas and Institutions (Part I)	4	--	4	40	--	60	--	4
PG HIS DSE 304	Skill based / Elective	Modern Maharashtra Part-I	4	--	4	40	--	60	--	4
		Introduction to Historical Tourism	4	--	4	40	--	60	--	4
AC 301	Audit Course		--	2	2	--	100	--	--	2
Total Credit for Semester I: 18 (T = Theory: 12; Skill Based / Elective: 4; Audit Course: 2)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/Week			Marks (Total 100)				Credits
			T	P	Total	Internal (CA)		External (UA)		
						T	P	T	P	
PG HIS CC 401	Core	Historiography: - Methodology and Theories	4	--	4	40	--	60	--	4
PG HIS CC 402	Core	History of India After Independence (Part II)	4	--	4	40	--	60	--	4
PG HIS CC 403	Core	Medieval Maharashtra: Ideas and Institutions (Part II)	4	--	4	40	--	60	--	4
PG HIS DSE 404	Skill based / Elective	Modern Maharashtra Part- I	4	--	4	40	--	60	--	4
		Introduction of Indian Archives	4	--	4	40	--	60	--	4
AC 401 (A)	Audit Course		--	2	2	--	100	--	--	2
Total Credit for Semester I: 18 (T = Theory: 12; Skill Based / Elective: 4; Audit Course: 2)										

MA.II History / SEMESTER-III

Core Course

PG-HIS CC 301 - HISTORIOGRAPHY : TRENDS AND APPROCHES

Marks:-60+40=100

Credits 04

Total Period:-60

1. An Introduction to History	15
a) Meaning of History	
b) Nature and Scope of History	
c) History and Auxiliary Disciplines	
2. Tradition of Historical writing	15
a) Origin of Historical writing -Greek and Roman	
b) Historical writing of Ancient period – Indian and Chinese	
c) Historical writing of medieval period – Arab Persian and Indian	
3. Trends in Historiography	15
a) European Historiography- Enlightenment, Romanticist, Positivist, Annals,	
b) Indian Historiography- Nationalist, Marxist	
c) New Trends in Historiography - History from Below, Subaltern, Anti Caste	
4. Approaches of Indian Historiography	15
a) Orientalist Historiography –	
b) Imperialist History-	
c) Nationalist Historiography-	
d) Maratha Historiography	

प्रकरण १.इतिहासाची ओळख	१५
अ) इतिहासाचा अर्थ	
ब) इतिहासाचे स्वरूप आणि व्याप्ती	
क) इतिहासाचे सहाय्यकारी शास्त्र	
प्रकरण २. इतिहास लेखनाची परंपरा	१५
अ) इतिहास लेखनाचा उगम :- ग्रीक आणि रोमन	
ब) प्राचीन इतिहासलेखन परंपरा:- भारत आणि चीन	
क) मध्ययुगीन इतिहासलेखन परंपरा :-अरब पर्शियन आणि भारत	
प्रकरण ३. इतिहासलेखनशास्त्र प्रवाह	१५
अ) युरोप इतिहासलेखनशास्त्र:- प्रबोधन, सौंदर्यवादी, प्रत्यक्षार्थवादी, अनल्स	
ब) भारतीय इतिहासलेखनशास्त्र:- राष्ट्रवादी, मार्क्सवादी	
क) इतिहास लेखनातील नवीन प्रवाह:- तळाकडून इतिहास, वंचितांचे इतिहासलेखन,जात्यातंक	
प्रकरण ४.भारतीय इतिहासलेखनाचे दृष्टीकोन	१५
अ) पोर्वात्यावादी दृष्टीकोन	
ब) साम्राज्यवादी दृष्टीकोन	
क) राष्ट्रवादी दृष्टीकोन	
ड) मराठ्यांचे इतिहास लेखन	

Books for Study and Reference:-

1. Bajaj Satish K- History - Its Philosophy, Theory and Methodology, Patiala,1987.
2. Bajaj Satish K- Recent Trends in Historiography; Anmol Publication; New Delhi; 1998.
3. Carr, E. H. - Waht is History?; Macmillan: London. 2000.
4. Collingwood R. G.- The Idea of History, Oxford University Press, London,1973
5. Guha Ranajit; (ed.)- Subaltern Studies, Vol I; Oxford University Press; N.Delhi; 1982.
6. Lambart P & Schofield P- Making History; Rutledge.
7. Lemon M.C.- Philosophy of History; Rutledge.
8. Lunia B. N.- Some Historians of Medieval India, Agra, 1967.
9. Majumdar R. C.- Historiography in Modern India, Bombay, 1970.
10. Marwick, Arthur - The Nature of History, London, Macmillan Rpt. 1971.
11. Mathur L. P. - Historiography and Historians of Modern India – Indian Publication, New Delhi, 1986.
12. Shaikh Ali B. - History - Its Theory and Method, Bombay - 1984.
13. Sreedharan E.- A Textbook of Historiography; Orient Longman; India, 2004.
14. AmR>dbo gXm{ed- B{VhmgmMo VîdkmZ, àmk nmR>emim àH\$meZ, dmB©.
15. H\$ma B.EM.- B{Vhmg àhUOo H\$m`?, (AZw. bobo {d.Jmo.)H\$m°pYQ>ZoYQ>b àH\$meZ, nwUo.
16. Hw\$bH\$Uu A.am.- _amR>çm\$Mo B{VhmgbolZ, S>m`_S> npãbHo\$eZ, nwUo.
17. खोबरेकर वी. गो.- महाराष्ट्रातील दत्तरखाने
18. gaXogmB© {~.EZ. d BVa- B{VhmgbolZemñi, \S>Ho\$ àH\$meZ, H\$moëhmnya. 1998
19. शांता कोठेकर, इतिहास : तं आण तव्ान, साईनाथ काशन, नागपूर
20. जावंद वांबूरकर, इतिहासातील नवे वाह, डायमंड पिंकेशस, पुणे
21. समाज बोधन पत्रिका आण सटर फॉर टडी इन कचर अँड सोसायटी, इतिहासलेखन मीमांसा, लोकवाचमय गृह, मुंबई

MA.II History / SEMESTER-IV

Core Course

PG-HIS CC 401 - HISTORIOGRAPHY : METHODOLOGY AND THEORIES

Marks:-60+40=100

Credits 04

Total Period:-60

UNIT 1. Importance of Sources and Archives	15
a) Sources – Meaning and Importance	
b) Origin of Archives in Europe and in India- A Brief Survey	
c) Archives In Maharashtra- Bombay and Pune Archives, Bharat Itihas Sanshodhan Mandal, Deccan College Archives, Rajwade Sanshodhan Mandal	
UNIT 2. Methodology of Historiography –I	15
a) Selection of the Topic and Formula framing	
b) Hypothesis	
c) Preparation of the Outline	
d) How to taking Notes	
e) Computer Application in Historical Research	
UNIT 3. Methodology of Historiography –II	15
a) External Criticism-	
b) Internal Criticism-	
c) Interpretation of History	
d) Concluding Operations	
UNIT 4. Approaches and Major Theories of History	15
a) Feminist	
b) Local and Oral History	
c) Post- Modernist Approach	
d) Historical Research	

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प्रकरण १ साधनांचे महत्त्व आणि पुराभिलेखागार

१५

- अ) साधने:- अर्थ आणि महत्त्व
- ब) युरोप आणि भारतातील पुराभिलेखागार- संक्षिप्त आढावा
- क) महाराष्ट्रातील पुराभिलेखागार:- मुंबई आणि पुणे पुराभिलेखागार, भारत इतिहास संशोधन मंडळ, पुणे डेक्कन महाविद्यालय पुराभिलेखागार, इ वि का राजवाडे संशोधन मंडळ धुळे

प्रकरण २. इतिहास लेखन शास्त्र पद्धती भाग १

१५

- अ) संशोधन विषयाची निवड आणि समस्या सूत्रण
- ब) गृहितके
- क) संशोधनरूपरेषा तयारी
- ड) नोट्स काढणे
- इ) ऐतिहासिक संशोधनात संगणकाचा उपयोग

प्रकरण ३. इतिहास लेखन शास्त्र पद्धती भाग २

१५

- अ) बहिर्गत परीक्षण
- ब) अंतर्गत परीक्षण
- क) इतिहासाचा अन्वयार्थ
- ड) निष्कर्ष

प्रकरण ४. इतिहासाचे दृष्टिकोन आणि मुख्य सिद्धांत

१५

- अ) स्त्रीवादी दृष्टीकोन
- ब) स्थानिक आणि मौखिक इतिहास
- क) उत्तर आधुनिकवाद
- ड) ऐतिहासिक संशोधन

Books for Study and Reference:-

1. Bajaj Satish K- History - Its Philosophy, Theory and Methodology, Patiala,1987.
2. Bajaj Satish K- Recent Trends in Historiography; Anmol Publication; New Delhi; 1998.
3. Carr, E. H. - Waht is History?; Macmillan: London. 2000.
4. Collingwood R. G.- The Idea of History, Oxford University Press, London,1973
5. Guha Ranajit; (ed.)- Subaltern Studies, Vol I; Oxford University Press; N.Delhi; 1982.
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9. Majumdar R. C.- Historiography in Modern India, Bombay, 1970.
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11. Mathur L. P. - Historiography and Historians of Modern India – Indian Publication, New Delhi, 1986.
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15. H\$ma B.EM.- B{Vhmg àhUOo H\$m`?, (AZw. bobo {d.Jmo.)H\$m°pYQ>ZoYQ>b àH\$meZ, nwUo.
16. Hw\$bH\$Uu A.am.- _amR>çm\$Mo B{VhmgbolZ, S>m`_S> npãbHo\$eZ, nwUo.
17. खोबरेकर वी. गो.- महाराष्ट्रातील दत्तरखाने
18. gaXogmB© {~.EZ. d BVa- B{VhmgbolZemñi, \S>Ho\$ àH\$meZ, H\$moëhmnya. 1998
19. शांता कोठेकर, इतिहास : तं आण तं वान, साईनाथ काशन, नागपूर
20. जावंदं वांबूरकर, इतिहासातील नवे वाह, डायमंड पब्लिकेशंस, पुणे
21. समाज बोधन पत्रिका आण सटर फॉर टडी इन कचर अँड सोसायटी, इतिहासलेखन
मीमांसा, लोकवाचन मय गृह, मुंबई

MA.II History / SEMESTER-III

Core Course

PG-HIS CC 302 - HISTORY OF INDIA AFTER INDEPENDENCE (PART-I)

Marks:-60+40=100

Credits 04

Total Period:-60

उद्दिष्टे :-

- 1) विद्यार्थ्यांमध्ये इतिहास विषयाची गोडी निर्माण करणे.
- 2) विद्यार्थ्यांना समकालीन काळातील भारताची ओळख करून देणे.
- 3) विद्यार्थ्यांना समकालीन काळातील भारताच्या राजकीय विकासाची ओळख करून देणे.
- 4) विद्यार्थ्यांना समकालीन काळातील भारताच्या परराष्ट्र धोरणाची माहिती देणे.
- 5) समकालीन काळातील भारताच्या आर्थिक विकासाची माहिती देणे.
- 6) समकालीन काळातील भारतातील लोकसंघर्ष व सामाजिक न्यायाच्या चळवळीची ओळख करून देणे.
- 7) भारताच्या अलीकडच्या काळातील प्रगतीची ओळख करून देणे.
- 8) विद्यार्थ्यांना स्पर्धा परीक्षेमध्ये वाहक होण्यासाठी प्रोत्साहन करणे.
- 9) इतिहासाच्या अभ्यासातून विविध दृष्टिकोन आणि संदर्भ उडवले जातील

परिणाम :-

- 1) समकालीन काळातील इतिहासाची संकल्पना आणि अर्थ समजून घेणे.
- 2) समकालीन काळातील भारताच्या इतिहासाची माहिती स्पष्ट करून देणे.
- 3) करियर आणि नोकरी भूमिका अभ्यासक्रम विद्यार्थ्यांमध्ये कौशल्य व संधी विकसित करणे.
- 4) संशोधनाबद्दल आवड निर्माण करणे.
- 5) अभ्यासक्रम संबंधित स्पर्धा परीक्षेसाठी उपयुक्त. उदा, यूपीएससी, एमपीएससी, नेट-सेट, रेल्वे बोर्ड आणि इतर कर्मचारी निवड स्पर्धेमध्ये संबंधी उपयुक्त.
- 6) समकालीन काळातील विविध दृष्टिकोनाचा परिचय करून देणे. 7) विद्यार्थ्यांमध्ये राष्ट्रवादाची भावना विकसित करणे.
- 8) देशाचे जबाबदार नागरिक म्हणून विद्यार्थ्यांमध्ये जागृती आणि विद्यार्थ्यांमध्ये तर्कशुद्ध विचार रुजविणे.

Objectives: -

- 1) **To inculcate the love of history in the students.**
- 2) **Introducing students to History Of Contemporary India.**
- 3) **Introduce students to the Contemporary India political development.**
- 4) **To inform the students about the foreign policy of India in the Contemporary period.**
- 5) **To provide information on the economic development of India in the Contemporary period.**
- 6) **To introduce the people's struggle and social justice movement in post-independence India.**
- 7) **Introducing the recent progress of India.**
- 8) **Encourage students to become carriers in competitive exams.**
- 9) **Different perspectives and contexts will be blown away from the study of history.**

Outcome: -

- 1) **Understand the concept and meaning of Contemporary history.**
- 2) **Explain the history of the Contemporary period.**
- 3) **To develop skills and opportunities in career and job role course students.**
- 4) **Creating a passion for research.**
- 5) **Useful for syllabus related competitive examinations. For example, in UPSC, MPSC, Net-Set, Railway Board and other staff selection competitions.**
- 6) **Introducing various perspectives of Contemporary period.**
- 7) **To develop a sense of nationalism in the students.**
- 8) **To create awareness among the students as responsible citizens of the country and to inculcate rational thinking in the students.**

M.A. HISTORY / SEMESTER – III

Core Course

PG-HIS CC 302: HISTORY OF INDIA AFTER INDEPENDENCE (PART-I)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

UNIT 1 : RISE OF INDEPENDENT INDIA 15

A) Indian Constitution: Main Provisions.

B) Consolidation of India.

C) Reorganization of States.

UNIT 2 : POLITICAL DEVELOPMENT 15

A) Jawaharlal Nehru to Indira Gandhi

B) Emergency: J.P. Movement and Janata Rule

C) Indira Gandhi to Rajiv Gandhi.

D) Rajiv Gandhi to 21st Century.

UNIT 3 : FOREIGN POLICY 15

A) Neighboring Countries: Pakistan, Bangladesh, China, Sri Lanka and Nepal.

B) Relations with Super Powers: America, Russia

C) India's Role in the International Politics.

UNIT 4 : ECONOMIC POLICY 15

A) Planning: Five Years Plan a brief survey.

B) Industrial Growth.

C) Growth of Infrastructure.

D) Economic Reforms since 1991.

सत्र तिसरे

PG-HIS CC 302: स्वातंत्र्योत्तर भारताचा इतिहास (भाग - १)

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण १ : स्वतंत्र भारताचा उदय	१५
अ) राज्यघटना : मुख्य तरतुदी	
ब) भारताचे एकीकरण	
क) राज्यांची पुनर्रचना	
प्रकरण २ : राजकीय विकास	१५
अ) जवाहरलाल नेहरू ते इंदिरा गांधी	
ब) आणीबाणी : जेपी चळवळ आणि जनता राजवट	
क) इंदिरा गांधी ते राजीव गांधी	
ड) राजीव गांधी ते एकविसावे शतक .	
प्रकरण ३: परराष्ट्रीय धोरण	१५
अ) शेजारील राष्ट्रे: पाकिस्तान, बांगलादेश,चीन,श्रीलंका आणि नेपाळ	
ब) महासत्तांशी संबंध : अमेरिका, रशिया	
क) आंतरराष्ट्रीय राजकारणातील भारताची भूमिका	
प्रकरण ४: आर्थिक धोरण	१५
अ) नियोजन : पंचवार्षिक योजनांचा थोडक्यात आढावा	
ब) औद्योगिक विकास	
क) पायाभूत सुविधांचा विकास	
ड) १९९१ पासूनच्या आर्थिक सुधारणा	

Books for Study and Reference :-

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2. HiranmayKarelker, -Independent India : The First Years, Delhi 1998.
3. Jean Dreze and AmartyaSen, - India : Economic Development and Social Opportunity, oxford University Press, N. Delhi. 1996
4. K.S. Singh, ed., Tribal Movements in India, 2 Volumes, N. Delhi 1982
5. Parth Chatterjee, ed., Wages of Freedom: Fifty Years of the Indian Nation –State, Delhi 1998.
6. Paul R. Brass, - The Politics of India Since Independence, Cambridge University Press Delhi.
7. Shashi Tharoor, - India From Midnight to the Millennium, New Delhi,1997.
8. Upendra Baxi and Bhiku Parekh, eds., -Crisis and Change in Contemporary India.
9. V.D. Mahajan, - History of India, Vol-I {1919-1974), Vol-II {1974-1982)
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12. Desai A.R.- Agrarian Struggles in India after Independence, Oxford, New Delhi- 1986.
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14. Singh Yogendra, - Social Change in India, New Delhi 1993.
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16. Rowland John, A History of Sino-Indian Relations.
१७. कोलारकर श.गो., स्वतंत्र भारताचा इतिहास (१९४७-१९८०), श्री मंगेश प्रकाशन, नागपूर
१८. ग्योव्हर-बेल्हेकर, आधुनिक भारताचा इतिहास, एस. चांद.क.प्रकाशन, दिल्ली २००७.
१९. देवळाणकर शैलेंद्र, भारतातील परराष्ट्र धोरण सातत्य आणि स्थित्यंतर, प्रतिमा प्रकाशन, पुणे-२००९
२०. फडके य.दि..विसाव्या शतकातील महाराष्ट्र खंड १ ते ८., मौज प्रकाशन, मुंबई, २००७
२१. वैद्य सुमन कोठेकर शांता, आधुनिक भारताचा इतिहास (१९४७-१९८६), साईनाथ प्रकाशन, नागपूर, २००७
२२. विपिनचंद्र (अनु.पारधी मा. कृ. व इतर), इंडिया अफटर इंडिपेंडन्स, के. सागर, पुणे २००४.
२३. डॉ. पाटील मधुकर, डॉ. अमृतकर सुनील, समकालीन भारत, अथर्व प्रकाशन, जळगाव, २०१६
- २४) कोलारकर श.गो. स्वतंत्र भारताचा इतिहास १९४७-१९८०, श्री मंगेश प्रकाशन, नागपूर, २००४
- २५) गारे गोविंद, आदिवासी वीरपुरुष, श्रीविद्या प्रकाशन, नागपूर १९८६
- २६)) गारे गोविंद, आदिवासी समाज आणि संस्कृती, अमृत प्रकाशन, औरंगाबाद
- २६) दिवाण मोहन देवधन, दिवाण विवेक, भारतातो राज्यांचे राजकारण, विद्या प्रकाशन, नागपूर २००४
- २७) फडके य. दि. विसाव्या शतकातील महाराष्ट्र खंड १ ते ८. मोन प्रकाशन, मुंबई २००७.
- २८)) फडके य. दि., लोकसभा निवडणुका १९५२ ते १९९९ अक्षर प्रकाशन, मुंबई १९९९
- २९)विपिनचंद्र अनु-पारधी मा. कृ. व इतर इंडिया अफटर इंडिपेंडन्स, के सागर, पुणे २००४.
- ३०) भोळे भा.ल.. भारतीय गणराज्यांचे शासन आणि राजकारण, पळापुणे प्रकाशन, नागपूर २००३.
- ३१) डॉ.पवार प्रमोद व इतर (संपादक), महाराष्ट्रातील स्थित्यंतरे, अथर्व पब्लिकेशन्स, जळगाव, २०१२
- ३२) कुलकर्णी, चंपानेरकर असा घडला भारत, रोहन प्रकाशन, पुणे २०१३

M.A. HISTORY / SEMESTER – IV

Core Course

PG-HIS CC 302: HISTORY OF INDIA AFTER INDEPENDENCE (PART-II)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

UNIT 1 : AGRICULTURE 15

**A) Land Reforms: Zamindari abolition, Tenancy Reforms,
Ceiling and Bhoodan Movement.**

B) Green Revolution.

C) Co-operative Movement.

UNIT 2 : PEOPLE'S STRUGGLE AND SOCIAL JUSTICE 15

A) Tribal Movements.

B) Peasant Movements.

C) Labour Movements.

D) Dalit Movements.

E) Women Movements.

UNIT 3 : MAJOR CHALLENGES 15

A) Communalism.

B) Regional Tensions.

C) Naxalist Movements

D) Terrorism

UNIT 4 : TOWARDS NEW MILENIUM 15

A) Education

B) Science and Technology

C) Nuclear Policy

D) Space Science

चतुर्थ सत्र

PG-HIS CC 402: स्वातंत्र्योत्तर भारताचा इतिहास (भाग - २)

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण १ : कृषी

१५

अ) जमीन सुधारणा: जमीनदारी निर्मुलन, कुळपद्धतीत सुधारणा,
कमाल जमीन धारणा आणि भूदान चळवळ

ब) हरितक्रांति

क) सहकार चळवळ

प्रकरण २ : जन संघर्ष व सामाजिक न्याय

१५

अ) आदिवासींच्या चळवळी

ब) शेतकऱ्यांच्या चळवळी

क) कामगार चळवळी

ड) दलित चळवळी

इ) स्त्रियांच्या चळवळी

प्रकरण ३ : प्रमुख आव्हाने

१५

अ) जमातवाद

ब) प्रादेशिक समस्या

क) नक्षलवादी चळवळ

ड) दहशतवाद

प्रकरण ४: नव शतकाकडे वाटचाल

१५

अ) शिक्षण

ब) विज्ञान आणि तंत्रज्ञान

क) अणू धोरण

ड) अवकाश विज्ञान

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2. HiranmayKarelker, -Independent India : The First Years, Delhi 1998.
3. Jean Dreze and AmartyaSen, - India : Economic Development and Social Opportunity, oxford University Press, N. Delhi. 1996
4. K.S. Singh, ed., Tribal Movements in India, 2 Volumes, N. Delhi 1982
5. Parth Chatterjee, ed., Wages of Freedom: Fifty Years of the Indian Nation –State, Delhi 1998.
6. Paul R. Brass, - The Politics of India Since Independence, Cambridge University Press Delhi.
7. Shashi Tharoor, - India From Midnight to the Millennium, New Delhi,1997.
8. Upendra Baxi and Bhiku Parekh, eds., -Crisis and Change in Contemporary India.
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13. Desai Neera & TakkarUsha, - Women in Indian Society, NBT, 2007.
14. Singh Yogendra, - Social Change in India, New Delhi 1993.
15. Jayapalan N., - India & her Neighbors, Atlantic – 2000.
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१७. कोलारकर श.गो., स्वतंत्र भारताचा इतिहास (१९४७-१९८०), श्री मंगेश प्रकाशन, नागपूर
१८. ग्योवर-बेल्हेकर, आधुनिक भारताचा इतिहास, एस. चांद.क.प्रकाशन, दिल्ली २००७.
१९. देवळाणकर शैलेंद्र, भारतातील परराष्ट्र धोरण सातत्य आणि स्थित्यंतर, प्रतिमा प्रकाशन, पुणे-२००९
२०. फडके य.दि..विसाव्या शतकातील महाराष्ट्र खंड १ ते ८., मौज प्रकाशन, मुंबई, २००७
२१. वैद्य सुमन कोठेकर शांता, आधुनिक भारताचा इतिहास (१९४७-१९८६), साईनाथ प्रकाशन, नागपूर, २००७
२२. विपिनचंद्र (अनु.पारधी मा. कृ. व इतर), इंडिया अफ्टर इंडिपेंडन्स, के. सागर, पुणे २००४.
२३. डॉ. पाटील मधुकर, डॉ. अमृतकर सुनील, समकालीन भारत, अथर्व प्रकाशन, जळगाव, २०१६
- २४) कोलारकर श.गो. स्वतंत्र भारताचा इतिहास १९४७-१९८०, श्री मंगेश प्रकाशन, नागपूर, २००४
- २५) गारे गोविंद, आदिवासी वीरपुरुष, श्रीविद्या प्रकाशन, नागपूर १९८६
- २६)) गारे गोविंद, आदिवासी समाज आणि संस्कृती, अमृत प्रकाशन, औरंगाबाद
- २६) दिवाण मोहन देवधन, दिवाण विवेक, भारतातो राज्यांचे राजकारण, विद्या प्रकाशन, नागपूर २००४
- २७) फडके य. दि. विसाव्या शतकातील महाराष्ट्र खंड १ ते ८. मोन प्रकाशन, मुंबई २००७.
- २८)) फडके य. दि., लोकसभा निवडणुका १९५२ ते १९९९ अक्षर प्रकाशन, मुंबई १९९९
- २९)विपिनचंद्र अनु-पारधी मा. कृ. व इतर इंडिया अफ्टर इंडिपेंडन्स, के सागर, पुणे २००४.
- ३०) भोळे भा.ल.. भारतीय गणराज्यांचे शासन आणि राजकारण, पळापुणे प्रकाशन, नागपूर २००३.
- ३१) डॉ.पवार प्रमोद व इतर (संपादक), महाराष्ट्रातील स्थित्यंतरे, अथर्व पब्लिकेशन्स, जळगाव, २०१२
- ३२) कुलकर्णी, चंपानेरकर असा घडला भारत, रोहन प्रकाशन, पुणे २०१३

M.A. HISTORY / SEMESTER – III Core Course

PG-HIS CC 303: MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART-I)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

उद्दिष्टे:

1. मध्ययुगीन महाराष्ट्राच्या इतिहासाचा अभ्यास करण्यासाठी उपयुक्त असलेल्या विविध स्रोतांची विद्यार्थ्यांना ओळख करून देणे.
2. विद्यार्थ्यांना मराठ्यांच्या प्रशासकीय व्यवस्थेची माहिती करून देणे.
3. मध्ययुगीन महाराष्ट्रातील लष्करी, न्यायिक व्यवस्था विद्यार्थ्यांना समजाऊन देणे.
4. विद्यार्थ्यांना मध्ययुगीन महाराष्ट्राच्या सामाजिक-धार्मिक स्थितीची ओळख करून देणे.
5. विद्यार्थ्यांना मराठ्यांच्या आर्थिक स्थितीची जाणीव करून देणे.
6. मध्ययुगीन महाराष्ट्रातील कला आणि स्थापत्यशास्त्राच्या विकासाची विद्यार्थ्यांना जाणीव करून देणे.

परिणाम:

1. मध्ययुगीन महाराष्ट्राच्या इतिहासाचा अभ्यास करण्यासाठी विविध स्रोत समजतील.
2. मध्ययुगीन महाराष्ट्रातील राजेपदाचा सिद्धांत आणि राज्याचे स्वरूप ज्ञात होईल.
3. मराठ्यांच्या अधिपत्याखालील प्रशासन व्यवस्थेची माहिती मिळेल.
4. मध्ययुगीन महाराष्ट्रातील लष्करी आणि न्यायिक व्यवस्था समजेल.
5. महसूल, उद्योगधंदे, व्यापार, चलन आणि पेढी व्यवस्था इ. च्या विशेष संदर्भात मध्ययुगीन महाराष्ट्राची आर्थिक स्थिती समजेल.
6. मध्ययुगीन महाराष्ट्रातील ग्रामीण समाजातील जात्याधारित सरंजामी व्यवस्था, सामाजिक स्तरीकरण, महिलांचे स्थान आणि शिक्षण याबाबत माहिती होईल.
7. मध्ययुगीन महाराष्ट्रातील विविध कला, स्थापत्य आणि भाषा यांचा विकास ज्ञात होईल..

Learning Objectives:

1. Introduce students the various sources useful to study the History of Medieval Maharashtra.
2. Aware students to the administrative system of the Marathas.
3. Enable the students to understand Military, Judiciary system of Medieval Maharashtra.
4. Introduce students the socio-religious condition of medieval Maharashtra.
5. Aware students to the economic condition of the Marathas.
6. Know the students the development of Arts, architecture and Language during Medieval Maharashtra.

Outcomes:

1. Perceive various sources to study History of Medieval Maharashtra.
2. Comprehend theory of kingship and nature of state in the Medieval Maharashtra.
3. Understand the general structure of administration under the Marathas.
4. Perceive the Military and Judicial system in the Medieval Maharashtra.
5. Comprehend Economic condition with special reference to Agriculture, industries, trade, currency and banking.
6. Understand the Social stratification in village community and position of women, education system in Medieval Maharashtra.
7. Perceive the development of Arts, Architecture and Language during Medieval Maharashtra.

M.A. HISTORY / SEMESTER – III

Core Course

PG-HIS CC 303: MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART-I)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

Unit 1. Sources and background of Medieval Maharashtra 15

- a) Political background of Medieval Maharashtra: a brief review
- b) Sources: i. Archaeological
 - ii. Literary.
 - iii. Foreign travellers accounts.

Unit 2. Administration: 15

- a) Theory of Kingship.
- b) Concept of Maratha state.
- c) Central and Provincial administration.
- d) Village Administration.

Unit 3. Military system 15

- a) Infantry.
- b) Cavalry.
- c) Navy.
- d) Maratha war strategy.

Unit 4. Judiciary system 15

- a) Sources of law.
- b) Judicial structure: institutions and procedure.
- c) Crime and punishment.
- d) Merits and demerits of judiciary system.

.....

सत्र तिसरे

PG-HIS CC 303: मध्ययुगीन महाराष्ट्र: संस्था आणि संकल्पना (भाग 1)

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण- १. मध्ययुगीन महाराष्ट्राच्या इतिहासाची पार्श्वभूमी आणि इतिहासाची साधने १५

अ. राजकीय पार्श्वभूमी: थोडक्यात आढावा.

ब.साधने: i. पुरातत्वीय

ii. वाङ्मयीन

iii.परकीय प्रवाशांचे वृत्तान्त

प्रकरण- २. प्रशासन

१५

अ. राजपदाचा सिद्धांत

ब. मराठा राज्याची संकल्पना

क. केंद्रीय व प्रांतिक प्रशासन

ड. ग्रामप्रशासन

प्रकरण- ३. लष्करी व्यवस्था

१५

अ. पायदळ

ब. घोडदळ

क. आरमार

ड. मराठ्यांचे युद्धतंत्र

प्रकरण- ४. न्यायव्यवस्था

१५

अ. कायद्याचे स्रोत

ब. न्यायालयीन रचना: न्यायसंस्था व कार्यपद्धत

क. गुन्हे आणि शिक्षा

ड. न्यायव्यवस्थेचे गुणदोष

Books for study and reference:

English:

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मराठी:

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२. भावे वा, कृ., पेशवेकालीन महाराष्ट्र, वरदा प्रकाशन पुणे, १९३५ पुनर्मुद्रित २०१०.
३. चिटणीस के. एन., मध्ययुगीन संकल्पना आणि संस्था (भाग १ते४), पुणे, १९८६.
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५. गर्गे स. मा., मराठी रियासत (८ खंड), पॉप्युलर प्रकाशन, पुणे, २०१०.
६. गायकवाड आर. डी. व इतर, मराठेकालीन संस्था व विचार, फडके बुकसेलर्स, १९८७.
७. जोशी शं. ना., अर्वाचीन महाराष्ट्रातील इतिहासकालीन राज्यकारभाराचा इतिहास भाग १, पुणे विद्यापीठ प्रकाशन, १९५९.
८. खोबरेकर व्ही.जी., महाराष्ट्राचा इतिहास, मराठा कालखंड १७०७ ते १८१८, मुंबई, १९८८.
९. कुलकर्णी अ.रा., शिवकालीन महाराष्ट्र, राजहंस प्रकाशन, पुणे, १९९४, पुनर्मुद्रण २००४
१०. लांब, डॉ. व्यंकटेश, पेशवेकालीन न्यायव्यवस्था, चिन्मय प्रकाशन, औरंगाबाद, २००६.
११. महाजन टी. टी., शिवछत्रपतींची न्यायनीती, शुभदा- सारस्वत प्रकाशन, पुणे, १९९९.
१२. पिसुर्लेकर पांडुरंग सखाराम, पोर्तुगीजांच्या दप्तरातील मराठ्यांचा इतिहास, पुणे विद्यापीठ, मुद्रणालय, पुणे, १९६७.
१३. सावंत बी.बी., साळुंखे टी.डी., ऐतिहासिक कागदपत्रे व स्थळे, मेहता पब्लिशिंग हाऊस, पुणे, १९९२.
१४. सेन सुरेंद्रनाथ (अनु.कुलकर्णी विजया) मराठ्यांची प्रशासन व्यवस्था, मरासासंमं, मुंबई, २००३.

M.A. HISTORY / SEMESTER – IV

Core Course

PG-HIS CC 403: MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART-II)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

Unit 1. Social Condition.	15
a) Social stratification in village community.	
b) Caste based feudalism and <i>Vethbigari</i> .	
c) Position of Women.	
d) Education.	
Unit 2. Economic Condition.	15
a) Agrarian system, Land revenue system	
b) Industries.	
c) Trade: Inland and foreign trade.	
d) Currency and Banking	
e) Urbanisation.	
Unit 3. Religious condition	15
a) Varkari Sampradaya.	
b) Ramdasi Sampradaya.	
c) Mahanubhav Sampradaya.	
Unit 4. Arts, Architecture and Languages	15
a) Visual art: Architecture, Painting and Sculpture.	
b) Folk art: Lavani, Tamasha, Powada, Bharud and other folk dances.	
c) Languages.	

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चतुर्थ सत्र

PG-HIS CC 403: मध्ययुगीन महाराष्ट्र: संस्था आणि संकल्पना (भाग 2)

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण १. सामाजिक परिस्थिती

१५

- अ. ग्रामीण सामाजिक रचना
- ब. जात्याधारित सरंजामदारी आणि वेठबिगारी
- क. स्त्रियांची स्थिती
- ड. शिक्षण

प्रकरण. 2 आर्थिक परिस्थिती:

१५

- अ. शेती व्यवस्था, जमीन महसूल पद्धती
- ब. उद्योगधंदे
- क. व्यापार: अंतर्गत व परकीय
- ड. चलन आणि पेढी व्यवस्था
- ई. नागरिकीकरण

प्रकरण ३. धार्मिक परीस्थिती

१५

- अ. वारकरी संप्रदाय
- ब. रामदासी पंथ
- क. महानुभाव पंथ

प्रकरण ४. कला, स्थापत्य आणि भाषा

१५

- अ. दृककला: स्थापत्य, चित्रकला, शिल्पकला
- ब. लोककला: लावणी, तमाशा, पोवाडा, भारुड व इतर लोककला
- क. भाषा

Books for study and reference:

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2. Chitanis K. N., Socio-Economic aspects of Medieval India, 1979.
3. Das Dipakranjan, Economic History of the Deccan, Munshiram Manoharlal, Delhi, 1969.
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१. अत्रे त्रिं. ना., गावगाडा, वरदा प्रकाशन, पुणे, १९९१.
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४. भावे वा, कृ., शिवकालीन महाराष्ट्र, वरदा प्रकाशन पुणे, १९३५ पुनर्मुद्रित २०१०
५. भावे वा, कृ., पेशवेकालीन महाराष्ट्र, वरदा प्रकाशन पुणे, १९३५ पुनर्मुद्रित २०१०.
६. चिटणीस के. एन., मध्ययुगीन संकल्पना आणि संस्था (भाग १ते४), पुणे, १९८६.
७. गवळी पी. ए., पेशवेकालीन गुलामगिरी व अशुशयता, प्रचार प्रकाशन, कोल्हापूर, १९९०.
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९. गर्गे स. मा., मराठी रियासत (८ खंड), पॉप्युलर प्रकाशन, पुणे, २०१०.
१०. गायकवाड आर. डी. व इतर, मराठेकालीन संस्था व विचार, फडके बुकसेलर्स, १९८७.
११. जोशी शं. ना., मराठेकालीन समाजदर्शन, पुणे, १९६०.
१२. कठारे अनिल, घोडके जयश्री, शिवकालीन महाराष्ट्र, अल्फा पब्लिकेशन, नांदेड, २००८.
१३. खोबरेकर व्ही.जी., महाराष्ट्राचा इतिहास, मराठा कालखंड १७०७ ते १८१८, मुंबई, १९८८.
१४. कुलकर्णी अ.रा., मराठे आणि महाराष्ट्र, डायमंड प्रकाशन, पुणे, २००७.
१५. कुलकर्णी अ.रा., शिवकालीन महाराष्ट्र, राजहंस प्रकाशन, पुणे, पुनर्मुद्रण २००४
१६. गोसावी रा. रा., पाच भक्तीसंप्रदाय, मोघे प्रकाशन, पुणे, १९७४.
१७. ओतुरकर आर. व्ही., पेशवेकालीन सामाजिक व आर्थिक पत्रव्यवहार भाईसंमं, पुणे, १९५०
१८. पेंडसे शं. दा., महाराष्ट्राचा सांस्कृतिक इतिहास, सुविचार प्रकाशन मंडळ, नागपूर, १९५१.
१९. शेणोलीकर ह. श्री., देशपांडे प्र. न., महाराष्ट्राचा सामाजिक-सांस्कृतिक इतिहास, केसागर प्रकाशन, पुणे, २००९

M.A. HISTORY / SEMESTER – III

Core Course PG-HIS DSE 304: A

MODERN MAHARASHTRA (PART-I)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

उद्दिष्ट्ये-

- 1) स्थानिक इतिहास म्हणून आधुनिक महाराष्ट्राच्या इतिहासाविषयी आवड निर्माण करणे.
- 2) महाराष्ट्रातील विविध राजकीय व सामाजिक विचारधारेचा अभ्यास करणे.
- 3) विद्यार्थ्यांला आधुनिक महाराष्ट्राच्या इतिहासाचा विश्लेषणात्मक दृष्टीकोनातून अभ्यास करता यावा हा या अभ्यासक्रमाचा उद्देश आहे.
- 4) महाराष्ट्रातील सातत्य आणि बदल यांच्यातील द्वंद्वात्मक संबंध विद्यार्थ्यांच्या निदर्शनास आणण्यासाठी व विद्यार्थ्यांमध्ये संशोधनात्मक जाणीव निर्माण करणेसाठी प्रयत्न करणे.
- ५) महाराष्ट्रातील संरचनात्मक बदलांना हातभार लावणाऱ्या कल्पना, संस्था, शक्ती आणि चळवळींवर प्रकाश टाकणे.

Objective

- 1) To create interest in the history of Modern Maharashtra as a local history.
- 2) To study of various political and social ideology in Maharashtra.
- 3) The purpose of the course is to enable the student to study the history of Modern Maharashtra from an analytical perspective.
- 4) To strive to bring to the notice of the students the dialectical relationship between continuity and change in Maharashtra and to create research awareness among the students.
- ५) To highlight the ideas, institutions, forces and movements that contributed to the structural changes in Maharashtra.

M.A. HISTORY / SEMESTER – III

Core Course

PG-HIS DSE 304: A

MODERN MAHARASHTRA (PART-I)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

UNIT- 1 BACAGRAOUND OF MAHARASHTRA BEFORE BRITISH RULE	15
A) Political	
B) Religious	
C) Social	
D) Economic	
UNIT- 2 : BRITISH POLICIES IN MAHARASHTRA	15
A) Administrative and Land Revenue Policy	
B) Education Policy	
C) Printing and Newspaper	
D) The work of Christian Missionaries	
UNIT 3 : ANTY- BRITISH RULE RESISTANCE	15
A) Resistance of Tribal's of Khandesh against British Rule.	
B) Uprising of Beed and Uprising of Hatkars in Nanded District.	
C) Uprising of Kittur, Ramoshi, Uprising of Savantwadi, Uprising of Gadkari of Kolhapur,	
D) The role of Maharashtra in the Revolt of 1857 and the Deccan riots.	
UNIT 4 REFORMER AND REFORMIST MOVEMENT IN MAHARASHTRA	15
A) Reformers- Balshshasri Jambhekar, Dadoba Pandurang Tarkhadkar, Bhau Daji Lad, Gopal Hari Deshmukh, Vishnubuva Brahmachari, Gopal Ganesh Agarkar, Vitthal Ramji Shinde, Dhondo Keshav Karve, Mahadev Govind Ranade	
B) Prarthana Samaj, Arya Samaj, Satyashodhak Samaj	

सत्र तिसरे

PG-HIS DSE 304 A

आधुनिक महाराष्ट्र : (भाग 1)

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण १ : ब्रिटीश सत्तेपुर्वीची महाराष्ट्राची पार्श्वभूमी	१५
अ) राजकीय	
ब) धार्मिक	
क) सामाजिक	
ड) आर्थिक	
प्रकरण २ : ब्रिटीशांची महाराष्ट्रातील धोरणे	१५
अ) प्रशासकिय आणि जमीन महसूल धोरण	
ब) शिक्षण धोरण	
क) मुद्रण आणि वृत्तपत्रे	
ड) ख्रिस्ती मिशनरिंचे कार्य	
प्रकरण ३ : ब्रिटीश सत्ते विरोधात संघर्ष	१५
अ) खानदेशातील आदिवासींचे ब्रिटीश सत्तेविरोधातील प्रतिकार	
ब) बीडचा उठाव आणि नांदेड जिल्ह्यातील हटकरांचा उठाव	
क) किचुर व रामोश्यांचे उठाव, सावंतवाडीचा उठाव, कोल्हापूरच्या गडक-यांचा उठाव	
ड) १८५७ च्या उठावात महाराष्ट्राची भूमिका आणि दक्खन दंगे	
प्रकरण ४ : महाराष्ट्रातील सुधारक आणि सुधारणावादी चळवळी	१५
अ) सुधारक:- बाळशास्त्री जांभेकर, दादोबा पाडुरंग तर्खडकर, भाऊ दाजी लाड, गोपाल हरी देशमुख, विष्णूबुवा ब्रह्मचारी, गोपाळ गणेश आगरकर, विठ्ठल रामजी शिंदे, धोंडो केशव कर्वे, महादेव गोविंद रानडे.	
ब) प्रार्थना समाज, आर्य समाज, सत्यशोधक समाज.	

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- 18) Omvedt, Gail, 'Dalits and Democratic Revolution' - Dr. Ambedkar & the Dalit Movement in colonial India, Sage Publication, New Delhi, 1994.
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- १) शर्मा सुधीर, पुणेकर विजया, ज्ञानोदायाच्या पानातून महाराष्ट्रातील प्रबोधनाचा मागोवा, ज्ञानोदय ट्रस्ट, अहमदनगर.
- २) चपळगावकर नरेंद्र, सावलीच्या शोधत, मौज, मुंबई.
- ३) दीक्षित राजा, एकोणिसाव्या शतकातील महाराष्ट्र: मध्यमवर्गाचा उदय, डायमंड, पुणे.
- ४) फडके य. दी., विसाव्या शतकातील महाराष्ट्र, खंड १,२,३,४ के सागर., पुणे.
- ५) खोबरेकर वि. गो., महाराष्ट्रातील स्वतंत्र लढे, महाराष्ट्र राज्य साहित्य संस्कृती मंडळ, मुंबई.
- ६) सहश्रुद्धे पु. ग., महाराष्ट्र संस्कृती, कोन्टीनेन्टल, पुणे.
- ७) सरदार ग. बा., महाराष्ट्र साहित्य आणि संस्कृती, कोन्टीनेन्टल, पुणे.
- ८) गाठाळ एस. एस., आधुनिक महाराष्ट्राचा इतिहास, कैलास, औरंगाबाद.
- ९) डहाके वसंत आबाजी, मराठी साहित्य, इतिहास आणि संस्कृती, पाप्यूलर, पुणे.
- १०) वाळिंबे रा. शं., एकोणिसाव्या शतकातील महाराष्ट्राची सामाजिक पुनार्घटना, पाप्यूलर, पुणे.
- ११) प्रतिभा रानडे, स्त्रीप्रश्नांची चर्चा: एकोणिसावे शतक, पद्मगंधा, पुणे.
- १२) पाध्ये आणि टिकेकर, आजकालचा महाराष्ट्र, डायमंड, पुणे.
- १३) फडके य. दी. केशवराव जेधे, श्री विद्या, पुणे.
- १४) मालसे स. ग. गतशतक शोधितांना, प्रतिमा प्रकाशन, पुणे.
- १५) पंडित नलिनी, महाराष्ट्रातील राष्ट्रवादाचा विकास, नलिनी पंडीत, मुंबई.
- १६) पियोळकर अ. का. (संपा), रावबहादूर दादोबा पांडुरंग, पियोळकर, पुणे.
- १७) बेडेकर दी. के. महाराष्ट्रातील मार्क्सवादी तत्वमीमांसा, नवभारत वाई.
- १८) भावे वा. कृ., पेशवेकालीन महाराष्ट्र, पुणे.
- १९) गोखले बी. एन. महर्षी कर्वे, पाप्यूलर, मुंबई.

- २०) बगाडे उमेश, महाराष्ट्रातील प्रबोधन: जाती वर्ग प्रभुत्व, सुगावा, पुणे.
- २१) ओम्बेत गेल, विसाव्या शतकातील सांस्कृतिक बंड, सुगावा, पुणे.
- २२) व्होरा राजेंद्र(संपा.), आधुनिकता आणि परंपरा, प्रतीमा प्रकाशन, पुणे.
- २३) शिंदे वि. रा. माझ्या आठवणी वा अनुभव, भाग १,२,३ लेखन विचार भांडार, पूना.
- २४) शिंदे वि. रा., भारतीय अस्पृश्यतेचा प्रश्न, नवभारत ग्रंथ माला, पुणे.
- २५) पाटील हिराजी, महर्षी शिंदे चरित्र वा कार्य, ठोकाज प्रकाशन पुणे.

M.A. HISTORY / SEMESTER – IV

Core Course

PG-HIS DSE 404: A

MODERN MAHARASHTRA (PART-II)

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

UNIT 1: RISE OF NATIONALISM IN MAHARASHTRA 15

- A) Early political organization
 - 1) Bombay Association
 - 2) Sarvajanik Sabha
- B) Indian National Congress and Moderate group
- C) The rise of extremism and Lokmanya Tilak

UNIT 2 : REVOLUTIONARY MOVEMENT IN MAHARASHTRA 15

- A) Vasudev Balvant Fadke
- B) Chafekar Club, Shivaji Club
- C) Abhinav Bharat and Revolutionary
- D) Patri Sarkar and Krantisinha Nana Patil

UNIT 3: INDEPENDENT MOVEMENT IN MAHARASHTRA 15

- A) Non-cooperation Movement
- B) Civil Disobedience Movement
- C) Individual Satyagraha Movement
- D) Quit India Movement

UNIT 4 ; SOCIAL MOVEMENTS IN MAHARASHTRA 15

- A) Non-Brahmin Movement: - Chhatrapati Rajarshi Shahu, Keshavrao Jedhe, Dinkarrao Jawalkar, Bhaskarrao Jadhav
- B) Dalit Movement: - Karmaveer Bhaurao Patil, Vitthal Ramaji Shinde and Dr. Babasaheb Ambedkar

चतुर्थ सत्र

PG-HIS DSE 404 A

आधुनिक महाराष्ट्र : (भाग 2)

गुण : ६०

श्रेयांक ०४

तासिका: ६०

प्रकरण १ : महाराष्ट्रातील राष्ट्रवादाचा उदय	१५
अ) प्रारंभिक राजकीय संघटना	
१) बॉम्बे असोशिएशन	
२) सार्वजनिक सभा	
ब) भारतीय राष्ट्रीय काँग्रेस आणि मवाळ गट	
क) जहालवादाचा उदय आणि लोकमान्य टिळक	
प्रकरण २ महाराष्ट्रातील क्रांतिकारी चळवळ	१५
अ) वासुदेव बळवंत फडके	
ब) चाफेकर क्लब, शिवाजी क्लब	
क) अभिनव भारत आणि क्रांतिकारक	
ड) पत्रीसरकार आणि क्रांतीसिंह नाना पाटील	
प्रकरण ३ महाराष्ट्रातील स्वातंत्र्य चळवळ	१५
अ) असहकार चळवळ	
ब) सविनय कायदेभंग चळवळ	
क) वैयक्तिक सत्याग्रह आंदोलन	
ड) छोडो भारत चळवळ	
प्रकरण ४ महाराष्ट्रातील सामाजिक चळवळ	१५
अ) ब्राह्मणेत्तर चळवळी:- राजर्षी शाहू, केशवराव जेधे, दिनकरराव जवळकर, भास्करराव जाधव	
ब) दलित चळवळ : कर्मवीर भाऊराव पाटील, विठ्ठल रामजी शिंदे आणि डॉ बाबासाहेब आंबेडकर	

Books for study and Reference

- 1) Suntankar B.R., Nineteenth Century History of Maharashtra, , Popular Prakashan, Bombay.
- 2) Deshpande Aevind, Western India: History, Society and Culture, Itihas sanshidhak Mahamandal, Maharashtra .
- 3) Shinde V. R., Renaissance in Western India, Himalaya publishing House, Delhi.
- 4) Social Life in Maharashtra Under the Peshvas, Papular, Mumabi.
- 5) Oliver Godsmark, Citizenship, Community and Democracy in India: From Bombay to Maharashtra, Roultege, London.
- 6) Neena Ambre, Forest, Ecology, in India : Colonial Maharashtra, Stree, London.
- 7) Kuber Girish, Renaissance State: The unwritten story of the Making of Maharashtra, Harper Collins, India.
- 8) Ambedkar B.R., State and Minorities, Thakkar & Thakkar, Mumbai 1942.
- 9) Chaudhari, K.K, Maharashtra and the Indian Freedom Struggle, Govt. of Maharashtra, Bombay 1985. 10) . Chaudhari K.K., Maharashtra State Gazetteers, History of Mumbai, Modern Period, Gazetteers Department, Government of Maharashtra, Mumbai, 1987.
- 11) David M.D., Bombay the City of Dreams (A History of the First city in India) Himalaya Publishing House, Bombay, 1995.
- 12) Dossal Marriam, Imperial Designs and Indian Realities: The Planning of Bombay City – 1845-1875, Oxford University Press. Bombay 1991.
- 13) Edwardes S.M., Gazetteer of Mumbai City and Island-Vols. III, The Times Press, Mumbai, 1990-1910.
- 14) Kadam, Manohar, Bhartiya Kamgar chalvalinche JanakNarayan Meghaji Lokhande, Akshar Prakashan, Bombay. Keer Dhananjay, Dr. Babasaheb Ambedkar: Life and Mission, Popular publication, Mumbai.
- 15) Khade V. K., British Rule and Dr. B.R. Ambedkar: The Movement for the Upliftment of the Downtrodden, Kaushalya Prakashan Aurangabad 2011.
- 16) Lederle Mathew, Philosophical Trends in Modern Maharashtra, Popular Prakashan, Bombay, 1976 17) Morris M. D., The Emergence of Indian Labour in India: A Study of Bombay Cotton Mills, 1854-1947, Oxford University Press. Bombay 1965
- 18) Omvedt, Gail, 'Dalits and Democratic Revolution' - Dr. Ambedkar & the Dalit Movement in colonial India, Sage Publication, New Delhi, 1994.
- 19) Phadke Y.D., Social Reformers of Maharashtra, Maharashtra Information Centre, New Delhi 1975. 20) Phadke Y.D., Visavya Shatakatil Maharashtra, Mauj Prakashan, Mumbai.
- 21) Patel S. and Thorner A., Bombay Mosaic of Modern Culture, OUP. Bombay 1995
- 22) Patel S. and Thorner A., Bombay, Metaphor for Modern India, OUP. Bombay 1996 161
- 23) Suntankar B.R., Nineteenth Century History of Maharashtra,. Popular Prakashan Bombay 1988.
- १) शर्मा सुधीर, पुणेकर विजया, ज्ञानोदायाच्या पानातून महाराष्ट्रातील प्रबोधनाचा मागोवा, ज्ञानोदय ट्रस्ट, अहमदनगर.
- २) चपळगावकर नरेंद्र, सावलीच्या शोधत, मौज, मुंबई.
- ३) दीक्षित राजा, एकोणिसाव्या शतकातील महाराष्ट्र: मध्यमवर्गाचा उदय, डायमंड, पुणे.
- ४) फडके य. दी., विसाव्या शतकातील महाराष्ट्र, खंड १,२,३,४ के सागर., पुणे.
- ५) खोबरेकर वि. गो., महाराष्ट्रातील स्वतंत्र लढे, महाराष्ट्र राज्य साहित्य संस्कृती मंडळ, मुंबई.
- ६) सहश्रुद्धे पु. ग., महाराष्ट्र संस्कृती, कोन्टीनेन्टल, पुणे.
- ७) सरदार ग. बा., महाराष्ट्र साहित्य आणि संस्कृती, कोन्टीनेन्टल, पुणे.
- ८) गाठाळ एस. एस., आधुनिक महाराष्ट्राचा इतिहास, कैलास, औरंगाबाद.
- ९) डहाके वसंत आबाजी, मराठी साहित्य, इतिहास आणि संस्कृती, पाप्यूलर, पुणे.
- १०) वाळिंबे रा. शं., एकोणिसाव्या शतकातील महाराष्ट्राची सामाजिक पुनार्घटना, पाप्यूलर, पुणे.
- ११) प्रतिभा रानडे, स्त्रीप्रश्नांची चर्चा: एकोणिसावे शतक, पद्मगंधा, पुणे.
- १२) पाध्ये आणि टिकेकर, आजकालचा महाराष्ट्र, डायमंड, पुणे.
- १३) फडके य. दी. केशवराव जेधे, श्री विद्या, पुणे.
- १४) मालसे स. ग. गतशतक शोधितांना, प्रतिमा प्रकाशन, पुणे.
- १५) पंडित नलिनी, महाराष्ट्रातील राष्ट्रवादाचा विकास, नलिनी पंडीत, मुंबई.
- १६) पियोळकर अ. का. (संपा), रावबहादूर दादोबा पांडुरंग, पियोळकर, पुणे.
- १७) बेडेकर दी. के. महाराष्ट्रातील मार्क्सवादी तत्वमीमांसा, नवभारत वाई.
- १८) भावे वा. कृ., पेशवेकालीन महाराष्ट्र, पुणे.
- १९) गोखले बी. एन. महर्षी कर्वे, पाप्यूलर, मुंबई.

- २०) बगाडे उमेश, महाराष्ट्रातील प्रबोधन: जाती वर्ग प्रभुत्व, सुगावा, पुणे.
- २१) ओम्बेत गेल, विसाव्या शतकातील सांस्कृतिक बंड, सुगावा, पुणे.
- २२) व्होरा राजेंद्र(संपा.), आधुनिकता आणि परंपरा, प्रतीमा प्रकाशन, पुणे.
- २३) शिंदे वि. रा. माझ्या आठवणी वा अनुभव, भाग १,२,३ लेखन विचार भांडार, पूना.
- २४) शिंदे वि. रा., भारतीय अस्पृश्यतेचा प्रश्न, नवभारत ग्रंथ माला, पुणे.
- २५) पाटील हिराजी, महर्षी शिंदे चरित्र वा कार्य, ठोकाज प्रकाशन पुणे.

M.A. HISTORY / SEMESTER – III

Core Course

PG-HIS DSE 304: B

INTRODUCTION TO HISTORICAL TOURISM

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

Course Outcomes:

- Understand the importance of Tourism resources through the development and promotion of Tourism.
- Syllabus Helpful for Competitive Examination aspirants.
- Understand the history of Tourism.
- Understand the various cultural and natural resources of India
- This course introduces the concept of tourism, its, growth and development.
- Career and Job Oriented Syllabus
- To Develop the Skill and Opportunities among the Students
- To create awareness and interest about Socio-economic and Cultural Heritage and History of India
- To create awareness about World History
- To create awareness about research
- Syllabus related to tours & excursion, visits & Report writing.

अभ्यासक्रम परिणाम:

- पर्यटनाचे - वाढ व विकास यांचे महत्व अधोरेखित करणे.
- सर्वस्पर्धा परीक्षा इच्छुकांसाठी उपयुक्त अभ्यासक्रम.
- पर्यटन इतिहासाचे महत्व अधोरेखित होते.
- भारतातील विविध सांस्कृतिक व नैसर्गिक संसाधनाची माहिती करणे.
- प्रस्तुत अभ्यासक्रम पर्यटन उदय व विकास- परिचय करणे.
- व्यवसाय व नोकरी अभिमुख अभ्यासक्रम.
- कौशल्य निर्माण करणे व संधी उपलब्ध करून देणे.
- सामाजिक, आर्थिक व सांस्कृतिक वारसा – या बदल जागृती निर्माण करणे.
- जागतिक इतिहास बदल जागृती निर्माण करणे.
- संशोधनाबद्दल जागृती निर्माण करणे.
- पर्यटन , सहल, संबंधीत अहवाल लेखन कला विकसीत करणे.
-

M.A. HISTORY / SEMESTER – III

Core Course

PG-HIS DSE 304: B

INTRODUCTION TO HISTORICAL TOURISM

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

UNIT 1: TOURISM :CONCEPTS

15

- a) Definition of Tourism.
- b) Scope and Nature of Tourism.
- c) Types of Tourism.
- d) Roll of history in Tourist

UNIT 2: PLANNING

15

- a) Importance of planning in Tourism
- b) Tourism Advertising and Marketing.
- c) Travelling facilities in Tourism.
- d) Accommodation in Tourism.

UNIT3: TOURISTPLACES

15

- a) Cave sand Forts/Important Historical Monuments
- b) Museums and Religious Places.
- c) Hill Stations and Beaches.
- d) Heritage Awareness

UNIT4: TOURISM DEVELOPMENT: Institutions

15

- a) UNWTO
- b) ITDC
- c) MTDC
- d) Tourist Guide

सत्र तिसरे
PG-HIS DSE 304: B
ऐतिहासिक पर्यटनाची ओळख

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण 1 : पर्यटन: संकल्पना	15
अ)पर्यटनाची व्याख्या	
ब) पर्यटनाची व्याप्ती आणि स्वरूप	
क) पर्यटनाचे प्रकार	
ड) पर्यटनात इतिहासाची भूमिका	
प्रकरण 2 : नियोजन	15
अ) पर्यटनातील नियोजनाचे महत्व	
ब) पर्यटन जाहिरात आणि विपणन	
क) पर्यटनात वाहतूक सुविधा	
ड) पर्यटनात निवास व्यवस्था	
प्रकरण 3 : पर्यटन स्थळे	15
अ) लेणी व किल्ले / महत्वाची ऐतिहासिक स्मारके	
ब) वस्तुसंग्रालये व धार्मिक स्थळे	
क)थंड हवेची ठिकाणे व सागरी किनारे	
ड) वारसा विषयक जाणीवा	
प्रकरण 4: पर्यटन विकास संस्था	15
अ) जागतिक पर्यटन संघटना	
ब) भारतीय पर्यटन विकास मंडळ	
क) महाराष्ट्र पर्यटन विकास मंडळ	
ड) पर्यटन मार्गदर्शक	

Books for Study and Reference

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2. Basham A.L. The Cultural History of India. Bhatia A.K., Tourism Development.
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6. Ratnadeep Singh, Dynamics of Historical, Cultural & Heritage Tourist, .Saxena Atul ,New Trends in Tourism & Hotel Industry.
7. खतीब के.ए., पर्यटन भूगोल, मेहता प्रकाशन ,2006.
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M.A. HISTORY / SEMESTER – IV

Core Course

PG-HIS DSE 404: B

INTRODUCTION OF INDIAN ARCHIVES

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

OBJECTIVES

- 1. Students are made familiar with Archives.**
- 2. To make acquainted with moderns means of Ancients, Medieval and Modern History.**
- 3. Students are made capable with Objective History Writing.**
- 4. The importance of Archives are introduced to the students.**
- 5. To take initiative for promoting and for establishing as well as developing archives at local level.**

M.A. HISTORY / SEMESTER – IV

Core Course

PG-HIS DSE 404: B

INTRODUCTION OF INDIAN ARCHIVES

MARKS: 60+40=100

CREDITS 04

TOTAL PERIODS=60

UNIT 1: INTRODUCTION OF ARCHIVES

15

- A) Background of Archives
- B) Archival: Meaning and Definition
- C) Nature and Structure of Archives
- D) Sources: Ancient, Medieval and Modern History

UNIT 2: NATIONAL ARCHIVES, NEW DELHI AND REGIONAL OFFICES

15

- A) Classification of Archival
- B) Contribution of National Archives
- C) Policy regarding Archival
- D) Regional Offices: Bhopal, Jaipur and Pondicherry

UNIT 3: ARCHIVES IN MAHARASHTRA

15

- A) Department of Archives, Mumbai, Pune Archives (Peshva Daftar) Pune
- B) Bharat Itihas Sanshodhan Mandal, Pune
- C) Kolhapur Archives, Kolhapur
- D) Archives in Khandesh: I.V.K. Rajwade Itihas sanshodhan Mandal, Dhule,
Samarth Vagdevta Mandir, Dhule
Khandesh Archives, KBCNMU, Jalgaon

UNIT 4: PRESERVATION OF ARCHIVES

15

- A) Legislation of Archives
- B) Historical Importance of Archives

चतुर्थ सत्र

PG-HIS DSE 404 B

भारतीय दफ्तरखान्यांची ओळख

गुण :६०

श्रेयांक ०४

तासिका:६०

प्रकरण १: दफ्तरखान्याची ओळख	१५
अ) पुराभिलेखागाराची (दफ्तरखाने) पार्श्वभूमी	
ब) पुराभिलेख: अर्थ आणि व्याख्या	
क) पुराभिलेख: स्वरूप आणि रचना	
ड) साधने: प्राचीन, मध्ययुगीन आणि आधुनिक इतिहास	
प्रकरण २: राष्ट्रीय पुराभिलेखागार, नवी दिल्ली आणि प्रादेशिक कार्यालये	१५
अ) अभिलेख (दस्तावेज) यांचे वर्गीकरण	
ब) राष्ट्रीय पुराभिलेखाराचे योगदान	
क) अभिलेख (दस्तावेज) विषयक धोरण	
ड) प्रादेशिक कार्यालये: भोपाळ, जयपूर आणि पॉन्डेचेरी	
प्रकरण ३: महाराष्ट्रातील पुराभिलेखागार	१५
अ) मुंबई पुराभिलेखागार, मुंबई, पुणे पुराभिलेखागार (पेशवा दफ्तर), पुणे	
ब) भारत इतिहास संशोधन मंडळ, पुणे	
क) कोल्हापूर पुराभिलेखागार, कोल्हापूर	
ड) खानदेशातील पुराभिलेखागार: इ.वि.का.राजवाडे इतिहास संशोधन मंडळ, धुळे, समर्थ वाग्देवता मंदिर, धुळे आणि खानदेश पुराभिलेखागार, क.ब.चौ.उ.म.वि.,जळगाव	
प्रकरण ४: अभिलेखागारांचे जतन	१५
अ) अभिलेखागार विषयक धोरण	
ब) अभिलेखागारांचे ऐतिहासिक महत्व	

Books for Study and References

1. Kunte B. J. (Edi.), The Handbook of the Bombay Archives, Mumbai, 1970
2. Dhawalikar Madhukar, पुराभिलेख विद्या
3. National Archives of India an Introdcion, E-Book, New Delhi
4. Bhattacharya Sabyasachi, Archiving the British Raj, 1858-1947
5. खोबरेकर व्ही. जी., महाराष्ट्रातील दफ्तरखाने: वर्णन आणि तंत्र, मुंबई, १९८८
6. गोखले शोभना लक्ष्मण, पराभिलेख विद्या, कॉन्टीनेन्टल प्रकाशन, पुणे, २००७
7. सरकार दिनेशचंद्र, भारतीय लोकविद्या, कॉन्टीनेन्टल प्रकाशन, पुणे
8. सावंत बी. एस., प्रा. जाधव, मराठ्यांचा प्रशासकीय, सामाजिक आणि आर्थिक इतिहास
9. देशमुख प्रशांत, आधुनिक भारताचा इतिहास
10. गायकवाड, सरदेसाई, हनमाने, ऐतिहासिक कागदपत्रे आणि स्थळे
11. पाटील एन. डी., ऐतिहासिक ऐतिहासिक कागदपत्रे आणि स्थळे
12. लोखंडे आणि जावळे, ऐतिहासिक कागदपत्रे आणि स्थळे
13. देव प्रभाकर, इतिहास एक शास्त्र, कल्पना प्रकाशन, नांदेड
14. गायकवाड, सरदेसाई, हनमाने, इतिहास लेखनशास्त्र, फडके प्रकाशन, कोल्हापूर
15. कोठेकर शांता, इतिहास आणि तंत्र, साईनाथ प्रकाशन, नागपूर

Audit Courses**Sem. III****AC-301(A): Computer Skills****Course Objectives:**

- To inculcate different daily useful computer skills among students.

Unit 1	Elements of Information Technology 1.1 Information Types: Text, Audio, Video, and Image, storage formats 1.2 Components: Operating System, Hardware and Software, firmware 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics	2 hrs
Unit 2	Office Automation-Text Processing 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, ReadingLayout View 2.2 Working with Files: Create New Documents, Open Existing Documents, Save Documents to different formats, Rename Documents, Close Documents 2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins 2.4 Lists: Bulleted and Numbered Lists, 2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Move and Resize Tables, Moving the order of the column and/or rows inside a table, Table Properties 2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents, 2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters 2.8 Types of document files: RTF, PDF, DOCX etc.	5 hrs
Unit 3	Office Automation-Worksheet Data Processing 3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets, 3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells 3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells 3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts	5 hrs
Unit 4	Office Automation- Presentation Techniques and slide shows 4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout 4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes 4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check, Spelling options 4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing row width, Adding a row/column, Deleting a row/column, Combining cells, Splitting a cell, Adding color to cells, To align text vertically in cells, To change table borders, Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slide animation/transitions.	6 hrs
Unit 5	Internet & Applications: 5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing the Internet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers, Uniform resource locator 5.2 Internet Resources: Email, Parts of email,	4 hrs

	<p>5.3 Protecting the computer: Password protection, Viruses, Virus protection software, Updating the software, Scanning files, Net banking precautions.</p> <p>5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services</p> <p>5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing</p> <p>5.6 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware</p>	
Unit 6	<p>Cloud Computing Basics</p> <p>6.1 Introduction to cloud computing</p> <p>6.2 Cloud computing models: SAS, AAS, PAS</p> <p>6.3 Examples of SAS, AAS, PAS (Drop Box, Google Drive, Google Docs, Office 365 Prezi, etc.)</p>	3 hrs
Suggested readings:		
<p>1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & Bartlett Learning, 2010, ISBN: 1449609821, 9781449609825</p> <p>2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: Cengage Learning, 2010, ISBN: 0538472464, 9780538472463</p> <p>3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5, Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552</p> <p>4. Cloud computing online resources</p>		

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC301A.1	Identify their lacunas about some computer skills and try to overcome the same.
AC301A.2	Practice the learned computer skills in real life and do their jobs more effectively.

AC-301(B): Cyber Security		
Course Objectives:		
<ul style="list-style-type: none"> To make students aware of different daily useful cyber security skills/rules. 		
Unit 1	Working Concepts Overview Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet	3 hrs
Unit 2	Security Concepts Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography. Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.	7 hrs
Unit 3	Security Threats and vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Computer crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes	7 hrs
Unit 4	Cryptography Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure	5 hrs
Unit 5	System & Network Security System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.	3 hrs
Unit 6	OS Security Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.	2 hrs
Unit 7	Security Laws and Standards Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.	3 hrs
Suggested readings:		
<ol style="list-style-type: none"> Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon BPB Publication, “Fundamentals of Cyber Security”, MayankBhushan, Rajkumar Singh Rathore , AatifJamshed CreateSpace Independent Publishing Platform, “Cyber Security Basics”, Don Franke, ISBN-13: 978-1522952190ISBN-10: 1522952195 Online references 		

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC301B.1	Practice learned cyber security skills/rules in real life.
AC301B.2	Provide guidance about cyber security skills/rules to their friends, parents and relatives.

Audit Courses Sem. IV AC-401(A): Human Rights		
	Course Objectives: <ul style="list-style-type: none"> To make students aware about human rights and human values. 	
Unit 1	Introduction to Human Rights <ol style="list-style-type: none"> 1.1 Concept of Human Rights 1.2 Nature and Scope of Human Rights 1.3 Fundamental Rights and Fundamental Duties 1.4 Interrelation of Rights and Duties 	6 hrs.
Unit 2	Human Rights in India <ol style="list-style-type: none"> 2.1 Meaning and Significance of : <ol style="list-style-type: none"> 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies. 2.2 Constitutional Provisions for Human Rights 2.3 Declaration of Human Rights 2.4: National Human Rights Commission 	8 hrs.
Unit 3	Human Values <ol style="list-style-type: none"> 3.1: Meaning and Definitions of Values 3.2: Importance of values in the life of Individual 3.3: Types of Values 3.4: Programmes for conservation of Values 	8 hrs.
Unit 4	Status of Social and Economically Disadvantaged people and their rights <ol style="list-style-type: none"> Rights of women and children in the context of Social status The Minorities and Human Rights Status of SC/ST and other Indigenous People in the Indian Scenario 4.4: Human rights of economically disadvantaged Society 	8 hrs.
Suggested readings: <ol style="list-style-type: none"> 1. Human rights education – YCMOU, Nasik 2. Value education – SCERT, Pune 3. Human rights reference handbook – Lucille whare 		

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC401A.1	Practice the learned issues under human rights and human values in real life.
AC401A.2	Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.

AC-401(B): Current Affairs			
		Course Objectives:	
		<ul style="list-style-type: none"> To make students updated about current affairs of India and world. 	
	Title	Content	Hours
Unit 1	itics & Economy	<ul style="list-style-type: none"> National & International Political Activity, Organization. Economy & Business, Corporate world 	08
Unit 2	Awards and recognitions	<ul style="list-style-type: none"> National & International Awards and recognitions Books and authors 	07
Unit 3	ence & Technology	<ul style="list-style-type: none"> Software, Automobile, Space Research New inventions and discoveries 	07
Unit 4	Environment & Sports	<ul style="list-style-type: none"> Summit & conference, Ecology & Climate, Organization. National & International Games, Olympics, commonwealth etc. 	08
Suggested readings (Use recent years' data and current literature):			
<ol style="list-style-type: none"> India 2019, by Publications Division Government of India Manorama Year Book by Philip Mathew, India 2019, Rajiv Maharshi Quick General Knowledge 2018 with Current Affairs Update, Disha Experts General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board. 			

Course Outcomes:

On completion of this course, the student will be able to:

CO No.	CO
AC401B.1	Identify important issues currently/ recently happening in India or world.
AC401B.2	Summarize current affairs regularly.

LIST OF EQUIVALENCE PAPERS:

OLD COURSE	NEW COURSE (W. E. F. 2022-2023)
SEM. III	SEM III
	PG-HIS CC 301 - HISTORIOGRAPHY : TRENDS AND APPROCHES
	PG-HIS CC 302 - HISTORY OF INDIA AFTER INDEPENDENCE (PART-I)
	PG-HIS CC 303 - MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART I)
	SKILL BASED / ELECTIVE COURSE PG-HIS DSE 304 (A) MODERN MAHARASHTRA (PART I) OR PG-HIS DSE 304 (B) INTRODUCTION TO HISTORICAL TOURISM
	AUDIT COURSE AC – 301 C
	AC - 301 D
SEM. IV	SEM IV
	PG-HIS CC 401 - HISTORIOGRAPHY : METHODOLOGY AND THEORIES
	PG-HIS-CC-402 - HISTORY OF INDIA AFTER INDEPENDENCE (Part-II)
	PG-HIS CC 403 - MEDIEVAL MAHARASHTRA : IDEAS AND INSTITUTIONS (PART II)
	SKILL BASED / ELECTIVE COURSE PG-HIS DSE 404 (A) MODERN MAHARASHTRA (PART II) OR PG-HIS DSE 404 (B) INTRODUCTION OF INDIAN ARCHIVES
	AUDIT COURSE AC-401 C
	AC-401 D

Dr. S. C. Amrutkar
Chairman, BOS in History
KBCNMU, Jalgaon

**KAVAYITRI BAHINABAI CHAUDHARI
NORTH MAHARASHTRA UNIVERSITY, JALGAON.**



‘A’ Grade NAAC Re-Accredited (4th Cycle)

**Syllabus for
M.A. Psychology
I & II Years (Semester I to IV)
FACULTIES OF HUMANITIES**

**Curriculum Specifics
(Program Specific Objectives and Outcomes,
Course Objectives and Course Outcomes)**

With effect from Academic Year 2022-2023 for Ist Year
With effect from Academic Year 2023-2024 for IInd Year

**Department of Psychology,
School of Arts & Humanities,
Kavayitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon. 425 001 (M.S.)**

Syllabus Structure under CBCS for PG Courses in the **Department of Psychology,
KBCNMU, Jalgaon Only
2022-23**

**Summary of Distribution of Credits under CBCS Scheme
For
M.A. Psychology
School of Arts & Humanities
[University Campus under Academic Flexibility w.e.f. 2022-23]**

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	08	08	04	08
02	Skill based/ Elective	08	08	08	08
03	Project/ Dissertation	-	-	04	-
04	Audit Courses	02	02	02	02
05	Total Credits	18	18	18	18

Subject Type	Core	Skill based/ Elective	Project/ Dissertation	Audit Courses	Total
Credits	28	32	04	08	72

Total Credits = 72

Programme at a Glance

Name of the Programme (Degree):	M.A. (Psychology)
Faculty:	Humanities
Duration of the Programme:	Two years (four semesters)
Medium of Instruction and Examination:	English, Marathi
Exam Pattern:	60:40 (60 marks University exam and 40 marks continuous internal departmental exam/ assessment)
Passing standards:	40% in each exam separately (separate head of passing)
Evaluation mode:	CGPA
Total Credits of the programme:	72 (32 core credits including 4 credits of dissertation, 32 skill based and elective credits and 08 audit credits)

Programme Objectives (M.A) All

- ❖ To facilitate students to demonstrate a degree of mastery over the area as per their program of specialization at a level higher than requirements in UG programme.
- ❖ To enable students to carry out research/investigation and development work independently to solve critical problems in their respective field
- ❖ To apply a number of strategies for sorting through the applicability of and connections among a range of scholarly approaches to speculate and reconstruct their previous knowledge
- ❖ To prepare students to produce original scholarship that contributes to knowledge in their respective fields
- ❖ To persuade students to compare and validate previous and contemporary development in their respective field of knowledge to generate remedies for contemporary social situation.

Programme Outcomes (M.A) All

After completing the program, the students will be able to-

PO No.	PO	Cognitive level
PO1	Implement connections among approaches to reconstruct previous knowledge	3
PO2	Review and design research proposals/thesis/dissertations independently	4
PO3	Planning of intervention strategies to resolve different psychological issues of clients/patients.	5
PO4	Construct reliable valid tests to assess psychological components	5
PO5	Assessment of various psychological dimensions with the proper use psychological testing.	6

PROGRAMME SPECIFIC OBJECTIVES FOR MA PSYCHOLOGY (POs):

- ❖ To acquaint learners about the role of evidence in the Psychology and how to conduct both quantitative and qualitative Psychological research.
- ❖ To inculcate effective communication, written and oral, about the field of Psychology.
- ❖ To impart substantive knowledge of core areas in Psychology and the ability to think critically about them.
- ❖ To acquaint about the history and evolution of the discipline of Psychology.
- ❖ To develop preparedness for professional study beyond the Master Degree, or for entry into a career in the Psychology.

PROGRAMME SPECIFIC OUTCOMES FOR MA PSYCHOLOGY (PSOs):

After completion of the M. A. Psychology programme, the students will be able to:

PSOs	Programme Outcomes	Cognitive Level
PSO1	Examine the roles and responsibilities of individuals, groups, and institutions in larger society, displaying understanding of the complex relationships between Human behaviour and the Psychological context	4
PSO2	Propose a plan of research for a Psychological problem or issue, including conceptualization of the problem, review of pertinent literature, design of a research study, and identification of methods appropriate for exploring the problem or issue	5
PSO3	Apply various theoretical perspectives to issues in society, showing how a perspective frames each issue, that is, how we understand the issue, the kinds of questions we can ask about it, and the kinds of research methods we can apply to answering the questions	3

Syllabus for M.A. Psychology (Semester -I to IV)
With effect from Academic Year 2022-2023 for I year
With effect from Academic Year 2023-2024 for II year

Credits: Semester I – 18; Semester II – 18; Semester III – 18; Semester IV - 18

Semester I

Course Code	Course Type	Title of the Course	Contact Hour/Week	Distribution of Marks for Examination					Credits
				Internal		External		Total	
				Th.	Pr.	Th.	Pr.		
PSY-101	Core	Theories in psychology: Approaches to Personality	04	40	--	60	--	100	04
PSY-102	Core	Neuropsychology	04	40	--	60	--	100	04
PSY-103	Skill Based	Essentials of Psychological Testing	04	40	--	60	--	100	04
PSY-104	Skill Based	Experimental Psychology (Instrument Practical)	04	--	40	--	60	100	04
AC-101	Audit Course	Practical Cleanliness	02	100	--	--	--	100	02
Total Credits								18	

Semester II

Course Code	Course Type	Title of the Course	Contact Hour/Week	Distribution of Marks for Examination					Credits
				Internal		External		Total	
				Th.	Pr.	Th.	Pr.		
PSY-201	Core	Research Methodology	04	40	--	60	--	100	04
PSY-202	Core	Cognitive Process	04	40	--	60	--	100	04
PSY-203	Skill Based	Statistical Methods In Psychology	04	40	--	60	--	100	04
PSY-204	Skill Based	Experimental Psychology (Testing Practical)	04	--	40	--	60	100	04
AC-201	Audit Course	Choose one out of Four AC-201 (A/B/C/D)	02	100	--	--	--	100	02
Total Credits								18	

List of elective course to be offered in Semester-II

AC-201 (A): Soft Skills

AC-201 (B): Practicing Sports Activities

AC-201 (C): Practicing Yoga

AC-201 (D): Introduction to Indian Music

Note:-Detailed Syllabus for Audit Course AC-101 and AC-201 (A/B/C/D) are Available on University Website Separately at: <http://www.nmu.ac.in/StudentCorner/Academics/Syllabi.aspx>

Semester III

Course Code	Course Type	Title of the Course	Contact Hour/Week	Distribution of Marks for Examination					Credits
				Internal		External		Total	
				Th.	Pr.	Th.	Pr.		
PSY-301	Core	Psychotherapeutics- I	04	40	--	60	--	100	04
PSY-302	Core	Dissertation	04	--	--	--	100	100	04
PSY-303	Elective	(A) Psychological Disorders- I OR (B) Counselling Psychology	04	40	--	60	--	100	04
PSY-304	Elective/ Skill Based	(A) Psycho-Diagnostics-I OR (B) Modern Career Counselling	04	40	--	60	--	100	04
AC- 301	Elective Audit Course	Choose one out of Four AC-301 (A/B/C/D)	02	100	--	--	--	100	02
Total Credits								18	

List of elective course to be offered in Semester-III

AC-301 (A): Computer Skills

AC-301 (B): Cyber Security

AC-301 (C): Disaster Management in India

AC-301 (D): Nuclear Biological and Chemical Warfare

Semester IV

Course Code	Course Type	Title of the Course	Contact Hour/Week	Distribution of Marks for Examination					Credits
				Internal		External		Total	
				Th.	Pr.	Th.	Pr.		
PSY-401	Core	Psychotherapeutics- II	04	40	--	60	--	100	04
PSY-402	Core	Health and Positive Psychology	04	40	--	60	--	100	04
PSY-403	Elective/ Skill Based	(A) Psychological Disorders-II OR (B) Advanced Skills and processes of Counselling	04	40	--	60	--	100	04
PSY-404	Elective/ Skill Based	(A) Psycho-Diagnostics-II OR (B) Assessment in Counselling Psychology	04	40	--	60	--	100	04
AC- 401	Elective Audit Course	Choose one out of Four AC-401 (A/B/C/D)	02	100	--	--	--	100	02
Total Credits								18	

List of elective course to be offered in Semester-IV

AC-401 (A): Human Rights AC-401 (B): Current Affairs AC-401 (C): India's Land- Border.

AC-401 (D): Regional Security Issues

Note:-Detailed Syllabus for Audit Course AC-301 (A/B) and AC-401 (A/B) are Available on University Website Separately at: <http://www.nmu.ac.in/StudentCorner/Academics/Syllabi.aspx>

**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

**Syllabus under CBCS for MA in PSYCHOLOGY
Syllabus Structure (w.e.f 2022- 23)**

M.A. Part-I Semester-I

Paper-I- PSY-101 Theories in Psychology: Approach to Personality

**Total Marks-60+40
Total Hours-60**

Objectives:

1. To introduce various Theories of Personality.
2. To evaluate Personality theory and research.
3. To apply modern approaches to personality

Unit: 01. Psychoanalytic, Neo-analytic Theories (15)

- 1.1. Psychoanalytic aspects of personality: Sigmund Freud's Theory.
- 1.2. Neo-analytic aspects of personality: Alfred Adler, Carl Jung.
- 1.3. Contemporary Psychoanalytic Theory: Erik Erikson.
- 1.4. Application of Psychoanalysis, Neo-analytic theories.

Unit: 02. Biological and cognitive- behavioral theories (15)

- 2.1. Genetic and Physiological aspects of personality: Minnesota Twin study, Nature v/s nurture, Hans Eysenck, Raymond Cattell
- 2.2. Behaviorist and learning aspects of personality: B.F. Skinner, Dollard-Miller
- 2.3 Cognitive and Cognitive-experiential aspects of personality:
Albert Bandura, Jean Piaget, Seymour Epstein
- 2.4. Application of Biological and Cognitive- Behavioral theories

Unit: 03. Humanistic and Existential Theories (15)

- 3.1 Humanistic aspects of personality: Carl Roger, Abraham Maslow
- 3.2 Existential aspects of personality: Eric fromm, Rollo May.
- 3.3 Existential aspects of personality: Irvin Yalom, Victor Frankle
- 3.4 Application of humanistic and existential theories

Unit: 04. Social Psychological Theories (15)

- 4.1 Personality and social interaction: Lev Vygotsky, Murray's theory
- 4.2 Culture and personality
- 4.3 Gender difference in personality
- 4.4 Application of social psychological theories

Reference Books:

1. Barve, B. N. (2006): Vyaktimatva Sidhhanta, Vidya Prakashan, Nagpur.
2. Dan P. McAdams D.P. (2008) The Person: An Introduction to the science of Personality Psychology. Willey
3. Ewen, R. B., (2010): An Introduction to Theories of Personality, Psychology Press, Taylor and Francis Group, New York.
4. Friedman Howard S and Schustack Miriam W. Personality: Classic Theories and Modern Research. IIIrd Edition, Pearson Education, Delhi.
5. Hall, C. S., Lindzey, G., & Campbell, J. B. (2007). Theories of Personality. 4th Edn. Wiley: India.
6. Ryckman, R. M. (1978). Theories of Personality. D. Van Nostrand Company: New York.
7. Schultz, D. P. & Schultz E. S. (2005). Theories of Personality, Delhi, Thompson Wordsworth.

Internal Examination – 40 marks

Internal Test	Seminar	Attendance
20	10	10

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 101 -1	Application of basic theories and modern approaches of Personality to analyse the problem.	3
PSY 101 -2	Generalize the aspects of personality theories and modern researches in psychology in day-to-day life.	3
PSY 101 -3	Apply aspects of personality theories and modern researches to facilitate behaviour modification.	3

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**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2022- 23)

M.A. Part-I Semester-I

PSY 102 – Neuropsychology

Total Marks - 60+40

Total Hours – 60

Objectives -

- To understand primary and higher order neuropsychological processes
- To acquaint students with the structure, neural networks and functions of brain
- To help students to understand applications of neuropsychology

Unit 1- Basics of neuropsychology (15)

- 1.1 Structure and functions of Human brain
- 1.2 Development to Brain
- 1.3 Sensory and perceptual processes and motor systems
- 1.4 Importance of neuropsychology

Unit-2- Conceptual Basis I (15)

- 2.1 Memory
- 2.2 Executive functions
- 2.3 Language
- 2.4 Speech

Unit-3 Conceptual Basis II (15)

- 3.1 Attention
- 3.2 Emotion
- 3.3 Motivation
- 3.4 Learning

Unit-4 Practical approach to Neuropsychology (15)

- 4.1 Assessment
- 4.2 Applications
- 4.3 Neuroimaging techniques: CAT, MRI, DTI, PET, MEG and Optical brain imaging, Multimethodological approaches.
- 4.4 Neuropsychological tests and methods.

References:

Text Books: -

- 1) Anderson, V., Jacobs, R. & Anderson, P. (2008). Executive Functions and the Frontal Lobes: A Lifespan Perspective. New York, NY: Psychology Press.
- 2) Carlson, N. (1999). Physiology of behaviour. Boston: Allyn & Bacon.
- 3) Jurado, M. B. & Rosselli, M. (2007). The Elusive Nature of Executive Functions: A Review of our Current Understanding. Neuropsychological Review, 17, 213–233.
- 4) Kolb B., & Whishaw I.Q. (2007). Fundamentals of human neuropsychology (6th ed). New York, NY: Worth Publishers.
- 5) Walsh, K. (1994). Neuropsychology: A clinical approach. ND: Churchill Livingstone 46
- 6) Zilmer, E. A. & Spears, M. V. (2001). Principals of neuropsychology. Canada: Wadsworth.

References Books

- 1) Alvarez, J. A. & Emory, E. (2006). Executive Function and the Frontal Lobes: A Meta-Analytic Review. Neuropsychology Review, 6(1), 17-42.
- 2) Johnson, M. H. (1997). Developmental cognitive neuroscience. Blackwell Publishers.
- 3) Lezak, M. D. (1976). Neuropsychological assessment. New York, NY: OUP.
- 4) Pinel, J. P. J. (1997). Biopsychology. Boston: Allyn & Bacon.
- 5) Gazzaniga, M.S., Ivry, R.B., & Mangun, G.R. (2009). Cognitive neuroscience: The biology of the mind (3rd ed.). New York, NY, Norton & Norton.
- 6) Purves, D., Cabeza, R., Huettel, S.A., LaBar, K.S., Platt, M.L., & Woldroff, M.G. (2012). Principles of cognitive neuroscience (2nd ed.). Sunderland, MA, USA: Sinauer Associates Inc. Publishers
- 7) Ulham, J.C. (2006). Functional neuroimaging: Experimental design and analysis.
- 8) Book chapter in R. Cabeza & A. Kingstone (Eds.), Handbook of functional neuroimaging of cognition (2nd ed., pp. 53-82). Cambridge MA: MIT Press.
- 9) Ward, J. (2010). The student's guide to cognitive neuroscience. New York: Psychology Press.

Internal Examination – 40 marks

Internal Test	Seminar	Attendance
20	10	10

Course Objectives:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 102 -1	Relate the aspects of neuropsychology to apply and measure them	3
PSY 102 -2	Generalize the nature and basic neuropsychological processes to interpret.	3
PSY 102 -3	Analyze neuropsychological process to intervene the problems.	4

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**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

**Syllabus under CBCS for MA in SYCPCHOLOGY
Syllabus Structure (w.e.f 2022- 23)
M.A. Part-I Semester-I**

PSY 103 - Essentials of Psychological Testing

Total Marks-60+40

Total Hours-60

Objectives:

- ❖ To acquaint student with the characteristics of standardized tests.
- ❖ To train students with psychometric theories and principles of test construction.
- ❖ To develop occupational skills in student related with psychological testing.

Unit 1 Measurement and Psychological test (15)

- 1.1 Meaning, Nature, Importance and Types of Psychological Test
- 1.2 Test anxiety and Rapport
- 1.3 Characteristics and Ethical issues of psychological test.
- 1.4 Application: Uses of psychological test

Unit 2 Item analysis (15)

- 2.1 Meaning and Purpose of item analyses
- 2.2 Difficulty and Discrimination of items
- 2.3 Item response theory
- 2.4 Item analysis of test.

Unit 3 Reliability and Validity (15)

- 3.1 Meaning and types of reliability and Validity
- 3.2 Factors influencing reliability.
- 3.3 Factors influencing validity
- 3.4 Relation between reliability and validity

Unit 4 Response set in test and Norms (15)

- 4.1 Meaning and Types of response set
- 4.2 Methods of controlling response set
- 4.3 Meaning and Types of norms
- 4.4 Steps involved in developing norms

References:

1. Anastasi, A. (1988). *Psychological testing*. NY: Macmillan.
2. Anastasi, A. & Urbina, S. (1997). *Psychological testing*. N.D.: Pearson Education.
3. Borude R.R. (2005). *Psychological testing*. Pune Vidhyarthi ghras Publication, Pune.
4. Chaddha, N. K. (1996). *Theory and practice of psychometric*. New Delhi: New Age International Ltd.
5. Cronbach, L. J. (1990). *Essentials of psychological testing*. 5th Ed. New York: Harper Collins Publishers:
6. Freeman, F.S. (1965). *Psychological testing*. 3rd Ed. New Delhi: Oxford & IBH Publishing
a. Co. Pvt. Ltd.
7. Ghiselli, E.E. and Campbell, J.P., Zedek, S. (1981). *Measurement theory for the behavioral sciences*. W.H. Freeman.
8. Ghiselli, E. E., Campbell, J. P. & Zedek, S. (1981). *Measurement theory for the behavioral sciences*. W.H. Freeman.
9. Kaplan, R.M. & Saccuzzo, D.P. (2007). *Psychological Testing: Principles, Applications, and Issues*. Australia: Thomson Wadsworth
10. Kothari C.R. (2004). *Research Methodology*. 2nd ed. New Delhi: New Age International Ltd.
11. Miller, McIntire and Lovler (2011). *Foundation of psychological testing*, 3 Publication, California.
12. Murphy, K. R., Davidshofer, R. K. (1988): *Psychological testing: Principles and applications*. New Jersey: Prentice Hall Inc
13. Singh, A.K. (2006). *Tests, Measurements and Research Methods in Behavioral Sciences*.
a. Patna: Bharati Bhavan.
14. Singh A.K. (2006). *Research Methods in Psychology, Sociology and Education*. Delhi Motilal Banarasis Publication.

Internal Examination – 40 marks

Two students in pair have to construct at least one psychological test under guidance of faculty

Internal Test	Attendance	Test Construction
20	10	10

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 103 -1	Analysis of the problems to be measured.	4
PSY 103 -2	Application and evaluation of standardized tests to subjects.	3
PSY 103 -3	Construction of standardized psychological tests	5

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**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2022- 23)

M.A. Part-I Semester-I

PSY 104- Experimental Psychology (Instrument Practical) Total Marks 60+40

Total Hours- 60

Objectives:

1. To acquaint the students with skills of scientific techniques of conducting experiments in psychology.
2. To know the students with different areas of experimental research in psychology.
3. To introduce the students with the application of experimental findings in day to day life.

(Minimum 10 Experiments are Compulsory)

Group – A) Psycho-physics and scaling method, motor skills

1. Muller Lyre Illusion
2. Size and Weight Illusion
3. Finger Dexterity
4. Motor skills

Group – B) Sensation Perception and attention

1. Size Constancy
2. Perception of distance (Howard- Dolman)
3. Division of attention
4. Zeigarnik Effect
5. Fluctuation of Attention

Group – C) Learning and memory

1. Transfer of Learning: Mirror Drawing
2. Maze Learning
3. Serial Learning: Effect of Memory of associated and unassociated words
4. Proactive and Retroactive Interference
5. STM- Digits and Letters.
6. LTM
7. Multiple choice

Group – D) Cognition, Motivation and Emotion

1. Concept Formation
2. Tower Building: Expectation and Coordination
3. Effect of Motivation on Performance.
4. Emotional Expression
5. Ring Toss Game (Check Achievement Motivation)

References:

1. Collins, M. & Drever, J. (1930). *Experimental Psychology*. London: Methuen & Co. Ltd.
2. Galloti, K. M. (2004). *Cognitive Psychology*. In and Out of Laboratory. USA: Thomson Wadsworth
3. Mohsin, S. M.: *Experiments in Psychology*.
4. Nunn, V.K. (1988). *Laboratory Psychology: A beginner's guide*. Hove: Psychology Press Ltd.
5. Rajamnickam. M. (2005). *Experimental Psychology: With Advanced Experiments*. Vol. 1&2. New Delhi: Concept Publishing Company.
6. Tinker, M. A. & Russel W. A. *Introduction to Methods in Experimental Psychology*. Appleton- Century Crofts.

Internal Evaluation: 40 Marks.

Experiment and experiment evaluation reports	Attendance	Experiment report writing (Practical Journal)
10	10	20

External Evaluation: 60 Marks

1. Instruction and conduct	20 Marks
2. Report writing	20 Marks
3. Viva-voce	20 Marks

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 104 -1	Develop skills of scientific techniques for conducting experiments in psychology.	4
PSY 104 -2	Interpretation of obtained experiment results.	3
PSY 104 -3	Evaluation and generalize experimental findings in day to day life.	5

M.A. Part I Semester I (Psychology): Audit Courses

AC-101: Practicing Cleanliness

(Compulsory; Campus-level Audit Course; Practical; 2 Credits)

Course Objectives (COs):

1. To make students aware of Clean India Mission and inculcate cleanliness practices among them.
- Awareness program on
 - Swachh Bharat Abhiyan (Clean India Mission)
 - Clean Campus Mission
 - Role of youth in Clean India Mission
 - Cleaning activities inside and surroundings of Department buildings.
 - Tree plantation and further care of planted trees
 - Waste (Liquid/Solid/e-waste) Management, Japanese 5-S practices
 - Planning and execution of collection of Garbage from different sections of University campus
 - Role of youth in power saving, pollution control, control of global warming, preservation of ground water and many more issues of national importance.
 - Cleanest School/Department and Cleanest Hostel contests
 - Painting and Essay writing competitions

Course Outcomes (COs):

On completion of this course, the student will be able to:

Cots. No.	Course Outcomes	Cognitive level
AC101.1	Identify need at of cleanliness at home/office and other public places.	2
AC101.2	Plan and observe cleanliness programs at home and other places.	4
AC101.3	Practice Japanese 5-S practices in regular life.	3

**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2022- 23)

M.A. Part I (Semester – II)

PSY – 201 Research Methodology in psychology

Total Marks: 60 +40

Total Hours: 60

Objectives

This course aims at enabling students to –

- ❖ To know the basic concepts in Research Methodology.
- ❖ To enable students to know the basic steps in research process
- ❖ To the introduce basic terminology of advanced research techniques

Unit-1 Research process and Survey Research (15)

- 1.1 Overview of basic research concept (Problem, Hypothesis, Variable and Operational Definition)
- 1.2 Sampling Techniques
- 1.3 Methods of data collection: Observation, Survey, Interview,
- 1.4 Issues and Application of survey research

Unit-2 Experimental design (15)

- 2.1 Experimental design- Definition, Principles and functions
- 2.2 Between group design: Randomized group design
- 2.3 Between group research design- Single group and two group design
- 2.4 Factorial design- Simple factorial design, multi-factorial design

Unit -3 Multivariate Data Analysis (15)

- 3.1 Factor Analysis – Nature, concepts in factor analysis
- 3.2 Factor analysis, regression analysis and cluster analysis
- 3.3 Steps and Techniques of factor analysis
- 3.4 Regression Analysis

Unit -4 Research report writing (15)

- 4.1 Significance of Report writing
- 4.2 Preparing research proposal- APA style
- 4.3 Research report – Report writing steps, Report structure,
- 4.4 Research report writing, typing and evaluation of research report

References-

1. Anastasi, A. (1990). *Psychological Testing*. McMillan
2. Kerlinger, F.N. (1994). *Foundations of Behavioral Research* (3rd ed.)
3. Goodwin, J. (2009). *Research in psychology: Methods in Design*. (6thed.) Wiley.
4. Shaughnessy, J.J. and Zechmeister, E.B. (1997). *Research Methods in Psychology* (4th ed.)
5. Edward, A.L. (1985). *Experimental Designs in Psychological Research*, Harper and Row
6. Singh, A.K. (2006). *Tests, Measurement and Research Methods in behavioral Sciences*.
Bharti Bhavan. Patana.
7. Gregory, R. J. (2008). *Psychological Testing- History, Principles and Applications*.
8. Borude, R. R. (2008). *Research Methodology*. Pune vidyarthi Gruh Prakashan, Pune
9. Desai, B. H & Abhyankar, S. C (2006) *Research Methodology and Psychological measurement* Pune Narendra Prakashan, Pune.

Internal Marks

Internal Test	Seminar	Attendance
20	10	10

Course Outcomes:

After completion of this course students will be able to-

CO No.	Course Outcome	Cognitive Level
PSY 201 -1	Application of Research Methodology after understanding basic concepts of research.	3
PSY 201 -2	Relate different steps in research process and its purposes.	4
PSY 201 -3	Designing of research proposal and report.	4

**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2022- 23)

M.A. Part I (Semester – II)

PSY 202 - Cognitive Process

Total Marks - 60+40

Total Hours – 60

Objectives -

- ❖ To introduce the nature and basic processes of cognitive psychology to students.
- ❖ To understand cognitive phenomenon
- ❖ To acquaint the students with the cognitive process in human life

Unit 1- Introduction to Cognitive process (15)

- 1.1 Cognitive approach to psychology: Origin and current status of cognitive psychology
- 1.2 Assumptions and methods of cognitive psychology.
- 1.3 Memory Processes: Current models and directions and Types of memory
- 1.4 Approaches to memory- information processing & connectionist and Forgetting.

Unit-2- Attention and Perception (15)

- 2.1 Definition, Characteristics and types of attention
- 2.2 Theories selective attention and divided attention, Automaticity and the effect of practice.
- 2.3 Definition and nature of Perception, Gestalt approaches to perception, Perceptual illusions and Perceptual constancies
- 2.4 Application: Neuro-Psychological studies of attention and subliminal perception and extra sensory perception

Unit-3 Thinking, Creativity and problem solving (15)

- 3.1 Definition and types of thinking
- 3.2 Theories of thinking: - Central theory and peripheral theory
- 3.3 Definition and nature Problem solving, Problem solving approaches: - Algorithm technique, Heuristics
- 3.4 Definition, Nature and Stages of Creativity, State of measuring Creativity

Unit-4 Language and Learning (15)

- 4.1 Language processes: Language acquisition, models of reading and language comprehension Meaning and beyond
- 4.2 Language production; Language and thought.
- 4.3 Definition, Nature and Types of learning, Conditioning – Classical and Operant Conditioning
- 4.4 Shaping and Schedule of reinforcement, Trial and error

References:

1. Best J.B. (1999) Cognitive psychology – USA: Wadsworth Publishing Co.
2. Galotti K.M.(2001) Cognitive psychology 3th edition New Delhi, Wiley
3. Borude. R.R. (2005) Bodhanik Manasshastra, Chhaya Publication. Aurangabad
4. Matlin, M. (1994). Cognition. Bangalore: Harcourt Brace Pub.
5. Sternberg, R.J. (2007). Cognitive Psychology. Australia: Thomson Wadsworth.
6. Kellogg, R.T. (2007). Fundamentals of Cognitive Psychology. N.D. Sage Publications.
7. Solso, R. L. (2004). Cognitive Psychology (6th ed). Delhi: Pearson Education.
8. Wade, C. and Tavris, C. (2007). Psychology. ND: Pearson Education.
9. Jahnke, J. C. & Nowaczyk, R. H. (1998). Cognition. Upper Saddle NJ: Prentice Hall.
10. Burne, L.E., Dominowski, R.L. & Loftus, E.E. (1979). Cognitive processes. NJ: Prentice-Hall.
11. Corens, S., Ward, L.M., & Enns, J. (1994). Sensation and perception. NY: Harcourt Brace & Co.
12. Messer, D. & Miller, S. (1999). Exploring developmental psychology. London: Arnold.
13. Flavell, J.H. (1985). Cognitive development (2nd ed) NJ: Prentice Hall.
14. Best, J. B. (1999). Cognitive Psychology. USA: Wadsworth Publishing Co.
15. Guenther R. K. (1998). Human Cognition. New Jersey: Prentice-Hall.

Internal Examination – 40 marks

Internal Test	Seminar	Attendance
20	10	10

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 202 -1	Identify the different Cognitive factors and processes and its application.	3
PSY 202 -2	Evaluate Decision Making, creative thinking Skills	4
PSY 202 -3	Interpret the role of biological factors in learning and memory.	3

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**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2022- 23)

M.A. Part I (Semester – II)

PSY- 203 Statistical Methods of Psychology

Total Marks-60+40

Total Hours-60

Objectives:

- ❖ To introduce the students with fundamental concepts about statistics.
- ❖ To introduce the students with fundamental statistical application for Psychology.
- ❖ To introduce multivariate methods and computer applications to statistics.

Unit 1- Descriptive Statistics and Probability (15)

- 1.1 Statistics: Meaning, Types and Importance
- 1.2 Overview of measure a Central tendency and Variability
- 1.3 Probability: Concept, Definition and Approaches and Normal distribution curve.
- 1.4 Application of Normal distribution curve.

Unit 2- Correlation (15)

- 2.1 Correlation: Meaning and Nature
- 2.2 Pearson's Product-Moment Correlation,
- 2.3 Bi-serial and Point-bi-serial correlation
- 2.4 Tetra-choric, Phi coefficient, Partial and Multiple Correlation

Unit 3-Analysis of Variance (15)

- 3.1 Meaning, Need and Assumptions of analysis of variance
- 3.2 One-way analysis of variance and Two-way analysis of variance
- 3.3 Analysis of covariance: Meaning, Purpose and Assumption.
- 3.4 MANCOVA

Unit 4 Non-parametric Statistics (15)

- 4.1 Difference between Parametric and Non-parametric statistics
- 4.2 Chi Square test: Assumptions, Uses and Procedure
- 4.3 Non-parametric tests for correlated sample: Rank Difference Correlation, Sign Test,
- 4.4 Statistical software an introduction: SPSS, Excel

References:

- 1) Singh, A.K. (2006). Tests, Measurements and Research Methods in Behavioral Sciences.Patna: Bharati Bhavan.
- 2) Mangal S.K. (2004). Statistics in Psychology and Education. Prentice Hall of India, New Delhi.
- 3) Miller, McIntire and Lovler (2011). Foundation of psychological testing.3rd ed. Sage publication, California.
- 4) Cronbach, L. J. (1990). Essentials of psychological testing.5th Ed. New York: Harper Collins Publishers:
- 5) Howell, D. (2009). Statistical Methods for Psychology.7th ed. Wadsworth.
- 6) Minium, E. W., King, B. M., & Bear, G. (2001). Statistical reasoning in psychology and Education. Singapore: John-Wiley.
- 7) Guilford, J. P., & Fructore, B. (1978). Fundamental statistics for psychology and education.
- 8) Borude R.R. (2005). Research Methodology. Pune Vidhyarthi Ghruh Publication, Pune.
- 9) Broota K.D. (2002). Experimental design in Psychological research. New age International, New Delhi.
- 10) Barve B. N. (2007). Shaishkashnik Mansashashtriy Sankhyashatra, Ist edition, Vidhya Prakashan, Nagpur.

Internal Examination – 40 marks

Internal Test	Seminar	Attendance
20	10	10

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 203 -1	Application of fundamental concepts of statistics	3
PSY 203 -2	Evaluation of fundamental statistical application	3
PSY 203 -3	Analysis and generalization of results	4

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**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON.**

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2022- 23)

M.A. Part I (Semester – II)

PSY 204 –Experimental Psychology (Testing Practical)

Total Marks 60+40

Total Hours- 60

Objectives:

- ❖ To create interest in Psychological Phenomenon.
- ❖ To develop awareness of Psychological tools, test and techniques.
- ❖ To evaluate and predict specific aspects of human behavior.
- ❖ To know applying psychological parameters for Counseling and guidance.

Group A: (Any Four)

1. Personal stress source inventory
2. Suicidal Ideation Scale
3. Sexual Anxiety Scale
4. Mental Depression Scale
5. Neurosis measurement scale
6. Social Networking Addiction
7. Mobile Phone Addiction
8. Conduct Disorder Test

Group B. (Any Three)

1. Socio-Emotional School Climate Inventory
2. Self-concept cum rating Scale
3. Marital Adjustment Questionnaire
4. Locus of Control Scale
5. Family Climate Scale
6. Mithila Mental Health Status Inventory

Group C. (Any Three)

1. Emotional Intelligence Scale
2. Youth Problem Inventory
3. Emotional Maturity Scale
4. Multi-Factors Interest Inventory
5. Social Maturity Scale
6. Life Style Scale

References:

1. Anastasi, A. & Urbina, S. (1997). Psychological Testing. N. D.: Pearson Education.
2. Chadha, N. K. (1996). Theory and Practice of Psychometry. N. D.: New Age International Ltd.
3. Cronbach L. J. (1984). Essentials of Psychological Testing (4th Ed)
4. Kaplan, R. M. & Saccuzzo, D. P. (2007). Psychological Testing: principles. Application and Issues. Australia: Thomson Wadsworth.
5. Singh, A. K. (2006). Tests, Measurements and Research Methods in Behavioral Sciences. Patna: Bharati Bhavan.

Internal Evaluation: 40 Marks.

1. Performance during academic session -10 marks
2. Testing and test evaluation reports -10 marks
3. Test administration minimum 10 subjects and submission of report - 20 marks

External Evaluation: 60 Marks

1. Instruction and administered -- 10 Marks
2. Journal -- 20 Marks
3. Report writing -- 15 Marks
4. Viva-voce -- 15 Marks

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 204 -1	Explain and interpret the use of Psychological tools, test and techniques.	3
PSY 204 -2	Evaluate and anticipate the outcomes of measured aspects of human behaviour.	4
PSY 204 -3	Analyze and Apply psychological parameters for Counselling and guidance.	4

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M.A. Part I Semester II (Psychology): Audit Courses

AC-201(A): Soft Skills (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional: Campus-level)		
	<p><i>Course Objectives (CObs):</i></p> <ul style="list-style-type: none"> To inculcate different soft skills among students. 	
Unit 1	<p>Introduction to soft skills Formal definition, Elements of soft skills, Soft vs. Hard skills, Emotional quotient, Goal setting, life skills, Need for soft skills, Communication skills, Etiquettes & Mannerism.</p>	2 hrs.
Unit 2	<p>Self-Assessment Goal setting, SWOT analysis, attitude, moral values, self-confidence, etiquettes, non-verbal skills, achievements, positive attitude, positive thinking and self-esteem. Activity: The teacher should prepare a questionnaire which evaluate students in all the above areas and make them aware about these aspects.</p>	4 hrs.
Unit 3	<p>Communication Skills Types of communication: Verbal, Non-verbal, body language, gestures, postures, gait, dressing sense, facial expressions, peculiarity of speaker (habits). Rhetoric speech: Prepared speech (topics are given in advance, students get 10 minutes to prepare the speech and 5 minutes to deliver, Extempore speech (students deliver speeches spontaneously for 5 minutes each on a given topic), Storytelling (Each student narrates a fictional or real-life story for 5 minutes each), Oral review (Each student orally presents a review on a story or a book read by them) Drafting skills: Letter, Report & Resume writing, business letters, reading & listening skills Activity: The teacher should teach the students how to write the letter, report and build resume. The teacher should give proper format and layouts. Each student will write one formal letter, one report and a resume.</p>	8 hrs.
Unit 4	<p>Formal Group Discussion, Personal Interview & Presentation skills Topic comprehension, Content organization, Group speaking etiquettes, driving the discussion & skills. Preparation for personal interview: dress code, greeting the panel, crisp self-introduction, neatness, etiquettes, language tone, handling embarrassing & tricky questions, graceful closing. Activity: Each batch is divided into two groups of 12 to 14 students each. Two rounds of a GD for each group should be conducted and teacher should give them feedback. Mock interview are to be conducted.</p>	4 hrs.
Unit 5	<p>Aptitude and analytical skills Quantitative aptitude, Numerical reasoning, verbal reasoning, diagrammatic test, situational tests, logical thinking. Analytical skills: Definition, Types, problem solving</p>	8 hrs.
Unit 6	<p>Life skills Time management, critical thinking, sound and practical decision making by dealing with conflicts, stress management, leadership qualities Activity: The teacher can conduct a case study activity to train students for decision making skills. The teacher should conduct a session on stress management and guide students on how to manage stress. The teacher may conduct a stress relieving activity in the class. He/she may counsel students individually to know their problems and guide them on dealing with them effectively.</p>	4 hrs.
<p>Suggested readings:</p> <ol style="list-style-type: none"> Basics of Communication In English: Francis Sounderaj, MacMillan India Ltd. English for Business Communication: Simon Sweeney, Cambridge University Press An Introduction to Professional English and Soft Skills: Das, Cambridge University Press Quantitative Aptitude: R.S. Agrawal 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201A.1	Identify their lacunas about some soft skills and try to overcome the same.	2
AC201A.2	Practice learned soft skills in real life and do their jobs more effectively.	3

AC-201(B): Practicing Sports Activities (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional: Campus-level)				
<i>Course Objectives (COs):</i>				
<ul style="list-style-type: none"> To motivate students towards sports and provide them required training. 				
SR NO.	NAME OF THE SPORT/GAME (Select ONE of the Following)	SYLLABUS OF THE COURSE	TIMING (02 Hours in a Week)	SEMESTER
1	Volleyball	<ul style="list-style-type: none"> General Fitness Basic Fitness Specific Fitness History of the Game Basic Skill of the Game Major Skill of the Game Technique & Tactics of the Game Game Practice 	Morning : 07 to 09 AM OR Evening : 05 to 07 PM	Total 30 Hours in Each Semester
2	Athletics			
3	Badminton			
4	Cricket			
5	Basketball			
6	Handball			
7	Kabaddi			
8	Kho-Kho			
9	Table-Tennis			
10	Swimming			

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201B.1	Identify one or more sports of their choice and develop more interest to participate at University/National level sport events.	2
AC201B.2	Practice the learned sports activities regularly in real life.	3

AC-201(C): Practicing Yoga (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional: Campus-level)	
	Course Objectives: <ul style="list-style-type: none"> To motivate students towards yoga and provide them required training.
	<ul style="list-style-type: none"> Yog: Meaning, Definition & Introduction, Objectives Primary Introduction of Ashtanga Yoga Preparation of Yogabhyas Omkar Sadhana, Prayer, Guru Vandana Sukshma Vyayamas Suryanamaskar (12 Postures) Asanas : <ul style="list-style-type: none"> Sitting (Baithaksthiti) - Vajrasana, Padmasana, Vakrasana, Ardha-Pashchimotanasana Supine (Shayansthiti) - Uttan Padaasan(Ekpad/Dwipad), Pavanmuktasana, Viparitarani Aasan, Khandarasa, Shavasana Prone (Viparitshayansthiti) - Vakrahasta, Bhujangasana, Saralhasta Bhujangasana, Shalabhasana(Ekpad/Dwipad), Makarasana Standing (Dhandsthiti) - Tadasana , TiryakTadasana, Virasana, Ardh Chakrasana Primary Study of Swasana: Dirghaswasana, Santhaswasana, JaladSwasana - 6 Types Pranayama : Anuloma-viloma, Bhramari

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201C.1	Identify and practice some Yoga asanas regularly in their life to remain healthy.	2
AC201C.2	Provide guidance and practice about Yoga to their friends, parents and relatives.	3

AC-201(D): Introduction to Indian Music (Personality and Cultural Development Related Audit course; Practical; 2 Credits) (Optional: Campus-level)	
	Course Objectives: <ul style="list-style-type: none"> To motivate students towards Indian music and provide them minimum required training.
	<ul style="list-style-type: none"> Definition and brief about generation of Swar, Saptak, Thaata, Raaga, Aavartan, Meend, Khatka, Murkee, Taal, Aalaap etc. Taal and its uses - Treetaal, Daadraa, Zaptaal, Kervaa. Information of Badaakhyaal, Chhotaakhyaal (one), Sargam, Lakshangeet (information) Detailed information of Tambora Detailed information of Harmonium and Tablaa. Five filmy songs based on Indian Classical Music (Theory and Presentation) Sound Management - Basic information of Sound Recording (including Practicals) Composition of Music as per the Story Preparing news write-ups of the Seminars, Library Musical Programmes held at the nearest Akashwani, by personal visits.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC201D.1	Identify different types of Indian music.	3
AC201D.2	Develop more interest to learn and practice Indian music.	4

**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
JALGAON**

(NACC Re-accredited 'A' Grade University)

Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f.2023-24)

Structure of the Courses/Papers SEMESTER - III

Sr.no	Paper code	Group	Title of the Paper
01	PSY 301		Psychotherapeutics-I
02	PSY 302		Dissertation
03	PSY 303	A	Psychological Disorders-I
		B	Counselling Psychology
04	PSY 304	A	Psycho-Diagnostics-I
		B	Modern Career Counselling

SEMESTER – IV

Sr. no	Paper code	Group	Title of the Paper
01	PSY 401		Psychotherapeutics-II
02	PSY 402		Health & Positive Psychology
03	PSY 403	A	Psychological Disorders-II
		B	Advanced Skills and Processes of Counselling
04	PSY 404	A	Psycho-Diagnostics-II
		B	Assessment in Counselling Psychology

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – III)

Compulsory Paper

PSY- 301- Psychotherapeutics- I

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To familiarize students with the with various scientific assessment techniques in counseling.
2. To study different types of therapies.
3. To introduce skills through workshops, case discussions, role plays, observation

Unit- 1) Introduction to Psychotherapies: (15)

- 1.1 Definition, nature and basic skills of psychotherapy
- 1.2 Evaluation of psychotherapy; Characteristics of Effective therapy
- 1.3 Ethical Issues in Psychotherapy.
- 1.4 Process of psychotherapy.

Unit- 2) Basic Approaches and Applications as Psychotherapies (15)

- 2.1 Psycho-analytical Psychotherapy.
- 2.2 Person Centered Therapy.
- 2.3 Phenomenological / Experiential Model – Kelley’s Personal construct View, Maslow’s Humanistic Approach.
- 2.4 Gestalt Model.

Unit- 3: Cognitive Approach (15)

- 3.1 Cognitive model
- 3.2 Cognitive Therapy (Beck)
- 3.3 Rational Emotive Behavioral Therapy- REBT (Albert Ellis)
- 3.4 Dialectical Behaviour Therapy

Unit- 4: Behavioural approach (15)

- 4.1 Origin of Behaviour therapy
- 4.2 Operant Conditioning, Desensitization
- 4.3 Assertive and Social Skills Training
- 4.4 Relaxation technique and aversive technique

References

Source Book

1. Korshin Sheldon.J (2004) Modern Clinical Psychology, CBS Publishers & Distributors.
2. John Sommers-Flanagan (2015) Counseling and Psychotherapy Theories in Context and Practice-Skills, Strategies, and Techniques, John Wiley & Sons, Inc

Reference Books-

1. Corsini, R.J. & Wedding, D. (Eds.) (1995). Current psychotherapies. Itasca, III... Peacock.
2. Gelso, C. J. &Fretz, B.R. (1995). Counselling psychology Bangalore: Prism books.
3. Woolfe, R. & Dryden, W. (Eds.) (1996). Handbook of counseling psychology. New Delhi: Sage.
4. Stewart, I. (2000). Transactional analysis counseling in action. London: Sage.
5. Beck, A.T. (1976). Cognitive therapy and behavior disorders.
6. Rimm, D.C. & Masters, J.C. (1987). Behavior therapy: Techniques and empirical findings. New York: Harcourt, Brace, Jovanich.
7. Watts, A. W. (1973). Psychotherapy: East and West. London: Penguin books.

INTERNAL 40 MARKS EVALUATION FOR SEM – IV

In first semester 40 marks evaluation done on the following basis:

Marks	
20	Therapy simulation (two)
20	Internal Test

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 301 -1	Intervene various approaches of psychotherapy	4
PSY 301 -2	Application of various psychotherapies	3
PSY 301 -3	Planning and implementation of psychotherapy	5

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**Syllabus under CBCS for MA in PSYCHOLOGY
Syllabus Structure (w.e.f 2023- 24)
M.A. Part II (Semester – III)
Compulsory Paper**

PSY 302- Dissertation

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. Students can plan and implement a research project on their own under the guidance of subject teacher.
2. Students are able to present their research.
3. Students are able to do research on other subjects on their own.

Course Content:

1. Project assessment will be based on presentation of project before the internal and external examiners
2. There will be 20 marks for Project Report and 20 marks for Presentation and 20 for viva-voce

External Examination:-60 marks

Report writing	Presentation	Viva-voce
20	20	20

Internal Examination: - 40 marks

Regularity and punctuality	Project	Report
10	15	15

Internal evaluation will be done by the concerned teacher or guide.

1. External Examination will be conducted by two examiners one of whom will be internal and two will be external examiners (appointed by 32(5) (a) committee by KBCNMU).
2. Duration of examination for each batch will be four hours.
3. Marks for Project Report and Presentation and viva-voce will be given by both examiners and the average of the same will be considered as final marks of candidate.

Course Outcomes:

CO No	Course Outcome	Cognitive Level
PSY 302 -1	Plan and implement a research project on their own under the guidance	5
PSY 302 -2	Analysis and presentation of research	3
PSY 302 -3	Design and propose research	5

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – III)

Elective Paper

PSY – 303 A - Psychological Disorders-I

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To acquaint students with various manifestations of Psychopathology.
2. To introduce the detailed symptoms, etiology and causes of various disorders defined as per DSM5.
3. To know the updated changes in the classification of mental disorders according to DSM5.

Unit 1: Introduction to Psychological Disorders.

15

- 1.1 Definition and Criteria of Psychological Disorder
- 1.2 Historical Background and Classification
- 1.3 Psychological Disorders according to DSM-5
- 1.4 Various Approaches to Psycho-pathology: Psycho-analytical, Behaviorists, Biological, Humanistic-Existential and Cognitive Approach.

Unit 2: Schizophrenia Spectrum and Other Psychotic disorders:

15

- 2.1 Schizophrenia and Schizophreniform Disorder
- 2.2 Schizoaffective Disorder
- 2.3 Delusional Disorder and shared Psychotic Disorder
- 2.4 Brief Psychotic Disorder, Other Psychotic Disorders, and Catatonia.

Unit 3: Mood Disorders and Anxiety Disorders

15

- 3.1 Major Depression and Bipolar Disorder
- 3.2 Dysthymia and Cyclothymic
- 3.3 Panic Disorders, Agoraphobia; Specific Phobia and Generalized Anxiety Disorder
- 3.4 Social Anxiety Disorder (Social Phobia) and other Anxiety disorders

**Unit 4: Obsessive- Compulsive Disorder; Trauma and Stressor Related Disorders and
Dissociative disorders**

15

- 4.1 Obsessive-Compulsive Disorder
- 4.2 Body Dysmorphic Disorder; Hoarding Disorder; Hair Pulling Disorder
Excoriation and (Skin-Picking) disorder.
- 4.3 Posttraumatic Stress Disorder and Acute Stress Disorder; Adjustment Disorder
- 4.4 Dissociative Disorders.

References

1. Alloy, L.B. Riskind et. el. (2006). *Abnormal Psychology*, (9th ed.) Delhi, Tata McGraw Hill.
2. Barlow, D. H. & Durand, V. M. (2007) *Abnormal Psychology* (2nd ed.). Thompson Wadsworth.
3. Kaplan H. I.; Sadock B. J. . . (11th Edition). *Synopsis of Psychiatry*
4. American Psychiatric Association (1995). *Diagnostic and Statistical manual for mental disorders* (4th edition). International version. Washington, DC: American Psychiatric Association
5. Fauman, M.A. (1996). *Study guide to DSM-IV*. New Delhi: Jaypee Brothers.
6. Corner, R.J. (1995). *Abnormal Psychology* (2nd edition). New York: W. H. Freeman & co.
7. Gelder, M, Gath, D; MayoLI, R; & Cowen, P. (1996) *Oxford textbook of psychiatry* (3rd edition). Oxford: Oxford University Press.
8. Kaplan, H. I.; Sadock B. J. ; and Greb , J.A. (1994). *Synopsis of psychiatry: Behavioural sciences, clinical psychiatry* (7' edition). New Delhi: B.I. Waverly Pvt Ltd.
9. Sarason I. G. & Sarason B. R. ; *Abnormal Psychology*-PHI Learning Private Ltd. , 11th Edition New Delhi 2008.
10. Carson R. C. & Butcher J.M., Mineka , Hooley, – *Abnormal Psychology* ; 13th Pearson Edition. New Delhi.
11. Hoeksema S. N. – *Abnormal Psychology*. TMH Publication, New Delhi. 3rd Edition.

INTERNAL 40 MARKS EVALUATION FOR SEM- III

In the first semester 40 marks evaluation done on the following basis:

Marks	Assignment
20	Seminar on any one topic of choice from the syllabus.
20	Internal Test

Course Outcomes:

After completion of this course students will be able to-

CO No.	Course Outcome	Cognitive Level
PSY 303A -1	Classification of various psychological disorders according to DSM5.	3
PSY 303A -2	Comparison and separation of psychological disorders	4
PSY 303A -3	Review symptoms, etiology and epidemiology of disorders.	5

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – III)

Elective Paper

PSY – 303 B- Counselling Psychology

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To familiarize students with the nature and process of counselling.
2. To acquaint students with various scientific assessment techniques in counselling.
3. To explore different types of intervention strategies in counselling.

Unit- 1: Basic Concepts and professional foundations

15

- 1.1 Definition, nature and scope of Counselling
- 1.2 Difference between counselling and guidance Professional aspects of counselling.
- 1.3 Personal and professional aspects of Counselling
- 1.4 Fundamental precepts of effective Counselling

Unit- 2: Ethical and legal aspects of counselling

15

- 2.1 Ethics and counselling
- 2.2 Professional codes of ethics for counselors
- 2.3 Ethics in specific counseling situations
- 2.4 Law and counseling in India and abroad

Unit- 3: Counseling to diverse populations

15

- 3.1 Aged populations
- 3.2 Gender based
- 3.3 Multicultural
- 3.4 Spirituality and counselling

Unit- 4: Core activities

15

- 4.1 Group counselling
- 4.2 Individual counselling
- 4.3 Couple and family counselling
- 4.4 School counselling

Books for Reading:

1. Gladding, S. T. (2009). *Counseling: A Comprehensive Profession (8th Ed.)*. Pearson Publications, New Delhi, India.
2. Deshpande, C.G. (2016). *Counselling: Process and Application*. Pune: Unmesh Publication.
3. Rao, S. N. (1989). *Counseling Psychology*. Tata McGraw-Hill Publication Company Limited, New Delhi, India.

Books for References:

1. Feitham, C. & Horton, I. E. (Ed.) (2006). *The Sage handbook of Counseling and Psychotherapy*. (2ndEd.) Sage Publication, London.
2. Gibson, R. I. & Mitchell, M.H. (2005). *Introduction to Counseling and Guidance*. (6th Ed.) Pearson education Pvt. Ltd., Delhi.
3. Gelso, C.J. & Fretz, B.R. (1995). *Counseling Psychology*. Prism books Pvt. Ltd., Bangalore.
4. Gregory, R. J. (2005). *Psychological Testing*. (4thEd.) Pearson education Pvt. Ltd., Delhi.
5. Patterson, L. E. & Weifel, E.R. (2000). *The Counseling Process*. (5th Ed.) Wodsworth / Thomson Learning, Belmont.
6. Nelson, R. (2000). *Introduction to Counseling Skills: Text and Activities*. Sage Publication, London.
7. Cohen, R. J. & Swerdlik, M. E. (2005). *Psychological Testing and Assessment*. (6th ed.) McGraw-Hill, Delhi.
8. Bor, R. & Watts, M. (Ed.) (2000). *The Trainee Handbook*, Sage Publication, London.
9. Hecker I.E. & Thorpe, G.L. (2005). *Introduction to Clinical Psychology, Science, Practice and Ethics*, Pearson Education, Delhi.

INTERNAL 40 MARKS EVALUATION FOR SEM- III

In first semester 40 marks evaluation done on the following basis:

Marks	Topics
20	Seminar on any one topic of choice from the syllabus.
20	Internal Test

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 303B -1	Application of various counselling strategies	3
PSY 303B -2	Design counselling sessions for clients	4
PSY 303B -3	Assessment of counselling technique and process	6

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – III)

Elective Paper

PSY – 304 A-Psycho-Diagnostics-I

Total Marks: 60 +40

Total Hours: 60

Objectives:

- ❖ To Acquaint students with Psycho-diagnostic procedures
- ❖ To investigate psychological cases through testing.
- ❖ To analyse various diagnostic assessment and application

Course contents

Hours/Marks

Unit 1: Overview of Psycho-Diagnostic

(15)

1.1 Overview of Neuro-science

1.2 DSM and ICD Revisions

1.3 WHO Disability Assessment Schedule, Cross-cutting symptoms

1.4 Introduction and application of Neurosciences

Unit.2: Examination and Diagnosis

(15)

2.1 Psychiatric Interview, History and MSE

2.2 The Psychiatric Report and Medical Record

2.3 Psychiatric Rating Scales

2.4 Personality Assessments: Adults and Children

Unit 3: Psycho-diagnostic Assessment-I

(15)

3.1 Personality Inventory: MMPI, MCMI

3.2 Personality Inventory: NEO-PI, 16PF

3.3 Depression and Mania Measures

3.4 Anxiety and Anger Measures

Unit 4: Psycho-diagnostic Assessment-II

(15)

4.1 Projective Techniques: Pictorial

4.2 Projective Techniques: Verbal

4.3 Cross-cutting symptom measure- Child Form

4.4 Cross-cutting symptom measure- Adult form

References

Source Book

1. Kaplan Robert M, Saccuzzo Dennis P (2013) Psychological Assessment and theory, Cengage
2. Learning Publication, 8th ed

Reference Books

1. Groth-Marnat, G. (2003). Handbook Of Psychological Assessment(4th ed.). New Jersey:. John Wiley & Sons
2. Anastasi, A., Urbina, S. (2004).Psychological Testing (7th Ed.). India: Pearson Education Pvt. Ltd. (Indian Branch)
3. Graham, J. R., Naglieri, J.A. (Eds.), (2003). Handbook of Psychology; vol. 10 Assessment Psychology. New Jersey:. John Wiley
4. Urbania, S. (2004). Essentials of Psychological Testing. New Jersey:. John Wiley & Sons
5. Freeman. Theory and Practice of Psychological Testing
6. Lezak, M.D. (1995): Neuropsychological Assessment N. Y. Oxford University, Press.
7. Manuals of the Psychological Tests mentioned in curriculum

INTERNAL 40 MARKS EVALUATION FOR SEM- III

In first semester 40 marks evaluation done on the following basis:

Marks	Topics
20	Administration and interpretation of any two tests and submit its reports.
20	Internal Test

Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 304A -1	Investigation of cases through psychological testing.	4
PSY 304A -2	Application and selection of various tests as per requirement.	3
PSY 304A -3	Construct test reports as per test findings	5

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – III)

Elective Paper

PSY-304 B- Modern Career Counselling

Total Marks: 60+40

Total Hours: 60

Objectives

- ❖ To expose the students to the applications of counselling in various fields.
- ❖ To acquaint the students with various problems of adjustment across the life span.
- ❖ To sensitize the students to the ethics of career counselling.

Unit- 1: Basics of Career Counselling

(15/15)

- 1.1 Meaning and nature of career counseling
- 1.2 Importance of career counseling
- 1.3 Scope of career counselling
- 1.4 Challenges and Ethics of career counselling

Unit- 2: Career Planning

- 2.1 Meaning and process of career planning
- 2.2 Need and importance of career planning
- 2.3 Sources and benefits of career planning
- 2.4 Career Planning- Five steps (Self-evaluation, Exploration, Decision making and goal setting, Gaining experiences, Implementation)

Unit- 3: Career Development Theories in Counselling

- 3.1 Super's Developmental Theory
- 3.2 Social Cognitive Career Theory
- 3.3 Self-concept theory of career development
- 3.4 Theory of work adjustment

Unit- 4: Career Counselling with Diverse Populations

- 4.1 Career counselling with children and adolescents
- 4.2 Career counselling with adults
- 4.3 Career counselling with women and ethnic minorities
- 4.4 Career counselling the disabled population

Books for Reading:

1. Gladding, S. T. (2009). *Counseling: A Comprehensive Profession (6th Ed.)*. Pearson Publications, New Delhi, India.
2. Deshpande, C.G. (2016). *Counselling: Process and Application*. Pune: Unmesh Publication.
3. Rao, S. N. (1989). *Counseling Psychology*. Tata McGraw-Hill Publication Company Limited, New Delhi, India.

Books for References:

1. Feitham, C. & Horton, I. E. (Ed.) (2006). *The Sage handbook of Counseling and Psychotherapy*. (2ndEd.) Sage Publication, London.
2. Gibson, R. I. & Mitchell, M.H. (2005). *Introduction to Counseling and Guidance*. (6th Ed.) Pearson education Pvt. Ltd., Delhi.
3. Gelso, C.J. & Fretz, B.R. (1995). *Counseling Psychology*. Prism books Pvt. Ltd., Bangalore.
4. Gregory, R. J. (2005). *Psychological Testing*. (4thEd.) Pearson education Pvt. Ltd., Delhi.
5. Patterson, L. E. & Welfel, E.R. (2000). *The Counseling Process*. (5th Ed.) Sage Publication, London.
6. Nelson, R. (2000). *Introduction to Counseling Skills: Text and Activities*. Sage Publication, London.
7. Cohen, R. J. & Swerdlik, M. E. (2005). *Psychological Testing and Assessment*. (6th ed.) McGraw-Hill, Delhi.
8. Bor, R. & Watts, M. (Ed.) (2000). *The Trainee Handbook*, Sage Publication, London.
9. Hecker I.E. & Thorpe, G.L. (2005). *Introduction to Clinical Psychology, Science Practice and Ethics*, Pearson education, Delhi.

INTERNAL 40 MARKS EVALUATION FOR SEM – III

In first semester 40 marks evaluation done on the following basis:

Marks	Description of the Task
20	Seminar on any one topic of choice from the syllabus.
20	Internal Test

Outcomes:

CO No	Course Outcome	Cognitive Level
PSY 304B -1	Applications of counselling in various fields	3
PSY 304B -2	Analysis of different aspects of career guidance	4
PSY 304B -3	Design career planning and guidance	5

M.A. Part II Semester III (Psychology) Audit Courses

AC-301(A): Computer Skills

(Technology + Value added Audit course; Practical; 2 Credits)

(Optional: Campus + Program level)

Course Objectives (COs):

- To inculcate different daily useful computer skills among students.

Unit 1	Elements of Information Technology 1.1 Information Types: Text, Audio, Video, and Image, storage formats 1.2 Components: Operating System, Hardware and Software, firmware 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics	2 hrs
Unit 2	Office Automation-Text Processing 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, ReadingLayout View 2.2 Working with Files: Create New Documents, Open Existing Documents, SaveDocuments to different formats, Rename Documents, Close Documents 2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins 2.4 Lists: Bulleted and Numbered Lists, 2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Moveand Resize Tables, Moving the order of the column and/or rows inside a table, TableProperties 2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents, 2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters 2.8 Types of document files: RTF, PDF, DOCX etc.	5 hrs
Unit 3	Office Automation-Worksheet Data Processing 3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets, 3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells 3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells 3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts	5 hrs
Unit 4	Office Automation- Presentation Techniques and slide shows 4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout 4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes 4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check, Spelling options 4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing rowwidth, Adding a row/column, Deleting a row/column, Combining cells, Splitting a cell, Adding color to cells, To align text vertically in cells, To change table borders, Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slideanimation/transitions.	6 hrs

Unit 5	Internet & Applications: 5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing the Internet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers, Uniform resource locator 5.2 Internet Resources: Email, Parts of email, 5.3 Protecting the computer: Password protection, Viruses, Virus protection software, Updating the software, Scanning files, Net banking precautions. 5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services 5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing 5.6 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware	4 hrs
Unit 6	Cloud Computing Basics 6.1 Introduction to cloud computing 6.2 Cloud computing models: SAS, AAS, PAS 6.3 Examples of SAS, AAS, PAS (DropBox, Google Drive, Google Docs, Office 365 Prezi, etc.)	3 hrs

Suggested readings:

1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & Bartlett Learning, 2010, ISBN: 1449609821, 9781449609825
2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: Cengage Learning, 2010, ISBN: 0538472464, 9780538472463
3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5, Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552
4. Cloud computing online resources

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301A.1	Identify their lacunas about some computer skills and try to overcome the same.	2
AC301A.2	Practice the learned computer skills in real life and do their jobs more effectively.	3

AC-301(B): Cyber Security

(Technology + Value added Audit course; Practical; 2 Credits)

(Optional: Campus + Program level)

Course Objectives (COs):

- To make students aware of different daily useful cyber security skills/rules.

Unit 1	Networking Concepts Overview Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet	3 hrs
Unit 2	Security Concepts Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography.	7 hrs

	importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.	
Unit 3	Security Threats and vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Computer crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes	7 hrs
Unit 4	Cryptography Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure	5 hrs
Unit 5	System & Network Security System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.	3 hrs
Unit 6	OS Security Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.	2 hrs
Unit 7	Security Laws and Standards Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.	3 hrs
Suggested readings:		
<ol style="list-style-type: none"> 1. Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon 2. BPB Publication, “Fundamentals of Cyber Security”, Mayank Bhushan, Rajkumar Singh Rathore , Aatif Jamshed 3. CreateSpace Independent Publishing Platform, “Cyber Security Basics”, Don Franke, ISBN-13: 978-1522952190 ISBN-10: 1522952195 4. Online references 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301B.1	Practice learned cyber security skills/rules in real life.	3
AC301B.2	Provide guidance about cyber security skills/rules to their friends, parents and relatives.	2

AC -301 (C) Disaster Management in India

Course Objective:

(60Hrs.)

- 1 Understand the Disaster and its major effect on human security.
- 2 The paper offers various type of Disaster including issue of current relevance.
- 3 Understand Disaster Management and role of armed forces

Unit 1- Meaning, concept and type of Disaster**Unit 2- Natural Disaster in India and its Management****Unit 3- Role of Armed forces in Disaster Management****Unit 4- Man-made disaster Management and recent government policy****References:**

- 1) Colonel (Retd) P.P. Marathe' Concepts and Practices in Disaster Management' (Pune: Diamond Publications 2006).
- 2) Rajdeep Dasgupta' Disaster Management and Rehabilitation' (New Delhi: Mittal Publications 2007).
- 3) Kamal Taori' Disaster Management through Panchayat Raj'(New Delhi: Concept Publishing Company 2005).
- 4) Reddy, A.V.S., Study Report on vision document for Creation of National Centre for Disaster Management (NCDM)/National Disaster Management Bureau. (NDMB)
- 5) Ministry of home Affair, government of India, "Annual Report 2014-15", in NDMA, New Delhi.

Program Outcomes (PO) for M.A. Program:

Course outcomes: On completion of this course, the student will be able to:

PO No.	Program Outcomes	Cognitive level
AC-301. C. 1	Develop a capacity to reflect on new natural & Man-made Disaster in India	3
AC-301. C. 2	Development of disaster management skills and its awareness.	3
AC-301. C. 3	Work as disaster management adviser in various institutes.	5

AC-301 (D) Nuclear, Biological & Chemical Warfare

Course Objective:

(60Hrs.)

- 1 Understand the nuclear, biological & chemical warfare and its Impact of word.
- 2 To introduce students to environmental impacts of nuclear technology, and the physical and biological effects of ionizing radiation.

Unit 1- Nuclear Warfare**Unit 2- Nuclear Strategy & Defence****Unit 3- Biological Warfare****Unit 4- Chemical warfare****References:**

- 1) Baiely Kathleen C, Weapons of Mass Distractions Costs Versus Benefit, (New Delhi, Manhoar Publication, 1994)
- 2) Bansal Alok and DuttSagarika (ed), South Asian Security 21st Century Discourses, (London, New York and New Delhi, Rutledge, 2012)
- 3) Chavan Anil, Aftermath of a Nuclear Attack, (New Delhi, Pentagon Press, 2010)
- 4) Dando Malcolom, Bio-terror and Bio-warfare a Beginners Guide, (London, One world Publication, 2006)
- 5) Dwivedi Manan and ChakravarthyDevaditya, Internal Security Threats to South Asia, (New Delhi, Kalpaz Publication, 2013)
- 6) Iqbal Mohammad, "Focus on Bioterrorism", (Jaipur, Sublime Publication, 2013)

- 7) Kumar S, Nuclear Proliferation, (New Delhi, Shubhi Publications, New Delhi, 2009)
- 8) Mehata R.S. Encyclopedia of Nuclear Arms Control & Non-Proliferation, vol-04, Pentagon Press, New Delhi, 2007
- 9) Menon Raja, “Weapons of Mass Destruction: Options for India”, (New Delhi, Sage Publications Pvt. Ltd, 2004),

Program Outcomes (PO) for M.A. Program:

Course outcomes: On completion of this course, the student will be able to:

PO No.	Program Outcomes	Cognitive level
AC-301. D. 1	Development of disaster management skills and its awareness.	3
AC-301. D. 2	To expose students to career opportunities in radiological, nuclear, biological chemical (RNBC area), sciences and analysis.	3

**KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY,
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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – IV)

Compulsory Paper

PSY 401- Psychotherapeutics-II

Total Marks: 60 +40

Total Hours:60

Objectives:

1. To introduce students with the pharmacological aspects of psychology
2. To assess and plan psychotherapy for clients.
3. To train students in various skills of psychotherapy.

Hours/Marks

Unit 1- Psychopharmacology Therapy

(15)

- 1.1 Types of Psychological medicine.
- 1.2 Mechanism action of different drugs
- 1.3 Effects and side effects
- 1.4 Indications of drugs

Unit 2- Other Approaches

(15)

- 2.1 Psychodrama
- 2.2 Transactional Analysis
- 2.3 Existential Therapy
- 2.4 Logo Therapy

Unit 3- Therapies for Children

(15)

- 3.1 Play therapy
- 3.2 Parent child interaction Therapy
- 3.3 Supportive Therapy
- 3.4 Acceptance and commitment therapy.

Unit 4- Traditional healing methods and others

(15)

- 4.1 Yoga and Meditation
- 4.2 Vipassana
- 4.3 Reiki
- 4.4 Spirituality

References
Source Book

1. Korchin Sheldon.J (2004) Modern Clinical Psychology, CBS Publishers & Distributors.
2. John Sommers-Flanagan (2015) Counseling and Psychotherapy Theories in Context and Practice-Skills, Strategies, and Techniques, John Wiley & Sons, Inc

Reference Books-

1. Corsini, R.J. & Wedding, D. (Eds.) (1995). Current psychotherapies. Itasca, III... Peacock.
2. Gelso, C. J. & Fretz, B.R. (1995). Counselling psychology Bangalore: Prism books.
3. Woolfe, R. & Dryden, W. (Eds.) (1996). Handbook of counseling psychology. New Delhi: Sage.
4. Stewart, I. (2000). Transactional analysis counseling in action. London: Sage.
5. Beck, A.T. (1976). Cognitive therapy and behavior disorders.
6. Rimm, D.C. & Masters, J.C. (1987). Behavior therapy: Techniques and empirical findings. New York: Harcourt, Brace, Jovanich.
7. Watts, A. W. (1973). Psychotherapy: East and West. London: Penguin books.

Internal Marks

Marks	Description of the Task
20	One-month internship divided in various rehabilitation centers, School, Old age home and Remand home and submission of the report for external evaluation.
20	Internal Test

Course Outcomes:

CO No	Course Outcome	Cognitive Level
PSY 401 -1	Investigate various approaches of psychotherapy	4
PSY 401 -2	Classification of different therapies used in mental health	3
PSY 401 -3	Planning and implementation of psychotherapy	5

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Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – IV)

Compulsory Paper

PSY 402- Positive and Health Psychology

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To introduce concepts of positive and health psychology.
2. To acquaint students with positive, cognitive processes and pro- social behavior also wellbeing.
3. To aware about importance and applications of health psychology.

Unit 1- Introduction to positive psychology (15)

- 1.1 Concept and three pillars of Positive psychology
- 1.2 Assumptions, goals and definitions
- 1.3 Subjective well-being
- 1.4 Resilience in development

Unit 2- Cognitive Emotional Process (15)

- 2.1 Positive psychology of emotional intelligence and emotions
- 2.2 self-efficacies, Wisdom and Hope, flow of experience
- 2.3 Empathy, altruism and psychology of forgiveness
- 2.4 Love, Gratitude and meaningfulness in life

Unit 3- Stress and Health (15)

- 3.1 Impact of different types of stress and daily hassles
- 3.2 Nutrition, substance use, life style and psycho neuro immunology
- 3.3 Factors of personality, perception of health and illness.
- 3.4 Psychosocial support, coping mechanism

Unit 4- Psychology in various settings (15)

- 4.1 Diathesis stress model, Cognitive appraisal and GAS
- 4.2 Primary Prevention
- 4.3 Behaviour change and wellness
- 4.4 Community health and social relationships.

References

1. Fredrickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden and build theory of positive emotions. *American Psychologist*.
2. Seligman, M.E.P. (2011). A new understanding of happiness and well-being – and how to achieve them. London: Nicholas Brealey Publishing. Chapter 1. (pp. 9-29)
3. Seligman, M. E. P. *Flourish: A Visionary New Understanding of Happiness and Well-being*. New York: Free Press, 1987. Print.
4. Seligman, M. E. P., Parks, A. C. A., & Steen, T. A. “Balanced Psychology and a Full Life.” *The Royal Society* (2004): 1379–1381. Web. 24 Jan. 2012.
5. Seligman, M. E. P. & Csikszentmihalyi, M. “Positive Psychology: An Introduction.” *American Psychologist* 55 (2000). 5–14.
6. Gable, S. L. & Haidt, J. “What (and Why) Is Positive Psychology?” *Review of General Psychology* 9.2 (2005): 103–110.
7. Ben-Shahar, T. D. *Happier: Learn the Secrets to Daily Joy and Lasting Fulfillment*. New York: McGrawHill, 2007.
8. Csikszentmihalyi, M. “If We Are So Rich, Why Aren't We Happy?” *American Psychologist* 54.10 (1999): 821–827. Print.
9. Sheldon, K. M. & Kasser, T. “Goals, Congruence, and Positive Well-Being: New Empirical Support for Humanistic Theories.” *Journal of Humanistic Psychology* 41 (2001)

1. Internal Marks

Internal Test	Seminar	Attendance
20	10	10

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 402 -1	Application of various aspects of Health Psychology for the Well-being of the Human –being	3
PSY 402 -2	Adaptation of skills to maintain positive thinking	3
PSY 402 -3	Analysis of health and positive psychology in day to day life	4

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – IV)

Elective Paper

PSY 403 A- Psychological disorders - II

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To acquaint students with various manifestations of Psychopathology.
2. To understand the detailed symptoms, etiology and causes of various disorders defined as per DSM5
3. To know the updated changes in the classification of mental disorders according to DSM5

Unit 1: Neuro-Cognitive Disorders

15

1.1 Introduction and Overview

1.2 Delirium, Dementia

1.3 Major and Minor Neurocognitive Disorder due to another medical conditions (Amnesic Disorder) Neuro-cognitive and other disorders (Epilepsy, Brain Tumors, Head Trauma)

1.4 Neuro-cognitive and other Disorders due to a General Medical Condition

Unit 2: Feeding, Eating Disorders and Personality Disorders

15

2.1 Anorexia Nervosa; Bulimia Nervosa; Binge Eating Disorder and other Eating Disorder.

2.2 Obesity and the Metabolic Syndrome.

2.3 Personality disorders: cluster A, B, C

2.4 Personality disorders: mixed, etiology.

Unit 3: Substance Use and Addictive Disorders

15

3.1 Etiology, Statistics and causes of Substance use and Addictive disorder

3.2 Alcohol-Related; Caffeine-Related; Cannabis-Related Disorders

3.3 Hallucinogen-related Disorders; Inhalant-related; Opioid-related Disorders.

3.4 Internet Addiction and Internet Gaming Disorder.

Unit 4: Human Sexuality and sexual Dysfunctions

15

4.1 Normal Sexuality

4.2 Sexual Dysfunctions

4.3 Paraphilic Disorders, Gender Dysphoria.

4.4 Disruptive, Impulse-Control, and Conduct disorders.

References

1. Alloy, L.B. Riskind et. el. (2006). *Abnormal Psychology*, (9th ed.) Delhi, Tata McGraw Hill.
2. Barlow, D. H. & Durand, V. M. (2007) *Abnormal Psychology* (2nd ed.). Thompson Wadsworth.
3. Kaplan H. I.; Sadock B. J. . . (11th Edition). *Synopsis of Psychiatry*
4. American Psychiatric Association (1995). *Diagnostic and Statistical manual for mental disorders* (4th edition). International version. Washington, DC: American Psychiatric Association
5. Fauman, M.A. (1996). *Study guide to DSM-IV*. New Delhi: Jaypee Brothers.
6. Corner, R.J. (1995). *Abnormal Psychology* (2nd edition). New York: W. H. Freeman & co.
7. Gelder, M, Gath, D; MayoLI, R; & Cowen, P. (1996) *Oxford textbook of psychiatry* (3rd edition). Oxford: Oxford University Press.
8. Kaplan, H. I. ; Sadock B. J. ; and Greb , J.A. (1994). *Synopsis of psychiatry: Behavioural sciences, clinical psychiatry* (7' edition). New Delhi: B.I. Waverly Pvt Ltd.
9. Sarason I. G. & Sarason B. R. ; *Abnormal Psychology*-PHI Learning Private Ltd. , 11th Edition New Delhi 2008.
10. Carson R. C. & Butcher J.M. , Mineka , Hooley, – *Abnormal Psychology* ; 13th Pearson Edition. New Delhi.
11. Hoeksema S. N. – *Abnormal Psychology*. TMH Publication, New Delhi. 3rd Edition.

INTERNAL 40 MARKS EVALUATION FOR SEM-1V

In first semester 40 marks evaluation done on the following basis:

Marks	Assignment
20	One month Internship in Mental Health Clinic referred by Department and submit its report.
20	Internal Test

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 403A-1	Classification of various psychological disorders according to DSM5.	3
PSY 403A -2	Comparison and separation of psychological disorders	4
PSY 403A -3	Review symptoms, etiology and epidemiology of disorders.	5

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – IV)

Elective Paper

PSY 403 B- Advanced skills and processes in counseling

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To train students in understanding using the basic advanced skills for counseling
2. To train students in understanding and using counselling process and related aspects for counseling.
3. To plan and conduct interventions for people with different psychological issues.

Unit- 1: Skills for counselling

(15)

- 1.1 Basic skills
- 1.2 Advanced skills
- 1.3 Characteristics of effective counselor/ therapists.
- 1.4 Issues faced by novice therapist

Unit- 2: Therapeutic assessment, contracting and initiating session (15)

- 2.1 Therapeutic assessment, history taking, and formulation, setting goals.
- 2.2 Contracting and its implications
- 2.3 Skills for opening and closing sessions.
- 2.4 Initial contact and first session, crisis and support.

Unit- 3: Process of counseling

(15)

- 3.1 Initial phase
- 3.2 Ice-breaking, exploration, loss framework.
- 3.3 Dealing with resistance: techniques and applications.
- 3.4 Transference and counter-transference

Unit- 4: Termination and follow-up and documentation

(15)

- 4.1 Termination
- 4.2 Follow-up: systems and techniques, sustained changes.
- 4.3 Documentation
- 4.4 Legal implications

References

Books for Reading:

1. Faiver, C., Eisengart, S., Colonna, S. (2003). The counselor intern's handbook. Pacific Grove, CA: Brooks/Cole Publishing Company.
2. Martin, D. G. (2011). Counseling and Therapy Skills. NY: Waveland Pr In.
3. Moursund, J., & Kenny, M. C. (2002). The Process of Counseling and Therapy (4th ed.). Upper Saddle River, New Jersey: Prentice Hall.
4. Wolberg, L. R. (2005). The Technique of Psychotherapy Part I and II. NJ: Jason Aronson Inc.

Books for References:

1. Archer, J., & McCarthy, C. J. (2008). Theories of Counseling and Psychotherapy: Contemporary. Applications. Upper Saddle River, NJ: Merrill Prentice Hall.
2. Corey, G. (2012). Theory and Practice of Counseling and Psychotherapy. California: Brooks/ Cole Publishing.
3. Keeran, D. (2009). Effective Counseling Skills: The practical wording of therapeutic statements and processes. CreateSpace Independent Publishing Platform.
4. Neukrug, E.S. (2010). Counseling Theory and Practice. Brooks/Cole, Brooks/Cole, Cengage Learning
5. Hutchinson D. R. (2011). The Counseling Skills Practice Manual. New Delhi: SAGE Publications Inc.
6. Sommers-Flanagan, J. & Sommers-Flanagan, R. (2012). Counseling and Psychotherapy Theories in Context and Practice: Skills, Strategies, and Techniques. Hoboken.
7. John Wiley & Sons, Inc. 5. Morrison, J. (2007). The First Interview (3rd ed.). New York, NY: Guilford Press.
8. Perry, W. (2008). Basic Counseling Techniques: A Beginning Therapist's Tool Kit (2nd ed.). Bloomington, IN: Author House.

INTERNAL 40 MARKS EVALUATION FOR SEM – IV

In first semester 40 marks evaluation done on the following basis:

Marks	Contents
20	One month Internship in School/educational institute referred by Department and submit its report.
20	Internal Test

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 403B-1	Application of advanced skills in counselling	3
PSY 403B-2	Analysis of various processes of counselling	4
PSY 403B-3	Design and planning of counselling session for clients.	5

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – IV)

Elective Paper

PSY 404 A- Psycho-diagnostics II

Total Marks: 60+40

Total Hours: 60

Objectives:

1. To introduce Psycho-diagnostic procedures
2. To know the skills through practical learning, case discussions, observations
3. To train students for assessment and evaluation of patients

Unit 1) Intelligence Assessment- I (15)

- 1.1. Weschler intelligence tests
- 1.2. Stanford binet test
- 1.3. MISIC
- 1.4. SPM, RPM,CPM

Unit 2) Intelligence assessment -II (15)

- 2.1. Developmental assessment- SFB
- 2.2. Social assessment- VSMS
- 2.3. Performance tests: Bhatia's battery, WAPIS
- 2.4. Draw a man test

Unit 3) Neuropsychological tests (15)

- 3.1. BGVMT
- 3.2. WMS
- 3.3. PGI battery for brain dysfunction
- 3.4. Minimal brain dysfunctions (MBD)

Unit 4) other tests and scales (15)

- 4.1. Self report scales
- 4.2. Addiction tests
- 4.3. Rating scales
- 4.4. Biofeedback, EEG

References

Source Book

1. Kaplan Robert M, Saccuzzo Dennis P (2013) Psychological Assessment and theory, Cengage
2. Learning Publication, 8th ed

Reference Books

1. Groth-Marnat, G. (2003). Handbook Of Psychological Assessment(4th ed.). New Jersey: John Wiley & Sons
2. Anastasi, A., Urbina, S. (2004).Psychological Testing (7th Ed.). India: Pearson Education Pvt. Ltd. (Indian Branch)
3. Graham, J. R., Naglieri, J.A. (Eds.), (2003). Handbook of Psychology; vol. 10 Assessment Psychology. New Jersey: John Wiley
4. Urbania, S. (2004). Essentials of Psychological Testing. New Jersey: John Wiley & Sons
5. Freeman. Theory and Practice of Psychological Testing
6. Lezak, M.D. (1995): Neuropsychological Assessment N. Y. Oxford University, Press.
7. Manuals of the Psychological Tests mentioned in curriculum

INTERNAL 40 MARKS EVALUATION FOR SEM – IV TH

In first semester 40 marks evaluation done on the following basis:

Marks	
20	Study tour & visit to mental health Institute and submit the report.
20	Internal Test

Outcomes:

CO No	Course Outcome	Cognitive Level
PSY 404A-1	Investigation of cases through psychological testing.	4
PSY 404A-2	Application and selection of various tests as per requirement.	3
PSY 404A-3	Construct test reports as per test findings	5

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Syllabus under CBCS for MA in PSYCHOLOGY

Syllabus Structure (w.e.f 2023- 24)

M.A. Part II (Semester – IV)

Elective Paper

PSY 404 B- – Assessment in Counselling Psychology

Total Marks: 60 +40

Total Hours: 60

Objectives:

1. To acquaint students with various assessment approaches and tools.
2. To explore different fields in counselling.
3. To train students for selection, Administration and interpretation of different types of tests.

Course contents	Hours/Marks
Unit- 1: Introduction	(15)
1.1 Nature, history and scope of Psychological Assessment	
1.2 types of Psychological Assessment	
1.3 Standardized and non standardized techniques of Assessment	
1.4 Ethical issues of Psychological Assessment	
Unit-2: Ability and Aptitude Assessment	(15)
2.1 Intelligence: MISIC, WISC, BKT	
2.2 Intelligence: Bhatia's Battery, SPM	
2.3 Aptitude: DBDA, MDI	
2.4 Developmental assessment	
Unit- 3: Personality Assessment	(15)
3.1 16PF, HSPQ	
3.2 NEO-PI-3	
3.3 Assessment of Social, Academics and Occupational issues	
3.4 Assessment of Study Habits and Interests	
Unit- 4: Other related areas Assessment	(15/15)
4.1 Computer assisted assessment	
4.2 Stress and Anxiety assessment	
4.3 Assessment and Planning interventions	
4.4 Test interpretation and report writing	

References:

Books for Reading:

1. Gladding, S. T. (2009). *Counseling: A Comprehensive Profession (6th Ed.)*. Pearson Publications, New Delhi, India.
2. Deshpande, C.G. (2016). *Counselling: Process and Application*. Pune: Unmesh Publication.
3. Rao, S. N. (1989). *Counseling Psychology*. Tata McGraw-Hill Publication Company Limited, New Delhi, India.

Books for References:

1. Feitham, C. & Horton, I. E. (Ed.) (2006). *The Sage handbook of Counseling and Psychotherapy*. (2ndEd.) Sage Publication, London.
2. Gibson, R. I. & Mitchell, M.H. (2005). *Introduction to Counseling and Guidance*. (6th Ed.) Pearson education Pvt. Ltd., Delhi.
3. Gelso, C.J. & Fretz, B.R. (1995). *Counseling Psychology*. Prism books Pvt. Ltd., Bangalore.
4. Gregory, R. J. (2005). *Psychological Testing*. (4thEd.) Pearson education Pvt. Ltd., Delhi.
5. Patterson, L. E. & Welfel, E.R. (2000). *The Counseling Process*. (5th Ed.) Wodsworth / Thomson Learning, Belmont.
6. Nelson, R. (2000). *Introduction to Counseling Skills: Text and Activities*. Sage Publication, London.
7. Cohen, R. J. & Swerdlik, M. E. (2005). *Psychological Testing and Assessment*. (6th ed.) McGraw-Hill, Delhi.
8. Bor, R. & Watts, M. (Ed.) (2000). *The Trainee Handbook*, Sage Publication, London.
9. Ashtaputre, A. A. (2015) *Counselling* Shodhani Prakashan, Aurangabad
10. Hecker I.E. & Thorpe, G.L. (2005). *Introduction to Clinical Psychology, Science, Practice and Ethics*, Pearson education, Delhi.

INTERNAL 40 MARKS EVALUATION FOR SEM – IVTH

In first semester 40 marks evaluation done on the following basis:

Marks	
20	Study tour & visit to mental health Institute/ counselling center and submit the report.
20	Internal Test

Course Outcomes:

After completion of this course students will be able to-

CO No	Course Outcome	Cognitive Level
PSY 404B-1	Investigation of cases through psychological testing.	4
PSY 404B-2	Application and selection of various tests as per requirement.	3
PSY 404B-3	Construct test reports as per test findings	5

M.A. Part II Semester IV (Psychology): Audit Courses

AC-401(A): Human Rights (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional: Campus-level)		
	<i>Course Objectives (COs):</i> <ul style="list-style-type: none">To make students aware about human rights and human values.	
Unit 1	Introduction to Human Rights 1.1 Concept of Human Rights 1.2 Nature and Scope of Human Rights 1.3 Fundamental Rights and Fundamental Duties 1.4 Interrelation of Rights and Duties	6 hrs.
Unit 2	Human Rights in India 2.1 Meaning and Significance of : 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies. 2.2 Constitutional Provisions for Human Rights 2.3 Declaration of Human Rights 2.4: National Human Rights Commission	8 hrs.
Unit 3	Human Values 3.1: Meaning and Definitions of Values 3.2: Importance of values in the life of Individual 3.3: Types of Values	8 hrs.

	3.4: Programmes for conservation of Values	
Unit 4	Status of Social and Economically Disadvantaged people and their rights : Rights of women and children in the context of Social status : The Minorities and Human Rights : Status of SC/ST and other Indigenous People in the Indian Scenario 4.4: Human rights of economically disadvantaged Society	8 hrs.
Suggested readings:		
1. Human rights education – YCMOU, Nasik		
2. Value education – SCERT, Pune		
3. Human rights reference handbook – Lucille whare		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401A.1	Practice the learned issues under human rights and human values in real life.	3
AC401A.2	Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.	5

AC-401(B): Current Affairs (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional: Campus-level)			
Course Objectives (CObs):			
<ul style="list-style-type: none"> To make students updated about current affairs of India and world. 			
	Title	Content	Hours
Unit 1	Politics & Economy	<ul style="list-style-type: none"> National & International Political Activity, Organization. Economy & Business, Corporate world 	08
Unit 2	Awards and recognitions	<ul style="list-style-type: none"> National & International Awards and recognitions Books and authors 	07
Unit 3	Science & Technology	<ul style="list-style-type: none"> Software, Automobile, Space Research New inventions and discoveries 	07
Unit 4	Environment & Sports	<ul style="list-style-type: none"> Summit & conference, Ecology & Climate, Organization. National & International Games, Olympics, commonwealth etc. 	08
Suggested readings (Use recent years' data and current literature):			
1. India 2019, by Publications Division Government of India			
2. Manorama Year Book by Philip Mathew,			
3. India 2019, Rajiv Maharshi			
4. Quick General Knowledge 2018 with Current Affairs Update, Disha Experts			
5. General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board.			

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401B.1	Identify important issues currently/ recently happening in India or world.	5
AC401B.2	Summarize current affairs regularly.	6

AC- 401-(C) India's Land-Border

Course Objective:

1 To inform the students about the India's land border and their security atmosphere

Unit 1- India-China Border (Hrs. 08)

Unit 2- India-Pakistan Border (Hrs. 08)

Unit 3- India-Bangladesh Border (Hrs. 07)

Unit 4- India-Myanmar Border (Hrs. 07)

Reference:

- 1) Gautam Das, Securing India's Borders: Challenges and Policy options, (New Delhi: Pentagon press, 2012)
- 2) Ibrahim Sajad KM, South Asia (Delhi: New century Publication, 2013)
- 3) Gautam Das, Insurgencies in North East India , (New Delhi: Pentagon press, 2013)
- 4) Calvocoressi Peter, World Politics 1945 -2000 (Delhi, Dorling Kindersley publishing, 2006)
- 5) Sali M. L., India-China Relation, (New Delhi: APH publishing corporation, 2009)
- 6) Wagh L. P., India-Myanmar Relation, (Kanpur: Atul Prakashan,2017)
- 7) BaduriyaDhahiya India's Neighbourhood (New delhi: IDSA, 2012)

Course outcomes: On completion of this course, the student will be able to:

PO No.	Course Outcomes	Cognitive level
AC-401. C. 1	Have basic awareness of India's land border issue and dispute	2
AC-401. C. 2	Develop as a good knowledge of India and neighbourhoods land border.	4

AC- 401-(D) Regional Security Issues

Course Objective:

- 1 The paper offers various approaches to world's regional security issue.
- 2 Develop regional security approach or interference of world power state.

Unit 1- Jammu and Kashmir Dispute (Hrs. 08)

Unit 2- Israel- Palestine Issue (Hrs. 08)

Unit 3- Xinjiang Issue in China (Hrs. 07)

Unit 4- Hong Cong Political Crisis (Hrs. 07)

Reference:

1. Ziring, Lawrence, Pakistan-at the crosscurrent of History (Manas Publication, New Delhi,2005).
2. Schofield, Victoria, Kashmir in Conflict: India, Pakistan and the Unending War (Viva Books, New Delhi,2005).
3. Ibrahim Sajad KM, South Asia (Delhi: New century Publication, 2013)
4. W.Edward, The Question of Palestine ,(Ventage Publication,1992)
5. China's Forgotten People: Xinjiang, Terror and the Chinese State, (I.B.Tauries & Co.Ltd,2015)

Program Outcomes (PO) for M.A. Program:

Course outcomes: On completion of this course, the student will be able to:

PO No.	Program Outcomes	Cognitive level
AC-401. D. 1	Identify and analyse the sources of international and regional political conflict	2
AC- 401. D. 2	Analyse the regional issues and create own opinion with remark capability	2

JOB OPPORTUNITIES -

1. After completion of this course students can work as psychologist.
2. Students have opportunities in the field of mental hygiene and field of public health is open for them.
3. Students can work as mental health professional in mental health clinic.
4. Students have opportunities to work as counselor in various fields.
5. Students have opportunities to work as Industrial Psychologist.
6. Students have opportunities to work as school counselor.
7. Students have opportunities to work as career guidance professional.
8. Students have opportunities to work as Child counselor as well as a Family counselor.
9. After completion of this course students can work in teaching field.
10. Work as rehabilitation professional for mentally and physically handicapped and for special children.
11. Students can work as a research assistant.
12. NET/ SET Examination
13. Education Field
14. Maharashtra Public Service Commission
15. Union Public service Commission

Syllabus Committee

Dr. Anil N. Chikate

(Chairman, B.O.S.)

Director,

School of Arts and Humanities, KBCNMU, Jalgaon

Dr. Vina D. Mahajan

(Co-ordinator)

Assistant Professor,

Department of Psychology,
School of Arts and Humanities,
KBCNMU, Jalgaon

Prof. Dr. C. P. Labhane

(Member)

Head,

Department of Psychology,
M. J. College, Jalgaon.

Dr. Anilsing D. Taur

(Member)

Assistant Professor,

Department of Psychology,
School of Arts and Humanities,
KBCNMU, Jalgaon

Mr. Prasanna D. Bhalerao (Alumni)

Department of Psychology,
School of Arts and Humanities,
KBCNMU, Jalgaon

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon



'A' Grade
NAAC Re-Accredited
(3rd Cycle)

SYLLABUS

For

M.A. / M. Sc.- IInd YEAR (Sem. IIIrd and IVth)

Subject: Geography

Under

Choice Based Credit System

(With Effect from June - 2022)

**Summary of Distribution of Credits under CBCS Scheme
for
M. A /M.Sc. (Geography)**

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	16	16	16	12
02	Skill based	04	04	-	-
03	Elective	-	-	04	04
04	Project	-	-	-	04
05	Audit	02	02	02	02
06	Total Credits	22	22	22	22

Subject Type	Core	Skill based	School Elective	Project	Audit	Total
Credits	60	08	08	04	08	88

Total Credits = 88

Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

M.A / M. Sc. Geography

Choice Based Credit System (Outcome Based Curriculum) with effect from 2021 -2022

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	4	8 + 8	16	1	4 + 0	4	1	2	2	22
II	4	12 + 4	16	1	0 + 4	4	1	2	2	22
III	4	8 + 8	16	1	4 + 0	4	1	2	2	22
IV	4	8 + 8	16	1	4 + 0	4	1	2	2	22
Total Credits	64			16			8			88

(T, Theory; P, Practical)

Structure of Curriculum

		First Year				Second Year				Total Credit Value
		Semester I		Semester II		Semester III		Semester IV		
		Credit	Course	Credit	Course	Credit	Course	Credit	Course	
(A)	Prerequisite and Core Courses									
	Theory	4	2	4	3	4	2	4	2	36
	Practical	4	2	4	1	4	2	4	2	28
(B)	Skill Based / Subject Elective Courses									
1	Theory /Practical	4	1	4	1	4	1	4	1	16
(C)	Audit Course (No weightage in CGPA calculations)									
1	Practicing Cleanliness	2	1							2
2	Personality and Cultural Development Related Course			2	1					2
3	Technology Related + Value Added Course					2	1			
4	Professional and Social + Value Added Course							2	1	2
	Total Credit Value	14	6	14	6	14	6	14	6	88

Semester III (Choose One)		Semester IV (Choose One)	
Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title
AC-301A	Computer Skills	AC-401A	Human Rights
AC-301B	Cyber Security	AC-401B	Current Affairs
AC-301C	Rainwater Harvesting	AC-401C	Green Audit
AC-301D	Geo-Tourism	AC-401D	Review of Research Paper

Semester-wise Course Structure of M.A M.Sc. Geography

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
GG. -301	Core	Regional Geography of India	4	--	4	40	--	60	--	4
GG.-302	Core	Research Methodology	4	--	4	40	--	60	--	4
GG.303	Elective	(Choose one out of Three.)								
		GG.303 A Watershed Management and Planning								
		GG.303 B Geographical Information System	4	-	4	40	-	60	-	4
		GG.303 C Agricultural Geography								
GG. -304	Core	Practical in Remote Sensing - Interpretation of Aerial Photographs and Satellite Imageries	--	4+4	8	--	40	--	60	4
GG. -305	Core	Practical of Computerize Data Analysis Techniques in Geography	-	4+4	8	-	40	-	60	4
AC-301 A/B/C/D	Audit Course	(Choose one out of Four) AC-301A - Computer Skills / AC-301B - Cyber Security / AC-301C – Rainwater Harvesting / AC-301D- Geo-tourism								
				2	2	100	--	--	2	
Total Credit for Semester III: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
GG. -401	Core	Geomorphology	4	--	4	40	--	60	--	4
GG.-402	Core	Climatology	4	--	4	40	--	60	--	4
GG.-403	Elective	(Choose one out of Three.)								
		GG.403 A Geography of Rural Settlements	4	-	4	40	-	60	-	4
		GG.403 B Geography of Resources								
		GG.403 C Industrial Geography								
GG.-404	Core	Practical in Physical Geography	--	4+4	8	--	40	--	60	4
GG.405	Core	Project work	-	4+4	8	-	40	-	60	4
AC-401 A/B/C/D	Audit Course	(Choose one out of Four)								
		AC-401A Human Rights /								
		AC-401B Current Affairs /								
		AC-401C Green Audit /	2		2	100	--	--	2	
		AC-401D Review of Research Paper								
Total Credit for Semester IV: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

**Equivalences for old courses of M.A / M.Sc Geography
(Part I and II)**

Semester – Ist

Old Courses (June 2017)		New Courses (June 2021)	
Code of Courses	Title of the courses	Code of Course	Title of the courses
Gg.111	Principles of Economic Geography	GG. 101	Principles of Economic Geography
Gg.112	Principles of Population and Settlement Geography.	GG.102	Principles of Population Geography
Gg.113	Principles of Climatology.	GG.402	Climatology
Gg.114	Principles of Geomorphology.	GG. 401	Geomorphology
Gg.115	Practical in Geography	GG.103	Practical in Interpretation of SOI Topographical maps and Surveying by GPS

Semester – IInd

Old Courses (June 2017)		New Courses (June 2021)	
Code of Courses	Title of the courses	Code of Courses	Title of the courses
Gg.211	Geographical Thoughts	GG. 201	Geographical Thoughts
Gg.212	Social and Cultural Geography	GG.202	Social and Cultural Geography
Gg.213	Remote Sensing.	GG.203	Remote Sensing
Gg.214	Geo-Statistical Methods		#
Gg.215	Practical of Computerize Data Analysis Techniques in Geography	GG.204	Practical in Cartographic Techniques with the help of GIS

Semester – IIIrd

Old Courses (June 2017)		New Courses (June 2022)	
Code of Courses	Title of the courses	Code of Course	Title of the courses
Gg.311(A) Gg.311(B)	Regional Geography of U. S. A OR Regional Geography of Asia.	GG. 301	Regional Geography of India
Gg.312	Environmental Geography.	#	
Gg.313	.Geographical Informational System.	#	
Gg.314	Watershed Management and Planning	#	
Gg.315	Practical of Physical Geography with the help of GIS.	#	

Semester – IVth

Old Courses (June 2017)		New Courses (June 2022)	
Code of Courses	Title of the courses	Code of Courses	Title of the courses
Gg.411(A)	Fluvial Geomorphology. OR		#
Gg.411(B)	Industrial Geography. OR	GG. 403 (C)	Industrial Geography
Gg. 411(C)	Geography of Rural Settlement.	GG.403(A)	Geography of Rural Settlements.
Gg.412(A)	Tropical Geomorphology. OR		#
Gg.412(B)	Geography of Trade and Transport. OR		#
Gg. 412(C)	Urban Geography.		#
Gg. 413(A)	Research Methodology. OR	GG. 302	Research Methodology
Gg. 413 (B)	Dissertation.	GG.405	Project Work
Gg.414(A)	Geography of Tourism. OR GG.105		GG.105- Tourism Management
Gg.414(B)	Coastal Geomorphology. OR		#
Gg. 414 (C)	Agricultural Geography.		GG.303 (C) Agricultural Geography.
Gg.415	Interpretation of Topographical Maps, Aerial Photographs , Satellite Imageries , Surveying.		#

No equivalent course is available for this paper, so # No equivalent course is available for this paper, so students may be allowed to appear by old course.

Distribution of Course papers for M.A / M. Sc. Part II (Geography)

Subject Code	Title of the Paper		Duration (Hrs./Wk)	Max. Mark	Exam. Time (Hrs.)
M.A / M.Sc. Part II					
Semester III					
GG.-301	Regional Geography of India	Core course	04	100	03
GG -302	Research Methodology	Core course	04	100	03
GG -303	Choose one out of Three GG- 303A - Watershed Management and Planning. / GG- 303B - Geographical Information System ./ GG- 303C - Agricultural Geography /		04	100	03
GG -304	Practical in Remote Sensing – Interpretation of Aerial Photographs and Satellite Imageries	Core course	04+04	100	06
GG -305	Practical of Computerize Data Analysis Techniques in Geography	Core course	04+04	100	06
AC-301	Choose one out of Four AC-301A – Computer Skills / AC-301B – Cyber Security/ AC-301C -Rain water harvesting / AC-301D- Geo-tourism	Audit Course	02	100	
Semester IV					
GG -401	Geomorphology	Core course	04	100	03
GG -402	Climatology	Core course	04	100	03
GG -403	Choose one out of Three GG- 403A - Geography of Rural Settlements / GG- 403B - Geography of Resources / GG- 403C - Industrial Geography		04	100	03
GG -404	Practical in Physical Geography	Core course	04+04	100	06
GG -405	Project work		04+04	100	06
AC-401A/B/C/D	Choose one out of Four AC-401A - Human Rights / AC-401B - Current Affairs / AC-401C- Green Audit / AC-401D - Review of Research Paper	Audit Course	02	100	

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New Syllabus M.A./M.Sc. Geography
Semester-III (CBCS Pattern)
Theory - Core-Course

Gg. 301: Regional Geography of India

(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. To acquaint the students with basic knowledge of our country.
2. To aware the students about physiography, drainage, climate, soils and natural vegetation of India.
3. To aware the students with natural resources available in the country and need of conservation and protection of them.
4. To make the students ready for NET, SET and competitive examinations.

Course Outcomes:

After completion of this course, the students will be able to

1. Know about their own country regarding physical and cultural aspects.
2. Examine the regional differentiation in the study of India.

Unit no.	Units	Sub-Units	Lectures
1	Introduction of Physiography Drainage Systems	i. Geographical and relative location of India Main physiographic divisions & their importance <ol style="list-style-type: none"> i. The northern mountains ii. The north Indian Plain iii. The peninsular plateau iv. The coastal lowlands v. The islands A) Himalayan drainage systems: <ol style="list-style-type: none"> i. Ganga ii. Brahmaputra iii. Indus B) Peninsular drainage system <ol style="list-style-type: none"> 1. East Flowing Rivers: <ol style="list-style-type: none"> i. Godavari ii. Krishna iii. Mahanadi 2. West Flowing Rivers: <ol style="list-style-type: none"> i. Narmada ii. Tapi 	14

2	Climate	<p>A) Main Seasons & Associated weather conditions:</p> <ol style="list-style-type: none"> i. The winter ii. The summer iii. The rainy/monsoon iv. The retreat monsoon <p>B) Origin and mechanism of monsoon:</p> <ol style="list-style-type: none"> i. Traditional concept: Halley's view ii. Recent Concept: <ol style="list-style-type: none"> a. Role of Tibet plateau b. ITCZ c. Jet Stream d. El-Nino 	08
3	Soils and Agriculture	<p>A) Major soil types and their distribution in India:</p> <ol style="list-style-type: none"> i. Alluvial soil ii. Black soil iii. Red soil iv. Arid and Desert soils v. Saline and Alkaline soils vi. Peaty and Marshy soils iii. Soil degradation and soil conservation <p>B) Distribution and Production of Major Crops:</p> <ol style="list-style-type: none"> i. Rice ii. Wheat iii. Cotton iv. Sugarcane <p>C) Factors affecting Indian Agriculture:</p> <ol style="list-style-type: none"> i. Environmental Factors ii. Technological Factors iii. Institutional Factors 	12
4	Forest	<p>A) Main forest types and their distribution in India:</p> <ol style="list-style-type: none"> i. Moist Tropical forests ii. Dry Tropical forests iii. Montane Sub-tropical forests iv. Montane Temperate forests v. Alpine forests 	06
5	Minerals, Energy Resources and Industries	<p>A) Distribution and Utilization of Minerals:</p> <ol style="list-style-type: none"> i. Iron Ore ii. Manganese iii. Bauxite <p>B) Distribution and Utilization of Energy Resources:</p> <ol style="list-style-type: none"> i. Coal ii. Petroleum iii. Natural gas <p>C) Major power projects in India:</p> <ol style="list-style-type: none"> i. Hydro electric ii. Thermal Power 	12

		iii. Atomic power A) Major Industries in India: i. Cotton Textile ii. Iron and Steel B) Major Industrial Regions in India	
6	Population	A) Growth and distribution of population in India B) Composition and structure of Population: i. Age-sex ii. Religious iii. Marital status iv. Occupational structure	08

N.B.: According need of topics, maps are expected.

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Agrawal A. N. (2019): "Indian economy, Developmental Problems and policies" New Age International Pvt. Ltd.
2. Bhende, Asha A and Kanitkar Tara (2015): "Principles of Population Studies", Himalaya Pub. House, New Delhi.
3. Chandana R. C. (2016): "Geography of population", Kalyani Publishers, New Delhi.
4. Chopra S. N. - India, an Area Study.
5. Deshpande C. D. (1992): "India: A Regional Interpretation", Indian Council of Social Science Research and National Book Centre, New Delhi
6. Dubey and Negi - Economic Geography of India.
7. Gopal Singh (1976): Geography of India" Atma Ram Pub., Delhi
8. Khullar D. R. (2018) : "India: a Comprehensive Geography" Kalyani Publishers
9. Majid Husain (2008): "Geography of India", Tata McGraw Hill, New Delhi
10. Mathur, S. M. (1994): Physical Geology of India, National Book Trust, New Delhi, India.
11. Memoria, I. B. - Geography of India.
12. Singh R. L. (1971): "India-A Regional Geography". NGSI, Varanasi.

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Semester-III (CBCS Pattern)
Theory - Core-Course

Gg. 302: Research Methodology
(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. To create an awareness about research in the field.
2. To make a scientific view about the geographical phenomenon.
3. To develop the research ability and get solution on various problems.

Course Outcomes:

1. Student will acquire skills related to research methodology.
2. Students have been getting an advanced information and techniques in research.
3. Capability to acquire and apply fundamental principles of research methodology.

Unit No.	Units	Sub Units	Lectures
1	Concept Research & Research Problem	A) Concept of Research- I. Definition and Significance of Research. II. Motivation in Research. III. Types of Research. IV. Criteria of Good Research. V. Plagiarism -Concepts B) Research Problem- I. Meaning of Research Problem. II. Selecting the Problem. III. Techniques involved in defining a problem. IV. Literature Survey: Library and Documentation.	14
2	Hypothesis	A) Characteristic of usable hypothesis. B) Types of Hypothesis. C) Sources of Hypothesis. D) Formulation of Hypothesis. E) Testing of Hypothesis.	8
3	Research Design	A) Meaning of Research Design. B) Need of Research Design. C) Features of a Good Design. D) Important Concepts Relating to Research Design.	8

4	Sampling Design	A) Implications of Sample Design. B) Steps in Sampling Design. C) Criteria of selecting a Sampling Procedure. D) Characteristics of a Good Sample Design. E) Types of Sampling-Probability & Non Probability Sampling. F) Complex Random Sampling Design.	10
5	Data Collection Methods	A) Collection of Primary Data through- a. Observation b. Interview c. Questionnaires d. Schedules B) Collection of Secondary Data C) Guidelines for Constructing Questionnaire	8
6	Interpretation And report writing	A) Interpretation of Data – I. Techniques of Interpretation II. Precautions in Interpretation. B) Report Writing- I. Significance of Report writing. II. Types of Research Report. III. Different Steps in Writing Report. IV. Layout of the Research Report. V. Precautions for Writing Research Report.	12

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Kothari, C, R, (2004II Edn): Research Methodology Methods and Techniques, New Age International Publishers, New Delhi.
2. Mishra, R, P. (1989): Research Methodology A Hand Book, Concept Publishing Co, New Delhi.
3. Nayak J, k. And Singh, Priyanka (2004II Edn): Fundamentals of Research Methodology Problems and Prospectus, SSDN Publishers and Distributors, New Delhi.
4. Nicholas Walliman (2011): Research Methods the Basics, Routledge Taylor and Francis Group, London & New York.
5. Pandey, Prabhat and Pandey, Meenu M, (2015): Research Methodology Tools and Techniques, Bridge Centre, Buzau, Romania.
6. Ranjit Kumar (2011 III Edn): Research Methodology A Step-by-Step Guide for Beginners, SAGE Publishers, Los Angeles, New Delhi.
7. Tiwari R, N. and Shukla, D, P. (2003): Research Methodology, College Book Depot, Tripolia, Jaipur.

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Semester-III (CBCS Pattern)
Theory – Elective - Course

Gg. 303 A : Watershed Management and Planning
(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. To know the concept of watershed management
2. To learn the technique of watershed demarcation
3. To study the morphometric parameters
4. To learn the techniques of water conservation

Course Outcomes:

At the end of the course, the student will be able to -

1. Understand the concept of watershed management and planning
2. Demarcate the watershed boundary using toposheet
3. Analyze the morphometric parameters
4. Learn the hydrogeology term and application of GIS.

Unit no.	Units	Sub-Units	Lectures
1	Introduction and Characteristics of Watershed	a) Concept of Watershed b) Types of Watershed c) Need and Importance for watershed management d) Demarcation of Watershed e) Channel geometry i. Cross profile ii. Longitudinal Profile f) Types of Channel	10
2	Basin Morphometry Linear Aspects	Morphometric Parameters a) Stream order b) Stream Length c) Mean stream length d) Stream length ratio e) Bifurcation Ratio f) Sinuosity Index	12
3	Basin Morphometry Aerial Aspects	Morphometric Parameters a) Aerial Aspects i) Stream Frequency ii) Drainage Density b) Drainage analysis on the basis of	10

		i) Horton's Form Factor ii) Miller's Circularity Ratio iii) Strahler's Ruggedness Index iv) Elongation ratio by Schumn v) Texture ratio by Hortan	
4	Relief Aspect	Morphometric Parameters a) Basin relief b) Absolute relief ratio c) Relative relief ratio d) Relief ratio e) Ruggedness Number f) Dissection Index	08
5	Hydrogeology	a) Water Budgeting b) Hydrological Characteristics i) Infiltration ii) Porosity iii) Runoff c) Aquifer and types of Aquifer	08
6	Watershed Management & Planning	a) Applications of GIS in Watershed management b) Integrated Watershed Management Programs – IWMP (India) and Jalyukt Shivar (Maharashtra) c) Perspective on recycle and reuse d) Rainwater Harvesting	12

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Murthy J. V. S. (1994): Watershed Management in India, Wiley Eastern Ltd. New Delhi.
2. Paranjape S. and Other (1980): Water based Development, Bharat Gyan Vigyan Samithi, New Delhi.
3. Mutreja K. N. (1990): Applied Hydrology, Tata Mc Graw Hill Pub. Co. Ltd. New Delhi.
4. Shing R. J. (2000): Watershed planning and Management, Yash Publishing House, Bikaner.
5. Chanda B., Dattaa D., Mujumdar (2001): Digital Image Processing and Analysis, Prentice- Hall of India.
6. Prithvish Nag and M. Kudrat (1998): Digital Remote Sensing, Concept Publishing Co. New Delhi.
7. Basudeb Bhatta (2011): Remote Sensing and GIS, 2nd ed., Oxford University Press.
8. M. Anji Reddy: Text book of Remote Sensing and GIS, 3rd Ed., BS Publications, Hyderabad-72.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-III (CBCS Pattern)
Theory – Elective - Course

Gg. 303 B : Geographical Information System .

(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

- 1) To understand the principles and concepts of GIS and its applications.
- 2) To acquire theoretical knowledge of coordinate systems used in GIS.
- 3) To aware the students about the data models used in GIS.
- 4) To make the students familiar with the various processes involved in GIS.
- 5) To acquaint the students with the various Geo-spatial analysis.
- 6) To make the students aware of different Geo-spatial data analysis methods used in GIS.

Course Outcomes:

After completing this course, the students will be able to

- 1) Acquaint with different basic concepts and applications of GIS.
- 2) Explain theoretical knowledge of coordinate systems used in GIS.
- 3) Built various data models used in GIS.
- 4) Familiar with the various processes involved in GIS.
- 5) Acquaint with the various Geo-spatial analysis.
- 6) Understand the different Geo-spatial data analysis methods used in GIS

Unit no.	Units	Sub-Units	Lectures
1	Introduction to GIS	1.1 Introduction and Definition 1.2 History of GIS 1.3 Components of GIS 1.4 GIS Operations 1.5 Applications of GIS in various fields	10
2	Coordinate Systems	2.1 Geographical Coordinate System 2.2 Map Projections 2.3 Commonly used Map Projections 2.4 Projected Coordinate Systems	10
3	Data Models	3.1 Spatial Data Models: 3.1.1 Raster Data Model 3.1.2 Vector Data Model 3.1.3 Comparison of Raster and Vector Data Models 3.2 Non-Spatial Data Model: 3.2.1 Data Base Management Systems 3.2.2 Attribute Data	08
4	Process of GIS	4.1 Introduction	10

		4.2 Data Capture/Data sources 4.3 Data Encoding Methods 4.4 Linking of Spatial & Non-Spatial Data 4.5 Organizing Data for Analysis	
5	Geospatial Analysis	5.1 Introduction 5.2 Geospatial data analysis 5.3 Integration and Modeling of spatial data	10
6	Geospatial Data Analysis Methods	6.1 Database Query 6.2 Geospatial Measurements 6.3 Overlay operations 6.4 Network Analysis 6.5 Surface Analysis 6.6 Geo-statistics 6.7 Geo-visualization	12

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Basudeb Bhatta. (2011): Remote Sensing and GIS, 2nd ed., Oxford University Press.
- 2) C. P. Lo & Albert K. W. Yeung (2002) Concepts and techniques of Geographic Information System, Prentice Hall, India.
- 3) Chanda B. Dattaa D., Mujumdar : Digital Image Processing and Analysis, Prentice Hall of India 2001.
- 4) Demers M. N. (2008): Fundamentals of Geographic Information Systems 2nd ed., John Wiley & Sons.
- 5) Michael F. Goodchild (2002): Introduction to Geographic Information System and Science, John Wiley & Sons.
- 6) Kang- Tsung Chang (2002): Introduction to Geographical Information System, McGraw Hill.
- 7) P. A. Burrough & R.A. McDonnell (2000): Principles of Geographical Information System, Oxford University Press.
- 8) Roy P. S. (2000): Geographical Information Science

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-III (CBCS Pattern)
Theory – Elective - Course

Gg. 303 C: Agricultural Geography

(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. To know the students the overall importance of agriculture in global perspective.
2. To discuss environmental technological and social issues in agricultural sector with special reference to India.
3. To familiarize the students with the fundamental concepts in agricultural geography.

Course Outcomes:

1. To acquaint the students with the application of various theories and models in agricultural geography.
2. To understand various Determinants of agricultural activities.
3. To aware the students towards recent Trends in Agriculture.

Unit no	Units	Sub - Units	Lectures
1	Introduction to Agricultural Geography	1. Meaning and Definition 2 Nature, scope and significance. 3 Interdisciplinary relevance to other Branches. 4 Importance of agriculture in Indian Economy	06
2	Fundamental Concepts	Fundamental concepts in agricultural geography 2.1 Land use 2.1.1 Agricultural land use 2.1.2 Net sown area 2.1.3 Gross cropped area 2.2 Crops 2.2.1 Crop concentration 2.2.2 Crop diversification 2.2.3 Crop combination.	12
3	Determinants of agricultural activities	A) Physical determinants 1. Topography , altitude and slope 2. Climate – temperature, sunshine, frost, moisture, drought , snow, winds, non-seasonal Precipitation. 3 Soils	12

		B) Socio- economic determinants 1.Land tenancy 2. Size of holding and fragmentation of fields 3. Labour 4.Capital 5.Mechanization and equipments 6. Marketing facilities 7. Government policies	
4	Concept & Techniques of delimitation of Agricultural Regions	1. Crop Combination, 2. Crop Diversification. 3. Measurement of Agricultural Productivity. 4. Agricultural Efficiency. 5. Levels of Agricultural development.	12
5	Models in Agricultural Geography	A) Model : i) Meaning & Concept ii) Significance of Agricultural models iii) Limitations of Agricultural Models B) Classification of agricultural models i) Normative or Economic models ii) Descriptive models C) Von Thunen's Models & its modifications	10
6	Recent Trends in Agriculture	1. White revolution and livestock resources 2. Tissue culture 3. Poly house 4. Organic Farming 5. Agro-tourism 6. Agro forestry	08

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Symons, Leslie (1970) – Agricultural Geography, G. Belt and Sons Ltd, London.
2. Morgan. W.B. & S.C. Manton (1971) – Agricultural Geography Methuen, London.
3. Randhawa, M.S. (1980) – A History of Agriculture in India Vols. I,II,III,IV ICAR, New Delhi.
4. Singh. J. and Dhillon S.S (1994) – Agricultural Geography, Tata McGraw Hill, Publishing Co.Ltd.
5. Majid Husain (2010) – Systematic Agricultural Geography, Rawat Publications, Jaipur.
6. Grigg, D.B.: The Agricultural Systems of the World. Cambridge University Press, New York 1974.

7. Morgan, W.B.: Agriculture in the Third World - A Spatial Analysis. Westview Press, Boulder, 1978.
8. Tarrant, J.R.: Agricultural Geography. Wiley, New York, 1974.
9. Aher A. B., Salunkhe V. (2015): Agriculture Geography, Diamond Publication, Pune.
10. Bayliss Smith, T. P. (1987): The Ecology of Agricultural Systems, Cambridge University Press, London.
11. Brown, L. R. (1990): The Changing World Food Prospects - The Nineties and Beyond. World Watch Institute, Washington D.C.
12. Grigg, D. B. (1974): The Agricultural Systems of the World, Cambridge University Press, New York.
13. Hartshorne, T.N. and Alexander, J.W. (1988): Economic Geography, Prentice Hall, New Delhi.
14. Singh, J. and Dhillon, S. S. (2004): Agricultural Geography, Tata McGraw Hill Pub., New Delhi.
15. Wigley, G. (1981): Tropical Agriculture: The Development of Production, 4 th Edition, Arnold, London.
16. Saptarshi P. G., More J. C., Ugale V. R., Musmade A. H. (2009): India A Geographical Analysis, Diamond, Pune.
17. Symons, Leslie (1970): Agricultural Geography, G. Belt and Sons Ltd, London.
18. Randhawa, M. S. (1980): A History of Agriculture in India Vols. I, II, III, IV ICAR, New Delhi.
19. Majid Husain (2010): Systematic Agricultural Geography, Rawat Publications, Jaipur.
20. K. Siddartha (2000): Economic Geography, Kosalaya Publication Pvt. Ltd, New Delhi.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-III (CBCS Pattern)
Practical – Core - Course

Gg. 304 : Practical in Remote Sensing –
Interpretation of Aerial Photographs and Satellite Imageries
(With Effect from June 2022)

(10 Students Per Batch.)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08
Clock Hours : 96

Course Objectives:

1. To provide an exposure to students about fundamentals of Remote Sensing.
2. To familiarize with the different remote sensing platforms and sensors.
3. To provide with an insight in to the fundamentals of photogrammetry and satellite data.
4. To acquainted with the basic principles and procedure of visual image interpretation.
5. To identify various objects appeared on the aerial photographs and satellite image with the help of their physical characteristics.
6. To enable students to learn further in the fields and develop skills in their own way through geospatial technology.

Course Outcomes: On completion of the course, students are expected to:

1. Understand the fundamentals of Remote Sensing.
2. Get familiar with the different remote sensing platforms and sensors.
3. Get an insight to the fundamentals of photogrammetry and satellite data.
4. Understand the basic principles and procedure of visual image interpretation.
5. Read or Interpret remotely sensed data and identify the different cultural and natural features from an aerial photograph or satellite image and prepare thematic maps.
6. Work with geospatial data to address practical societal problems.

Unit No.	Units	Sub Units	Practical hours
1	Basic Principles of Remote Sensing	A) Introduction B) Electromagnetic Remote Sensing Process C) Energy Source and its characteristics Energy Interactions with Earth's Surface Materials. a. Spectral Reflectance Curves. D) Types of Remote Sensing. a. Based on Platform: Terrestrial, Airborne & Space borne b. Based on Energy Source: Active & Passive Remote Sensing E) Multiband Imaging	14

2	Remote Sensing Platforms and Sensors	<p>A) Introduction</p> <p>B) Imaging Sensor System.</p> <p>a. Multispectral Imaging Sensor Systems</p> <p>b. Thermal Sensing Systems</p> <p>c. Microwave Image Systems</p> <p>C) Earth Resources Satellites.</p> <p>a. Landsat Satellite Programme</p> <p>b. SPOT Satellite Programme</p> <p>c. Indian Remote Sensing Satellite (IRS)</p> <p>D) OCEANSAT-1 (IRS)</p> <p>E) IKONOS Satellite Series</p> <p>F) Latest Trends</p> <p>a. Quick Bird</p> <p>b. Cartosat-1</p> <p>c. Resourcesat-1</p>	14
3	Fundamentals of Photogrammetry	<p>A) Introduction</p> <p>B) Types of Aerial Photographs: Vertical, Horizontal and Oblique.</p> <p>C) Determination of photo Scale.</p> <p>D) Determination of height of an object.</p> <p>E) Area measurement of photographs.</p> <p>F) Image Parallax: Characteristics of Image Parallax, Parallax Measurement.</p> <p>G) Relief Displacements.</p> <p>H) Floating Marks.</p>	14
4	Introduction to Visual Image Interpretation	<p>A) Introduction</p> <p>B) Basic Visual Image Interpretation Equipment: Lens/pocket stereoscopes, Mirror Stereoscopes, Zoom Stereoscopes.</p> <p>C) Elements of Image Interpretation: Shape, Size, Pattern, Tone, Texture, Shadow, Site</p> <p>D) Factors governing the quality of an image and interpretability.</p>	14
5	Visual Image Interpretation: Aerial Photographs	<p>A) Visual Interpretation of Aerial Photograph. (BW or colour) using Mirror Stereoscope. (Interpretation of minimum two photographs)</p> <p>a. Physiography / Relief features</p> <p>b. Vegetation</p> <p>c. Water bodies</p> <p>d. Land use Land cover</p> <p>e. Settlements</p> <p>f. Transportation</p> <p>B) Extraction and drawing of following natural or cultural features from the given photograph.</p> <p>a. Natural features - Relief features, Water bodies, Vegetation</p> <p>b. Cultural features – Transportation, Settlement, Agriculture etc.</p>	20

6	Visual Image Interpretation: Satellite Images	<p>A) Visual Interpretation of satellite images based on following keys -</p> <p>a. Natural Features – Relief, Water bodies, Vegetation</p> <p>b. Cultural Features – Agriculture, Settlement, Transportation, LULC (Interpretation of minimum two images)</p> <p>B) Extraction and drawing of following natural or cultural features from the given photograph.</p> <p>a. Natural features - Relief features, Water bodies, Vegetation</p> <p>b. Cultural features – Transportation, Settlement, Agriculture etc.</p> <p>C) Drawing land use land classification (LULC) map by tracing</p>	20
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Weightage	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested Readings:

1. Agarwal C.S. and Garg P.K. (2002): Text Book on Remote Sensing, Wheeler Publishing Delhi.
2. Basudeb Bhatta (2014): 'Remote Sensing and GIS, Oxford University Press, New Delhi.
3. Campbell, J. B. (2002): Introduction to Remote Sensing, Taylor and Francis, London
4. Joseph, G. (2003): Fundamentals of Remote Sensing, University Press, Hyderabad
5. Lillesand, Kiefer, Chipman (2008): Remote Sensing and Image Interpretation, Wiley India Pvt. Ltd.
6. M. Anji Reddy (2008): Textbook of Remote Sensing and Geographical Information Systems, B. S. Publication, Hyderabad.
7. Sabins, F. F. (1996): Remote Sensing: Principles and Interpretation, W. H. Freeman and Company, San Francisco.
8. S. Nayak · S. Zlatanova (Eds.) (2008): Remote Sensing and GIS Technologies for Monitoring and Prediction of Disasters, Springer-Verlag Berlin Heidelberg.
9. Tempfi, K., Kerle, N., Huurneman, G. and Janssen, L. F. (Eds) (2009): Principles of Remote Sensing – An Introductory Text Book, The International Institute for Geoinformation Science – Netherlands.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-III (CBCS Pattern)
Practical – Core - Course

Gg. 305 : Practical of Computerize Data Analysis Techniques in
Geography
(With Effect from June 2022)

(10 Students Per Batch.)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08
Clock Hours : 96

Course Objectives:

- 1) To introduce some basic computerized data analysis techniques to the students.
- 2) To understand role of computer in geographical data entry (tabulation), analysis and presentation.
- 3) To recognize and select appropriate data analysis technique for different Geographical data of various branches.

Course Outcomes:

- 1) Understand the excel and its function.
- 2) Enhance analytical skill of students.
- 3) Adopt computerized techniques and turn geographical data in cartographic techniques.

Unit No.	Units	Sub-Units	Practical Hours
1	Introduction to Microsoft Excel Work Sheet and Presentation Techniques	A) Microsoft Excel: a) Workbooks and Worksheets b) Data Analysis tools and Techniques i) Advanced Filter Command, ii) IF Condition Command iii) Conditional Formatting iv) By default Insert Function c) Development of Syntax on Formula Bar i) Mathematical and Statistical Operators ii) Application of Operators in formula development d) Data Presentation Techniques B) Presentation Techniques: a) Introduction to M.S. Power Point b) Preparation of Slides c) Maps and Graphs import techniques for slide show	18

2	Data Analysis Techniques in Population Geography	A) Density: i) Arithmetic Density of Population ii) Economic Density of Population iii) Agricultural Density of Population iv) Critical Density of Population B) Measures: i) Fertility Rates ii) Mortality Rate iii) Population Growth Rate iv) Literacy Rate v) Child-Women Ratio vi) Sex Ratio: Sex Ratio	16
3	Data Analysis Techniques in Rural Settlement Geography	A) Classification of Rural settlements or Villages According to Size of Population B) Dispersion of Rural Settlements: i) Bernhard's method ii) Demangeon method iii) Debouvrie's method C) Density of Rural Settlements D) Density of Urban Settlement	16
4	Data Analysis Techniques in Urban Geography	A) Growth of Urban Population B) Degree of Urbanization C) Functional Classification of Towns by Thompson D) Centrality Index by Christaller	14
5	Data Analysis Techniques in Agricultural Geography	A. Cropping Intensity B. Intensity of Irrigation C. Crop Concentration by Bhatia D. Crop Diversification by Bhatia E. Crop Combination by Weaver's	18
6	Data Analysis Techniques in Climatology	A) Intensity of Rainfall B) Presentation of Rainfall and Temperature Data C) Wind rose	14

Weightage	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested Readings

1. Edward Arnold: "The Study of Urban Geography".
2. George Omura: Mastering Auto CAD, BPB Publication, b14 Conneaut place, New Delhi.
3. Grini Courter and Annette Marquis (1999): "OFFICE 2000" BPB Publication.

4. Hudson, F. S. (1976): "Geography of Settlement".
5. Mandal, R. B.: "Statistic for Geography and Social Science".
6. Masjid Husain ": Agricultural Geography".
7. Michaele, E. and E. Hurse: 'Transportation Geography".
8. Monkhouse: "Maps and Diagram".
9. Sing, J. and Dhillon (1984): "Agricultural Geography".
10. Sing, R. L. "Readings in Rural Settlement Geography".
11. Yeats, M. H. (1974): "An Introduction to Quantitative Analysis in Human Geography".

Audit Course
Semester - III
Choose One out of
AC 301 (A) , AC 301 (B), AC 301 (C), AC 301 (D)
(Practical)

Total Marks-100 (Internal)

Credit Points- 02

Teaching Hours/Week: 02

Total Teaching Hours: 30

AC-301(A): Computer Skills	
	<p>Course Objectives: To inculcate different daily useful computer skills among students.</p> <p>Learning Outcomes: Students will be able to</p> <ul style="list-style-type: none"> • Identify their lacunas about some computer skills and try to overcome the same. • Practice the learned computer skills in real life and do their jobs more effectively.
Unit	Content
1.	<p>Elements of Information Technology</p> <ul style="list-style-type: none"> • Information Types: Text, Audio, Video, and Image, storage formats • Components: Operating System, Hardware and Software, firmware • Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards • Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics.
2	<p>Office Automation-Text Processing:</p> <ul style="list-style-type: none"> • Views: Normal View, Web Layout View, Print Layout View, Outline View, Reading Layout View • Working with Files: Create New Documents, Open Existing Documents, Save Documents to different formats, Rename Documents, Close Documents • Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins • Lists: Bulleted and Numbered Lists, • Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Move and Resize Tables, Moving the order of the column and/or rows inside a table, Table Properties • Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents, • Paragraph Formatting, Paragraph Attributes, Non-printing characters

	<ul style="list-style-type: none"> • Types of document files: RTF, PDF, DOCX etc
3	<p>Office Automation-Worksheet Data Processing:</p> <ul style="list-style-type: none"> • Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets • Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells • Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, Auto Sum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells • Charting: Chart Types, drawing charts, Ranges, formatting charts
4	<p>Office Automation- Presentation Techniques and slide shows:</p> <ul style="list-style-type: none"> • Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout • Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes • Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check, Spelling options • Working with tables: Adding a table, Entering text, Deleting a table, Changing row width, Adding a row/column, Deleting a row/column, Combining cells, Splitting a cell, Adding color to cells, To align text vertically in cells, To change table borders, Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slide animation/transitions.
5	<p>Internet & Applications:</p> <ul style="list-style-type: none"> • Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing the Internet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers, Uniform resource locator • Internet Resources: Email, Parts of email, • Protecting the computer: Password protection, Viruses, Virus protection software, Updating the software, Scanning files, Net banking precautions. • Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services • Online Resources: Wikipedia, Blog, Job portals, C.V. writing • e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat (NPTEL) portal, MIT courseware.
6	<p>Cloud Computing Basics:</p> <ul style="list-style-type: none"> • Introduction to cloud computing

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|---|
| <ul style="list-style-type: none">• Cloud computing models: SAS, AAS, PAS• Examples of SAS, AAS, PAS (Drop Box, Google Drive, Google Docs, Office 365 Prezi, etc.) |
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Suggested Readings :

1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & Bartlett Learning, 2010, ISBN: 1449609821, 9781449609825
2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: Cengage Learning, 2010, ISBN: 0538472464, 9780538472463
3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5, Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552
4. Cloud computing online resources

AC-301(B): Cyber Security	
	<p>Course Objectives: To make students aware of different daily useful cyber security skills/rules.</p> <p>Learning Outcomes: Students will be able to</p> <ul style="list-style-type: none"> • Practice learned cyber security skills/rules in real life. • Provide guidance about cyber security skills/rules to their friends, parents and relatives.
Unit	Content
1.	<p>Networking Concepts Overview:</p> <p>Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless and Internet.</p>
2	<p>Security Concepts:</p> <p>Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography.</p> <p>Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments.</p> <p>Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.</p>
3	<p>Security Threats and vulnerabilities:</p> <p>Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance.</p> <p>Cyber crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes etc.</p>
4	<p>Cryptography:</p> <p>Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure,</p>
5	<p>System & Network Security:</p>

	System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.
6	OS Security: OS Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.
	Security Laws and Standards: Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.
Suggested Readings :	
<ol style="list-style-type: none"> 1. Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon 2. BPB Publication, “Fundamentals of Cyber Security”, Mayank Bhushan, Rajkumar Singh Rathore, Aatif Jamshed 3. Create Space Independent Publishing Platform, “Cyber Security Basics”, Don Franke, ISBN-13: 978-1522952190 ISBN-10: 1522952195 4. Online references 	

AC-301C: Rain Water Harvesting

Course Objectives:

- 1) To create an awareness about water resource.
- 2) To make a scientific view about the water cycle and availability of water resource.
- 3) To develop the ability and get solution on various problems related to the water resource and their conservation.

Course Outcomes:

- 1) Acquire knowledge with importance of water resource.
- 2) Capability enhances towards various techniques of rain water harvesting.
- 3) Student will be aware about crucial problems of water scarcity and able towards solving the problem.

Unit No.	Units	Sub - Units	Lectures
		<ul style="list-style-type: none"> • First 3 unit comprises theory for get the knowledge about course objectives. • Reading reference material for acquire new knowledge. • Unit 4 is practical based study (Case Study Project) made on the above knowledge. • Complete case study and submit project report during the semester end. 	
1	Water Resource	C) Water Resource - VI. Definition of water resource. VII. Significance of water resource. VIII. Availability and distribution of water resource on the earth. IX. Water cycle. X. Precipitation.	
2	Rain Water Harvesting	F) Groundwater – i. Meaning ii. Significance of groundwater. G) Rainwater Harvesting – i. Concept ii. Rain water harvesting system iii. Purpose of rain water harvesting iv. Advantages of rain water harvesting	
3	Rain Water Harvesting Technology	E) Rain water harvesting structure. F) Rain water harvesting technology in – i. Built-up areas – roof top harvesting, temple tanks, wells and radiator wells, parking lot storage, recreational park ponds. ii. Open areas – percolation tanks, infiltration galleries, community wells, farm ponds, ducts, anicuts across the streams. iii. Rain water harvesting: calculation (Volume of water harvested)	30

4	Case study of Rain Water Harvesting and Report	<ul style="list-style-type: none"> • Each student carries out one case study of Rain Water Harvesting Project in their local area. Visit them, collect information/data, structure, system with all essential details related to the study. • Write a brief report on concerned Rain Water Harvesting technology with photographs, maps, diagrams and submit to the department. • Report should be minimum 15 pages including title page, certificate, acknowledgements etc. • Project report should be hand written or typographical form. 	
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Assessment Types	Marks
CA Internal (Actual Field visit , Preparation of Case Study Project Report, and Oral)	100
Total Marks	100

Suggested Readings:

- 1) Singh, J. S., Singh, S. P. and Gupta, S. R. 2014. Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.
- 2) Eldho, T. I. () : Lecture Series 1-10 : Watershed Management- Rain Water Harvesting, IIT Mumbai.
- 3) Kalimuthu, A. (2016) : A Practical Guide on Roof Top Rain Water Harvesting, World Vision, India.
- 4) Government of India (2002) : Rain Water Harvesting and Conservation- Manual, Central Public Work Department, Government of India, New Delhi.
- 5) Rain Water Harvesting (2015), Indian Railways Institute of Civil Engineering, Pune.
- 6) Rain Water Harvesting Handbook, African Development Bank.
- 7) Singh, Anupam & Eldho, T.I. & Prinz, D. (2002). Integrated watershed approach for combating drought in a semi-arid region of India: the case of Jhabua watershed. Water science and technology : a journal of the International Association on Water Pollution Research. 46. 85-92. 10.2166/wst.2002.0666.
- 8) file:///C:/Users/docsc/Downloads/pdffox.com_rainwater-harvesting-rainwater-harvesting.pdf
- 9) <https://www.mwe.go.ug/sites/default/files/library/Rain%20Water%20Harvesting%20Handbook.pdf>
- 10) https://www.ircen.gov.in/ircen/books_jquery/rain_water_harvesting.pdf
- 11) https://www.pseau.org/outils/ouvrages/bafd_rainwater_harvesting_handbook.pdf

AC-301 D- Geo-tourism

Course objectives:

1. To understand the evolution of geographical sites and situations as concern to tourism.
2. To generalize the valuable contribution of geographical sites in global tourism activities
3. To study the major geo-tourist sites in India.
4. To help the students for preparation of competitive examinations as well as general knowledge about the region.
5. To elaborate the trends of tourism activities and geographical perspectives.

Course Outcomes:

Through the study of this course, the student will be able to:

1. Distinguish and identify the potential geological sites of tourist interest.
2. Have a good knowledge on the spectacular (e.g. geomorphic landforms, structures, processes) as well as intrinsic sites, major time boundaries, fossil sites, geological sites etc.
3. Understand the economic aspects and develop ability to link the geo-spots with other tourist destinations in a theme.
4. Discussing relationship of geography with tourism activities and its relationships.

Unit No.	Units	Sub - Units	Lectures
1	Introduction to Geo-Tourism	A) Geo-tourism : Meaning, Concept, B) Nature and Scope of Geotourism C) Characteristics and international , national perspectives, Eco-tourism and Geo-tourism	06
2	Aspects of Geo-tourism : values and threats	A) Geology and Tourism B) Geo-diversity and Geo-heritage C) Geo-conservation and their relationship to geo-tourism, D) Geo-tourism and cultural heritage, E) The application of geographical information systems in geo-tourism	06
3	Preparation of Geotourism Field Study	A) Geotourism Site Selection B) Proper Planning for visits C) Precautions during visits D) Data/information Collection during the visits E) Project/Report writing steps and Stages	06
4	Case Study and Project Report	A) Each student carries out one case study as a Geo-tourism project. Field visit is mandatory, based on collection of information, data, structure, system with all essential details related to the study.	12

		<p>B) Write a brief report on concerned topic with photographs, map, and diagrams and submit to the department.</p> <p>C) Report should be minimum 15 pages including title page, certificate, acknowledgement etc.</p> <p>D) Project report should be hand written or computerized.</p>	
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Assessment Type	Marks
CA Internal (Actual Field visit , Preparation of Project Report, and Oral)	100
Total Marks	100

Suggested Readings:

1. The Principles of Geotourism, Anze Chen, Young C.Y. Ng, and Yunting Lu (Springer), (2015).
2. Global Geotourism perspectives, Dowling, R. K ., & Newsome, D. (Eds) USA: Good fellow Publishers Limited (2010).
3. Geotourism, Dowling, R. K ., & Newsome, D. (Eds) Elsevier Butterworth-Heinemann (2006).
4. Appreciating Physical Landscapes: Three Hundred Years of Geotourism, T.A .Hose (Ed.), Geological Society Special Publication No. 417, London (2016).
5. Geoheritage and Geotourism- a European Perspective, Thomas A . Hose (Ed) Boydell, Press Woodbridge, U K .
6. Handbook on Geotourism, Ross Dowling & David Newsome (Eds.) Edward Elgar Publishing (2018).
7. A monograph on National Geoheritage Monuments of India. Indian National Trust for Art and Cultural Heritage(IN T A C H) Natural Heritage Division, New Delhi (2016).
8. National Geological Monuments. Geological Survey of India, Kolkata, Special Publication, No.6 1 (2001).
9. Landscapes and Landforms of India, K ale, V. S. (ed) Springer, Dordrecht (2014).
10. History of Geo-conservation, C. V. Burek and C.D. Prosser (Eds.) Special Publication
11. Official Website of Geological Survey of India.
12. T.A. Hose (Ed.) (2016). Appreciating Physical Landscapes: Three Hundred Years of Geotourism, Geological Society Special Publication No. 417, London.
13. Thomas A. Hose (Ed.).Geoheritage and Geotourism- a European Perspective, Thomas A. Hose (Ed) Boydell Press Woodbridge, UK
14. Ross Dowling & David Newsome (Eds) (2018). Handbook on Geotourism, Edward Elgar Publishing

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Theory - Core-Course

Gg. 401: Geomorphology
(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. This course introduces the students with basic knowledge of Earth surface processes.
2. The course provides an overview of landforms, its formation processes, and landscape evolution.
3. This course shed light on various landform formation processes and how these depend on climate, tectonic regimes, and time.
4. This course conveys an understanding of landform formation processes on different temporal and spatial magnitudes.

Course Outcomes:

1. The student can explain different theories and models for landscape evolution.
2. The student can understand the development of micro to mega scale landforms and their lifespans.
3. The student can assess the mode of formation, age and history for landforms.
4. The student can search and find relevant information to elucidate geomorphological problems.

Unit No.	Units	Sub-Units	Lectures
1	Introduction	A. Definitions, Nature and Scope B. Fundamental Concepts I. Uniformitarianism II. Geological structure III. Geomorphological processes C. Theories of Landform Development I. Theory of W. M. Davis II. Theory of W. Penck D. Geological Time Scale	10
2	Earth Movements	A. Continental Drift Theory B. Plate Tectonic theory C. Endogenic Forces I. Epiorogenic and Orogenic Movements II. Compression, Tension III. Folds, Types and Landforms	10

		IV. Faults, Types and Landforms	
3	Weathering, Mass Movement and slopes	<ul style="list-style-type: none"> A. Meaning and concept of weathering B. Controlling factors of weathering C. Types of weathering processes <ul style="list-style-type: none"> I. Physical weathering II. Chemical weathering III. Biotic weathering D. Meaning and concept of mass movement E. Types of mass movement F. Meaning and concept of Slope G. Elements of Slopes <ul style="list-style-type: none"> I. Convex Slope II. Free Face Slope III. Constant or Talus Slope IV. Concave Slope 	12
4	Fluvial Processes and Landforms	<ul style="list-style-type: none"> A. The Fluvial System B. Fluvial Erosion <ul style="list-style-type: none"> I. Process of Erosion II. Erosional Landforms C. Transportation by Rivers D. Deposition by Rivers <ul style="list-style-type: none"> I. Deposition Process II. Depositional Landforms 	10
5	Coastal Processes and Landforms	<ul style="list-style-type: none"> A. Waves, tides, and currents B. Coastal processes C. Erosional coastal landforms <ul style="list-style-type: none"> I. Cliffs II. caves III. other erosional coastal landforms <ul style="list-style-type: none"> A. Depositional coastal landforms <ul style="list-style-type: none"> I. Beaches II. Bars III. Barriers IV. other depositional coastal landforms 	10
6	Aeolian Processes and Landforms	<ul style="list-style-type: none"> A. Aeolian environments B. Erosional works of wind C. Erosional landforms D. Transportational works of wind E. Depositional work of wind F. Depositional landforms G. Fluvial desert landforms 	08

Weightage of Marks: Equal Marks to all Topics

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Savindra Singh (2005): "Geomorphology", Prayag Pustak Bhawan, Allahabad, India.
2. Thornbury, W.D. (1960) "Principles of Geomorphology", John Wiley and Sons, New York.
3. Chorley R. J., Schumm, S. A. and Sugden E.E. (1984): "Geomorphology", Methuen, London.
4. Kale V. S. and Gupta, A (2001); "Introduction to Geomorphology", Orient Longman, Calcutta.
5. Spark B.W. (1972): "Geomorphology", Longman, New York.
6. Ollier, C. D. (1981): "Tectonics and Landforms", Longman, London.
7. Strahler A. H. and Strahler, A.N. (1998): "Introducing Physical Geography", John Wiley and Sons, Inc. New York.
8. Wooldridge and Morgan (1959): "An outline of geomorphology: the physical basis of geography", Longman, New York.

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New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Theory - Core-Course

Gg. 402: Climatology
(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. To acquaint the students with basic knowledge of atmosphere, weather and climate.
2. To know the fundamental concepts of climatology and the significance of weather.
3. To understand various weather phenomena.
4. To identify climatic differentiation on the earth.
5. To acquire the knowledge of weather forecasting.
6. The explain the factors determining climate and its changes

Course Outcomes:

On completion of the course the student should have the following learning outcomes defined in terms of knowledge, skills and general competence:

1. The students should be able to differentiate between weather and climate.
2. The student is able to interpret Structure and composition of atmosphere.
3. The students should be able to understand the horizontal and vertical distribution of temperature.
4. The students should be able to describe the relationship between air pressure and wind direction in cyclonic and anticyclonic movement.
5. The students should be able to describe tropical air masses and how they move and to describe what happens when different air masses meet.
6. The students should be able to explain how storms form, the relationship between jet stream position and storm movement, and make the distinction between warm fronts and cold fronts.

Unit No.	Units	Sub-Units	Lectures
1	Introduction	A) Weather and Climate i) Meaning and concept ii) Elements iii) Role of Climate in human life B) Definition, Nature and Scope of Climatology C) Sub-divisions of Climatology (Physical, Regional, Applied) D) Atmosphere – Structure and composition	08

2	Insolation and Temperature	<p>A) Insolation</p> <ul style="list-style-type: none"> i) Meaning and definition of Insolation ,Solar constant and Albedo of the earth ii) Factors affecting the distribution of Insolation iii) Effects of atmosphere (Scattering, Diffusion, Reflecting and Absorption) <p>B)Temperature</p> <ul style="list-style-type: none"> i) Heating and Cooling of Atmosphere – <ul style="list-style-type: none"> a)Conduction b) Radiation c) Convection ii) Distribution of Temperature- Horizontal and Vertical iii) Factors affecting the distribution v) Inversion of Temperature 	16
3	Atmospheric Pressure and Winds	<p>A) Atmospheric Pressure</p> <ul style="list-style-type: none"> i) Formation of pressure belts ii) Shifting of pressure belts and their effects <p>B) Winds</p> <ul style="list-style-type: none"> i) Pressure gradient force, Coriolis force, Geostrophic winds ii) Types of Winds <ul style="list-style-type: none"> a. Planetary winds b. Local winds (Land and Sea breezes) c. Seasonal winds - monsoon 	08
4	Humidity and Precipitation	<p>A) Humidity – Concept and types</p> <p>B) Process of evaporation, condensation & precipitation</p> <p>C) Forms of precipitation - mist, fog, rain, snow, hail, sleet, etc.</p> <p>D) Types of rainfall - convectional, orographic and cyclonic</p>	8
5	Air masses, Atmospheric Disturbances & Climatic Classification	<p>A) Air masses</p> <ul style="list-style-type: none"> i) Definition, source regions ii) Classification iii) Modifications of Air masses (mechanical and thermodynamic) iv) Characteristics and types of fronts <p>B) Atmospheric Disturbances-Cyclones and Anticyclones (Tropical & Temperate), Thunderstorms, Jet Streams</p>	12

		C) Climatic classification- Koppen's classification (Basis, types, merits and demerits)	
6	Origin of Monsoon And climate change	A) Asian monsoon- East and Southasian monsoon i) classical theory of Indian monsoon B) Climate change-i) Impacts of climate change on Environment and agriculture -special reference to India ii) Government initiatives and public participation to mitigate climate change	08

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Barura, A.K. (2005), "Climatology", Dominant Publishers & Distributors, New Delhi.
2. Barry, R.G. and Chorley R.J., "Atmosphere, Weather and Climate"
3. Byers, R.H. (1974), "General Meteorology", McGraw Hill, New York.
4. Critchfield, H.J. (1993), "General Climatology", Prentice Hall, New Delhi, India
5. Critchfield, H.J. (2004) : Principles of Climatology; Prentice Hall, London.
6. Das, P.K (1991), "The Monsoon" , National Book Trust, New Delhi.
7. K. Siddhartha (2011), "Atmosphere Weather & Climate – A text book of Climatology", Kosalaya Publications Pvt. Ltd., New Delhi.
8. Lal, D.S.(2011), "Climatology", ShardaPustakBhawan, Allahabad.
9. Sing Savindra, (2015),Climatology, PravlikaPublications ,Allahbad.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Theory Elective-Course

Gg. 403(A) : Geography of Rural Settlements

(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

1. To study the essential concepts of geography of rural settlement.
2. To understand the relationship between house types with relief, climate and building materials.
3. To study the distributional patterns of rural settlement.
4. To study the rural morphology and rural functions with special reference to India

Course Outcomes:

1. The present paper shall enhance the knowledge of students about the historical development, patterns, types and functional systems of rural settlements.
2. Students will understand why people settle in certain areas.
3. Students will understand the needs of humans and how these needs impact the physical environment.

Unit No.	Units	Sub -Units	Lectures
1	Geography of Rural Settlements	A) Definition and Concept of Rural Settlements B) Nature and Scope C) Evolution of rural settlements D) Significance and Development of Rural Settlements E) Approaches to Settlement Geography	8
2	Growth and Distribution	A) Site, Situation & Location a. Factors affecting distribution of Rural Settlements b. Dispersion and nucleation, factors affecting dispersion and nucleation B) Growth of Settlements: a. Factors affecting growth of settlements - System of land division, - water rights system of agriculture, - land occupancy system	10
3	Factors of Rural Land	A. Factors Affecting Rural Land Use a. Social, economic, and political	8

	Use And Theory	<ul style="list-style-type: none"> b. Intensity of Land use c. Labour cost d. Marketing of product <p>B. Theory:</p> <ul style="list-style-type: none"> - Von Thunen- A Model of Agricultural Land Use 	
4	Types and Pattern of Rural Settlements	<ul style="list-style-type: none"> A. Spatio-temporal Dimensions and Morphogenesis of Rural Settlement B. Site and Situation of Rural settlements C. Size and Spacing of Rural Settlement D. Types and Pattern of Rural Settlement E. Rural Settlements in Maharashtra: <ul style="list-style-type: none"> a. House types b. Settlement patterns 	10
5	Morphogenesis, Transformation and Migration of Rural Settlements	<ul style="list-style-type: none"> A) Morphogenesis <ul style="list-style-type: none"> a. Social b. Cultural c. Economic organization within villages B) Transformation <ul style="list-style-type: none"> a. Socio-economic transformation in rural areas. C) Migration <ul style="list-style-type: none"> a. Definition, Causes & Consequence of migration in rural areas b. Seasonal Migration 	12
6	Rural Settlements in India & Planning	<ul style="list-style-type: none"> A) Distribution and density of rural settlements in India B) Structure of house and building materials in India, special reference of Maharashtra C) Regional variations in rural settlement patterns in India D) Morphology of rural settlement in India E) Various Aspects of Rural Planning: <ul style="list-style-type: none"> Land use, Transport, Amenities, Population, Market, Environment & Agricultural policy 	12

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Deshpande, C. D. (2005): "Cities: A Geographical Study", Translated by V. G. Amrite, Manan Prakashan, Mumbai
2. Gharpure, V. (2013): "Nagari Bhugol", (Marathi) Pimpalpure and Company Publishers, Nagpur
3. Gharpure, V. (2013): "Vasti Bhugol", (Marathi) Pimpalpure and Company Publishers, Nagpur
4. Gharpure, V. (2017): "Manavi Bhugol", (Marathi) Pimpalpure and Company Publishers, Nagpur
5. Ghosh. S. (2015): "Introduction to Settlement Geography", Orient Blackswan Private Limited, Hyderabad
6. Jyptirmoy Sen (2007): "A Text Book of Social and Cultural Geography," Kalyan Publsiher, New Delhi.
7. Knowles, R and Wareing, J. (1996): "Economic and Social Geography", the Made Simple Series, Rupa & Co., Calcutta
8. Leong, Goh-Cheng and Morgan, G. (1994): "Human and Economic Geography", Oxford University Press, Oxford
9. Alam S. M. et. al. (1982): Settlement system of India, Oxford and IBH Publication New Delhi.
10. Doniel P. and Hopkinson M. (1982): The geography of settlement, Oliver & Byod, Edinburgh.
11. Hudson F. S. (1976): A Geography of Settlement, Macdonald and Evans, New York.
12. Rao R. N. (1986): Strategy for Integrated Rural Development, B.R. Publication, Delhi.
13. Rapoport A. (1969): House form and Culture, Prentice Hall, New Jersey.
14. Srinivas M.N. (1968): Village India, Asia Publication House, Bombay.
15. Wanmati S. (1983): Service Centres in Rural India, B.R. Publication, Delhi.
16. Singh R. L. Edt. (1975): Reading in Rural Settlement Geography.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Theory – Elective - Course

Gg. 403(B) : Geography of Resources

(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

- 1) To introduce the students of the basic concepts in Geography of Resources.
- 2) To acquaint the students with fundamental concept of resources.
- 3) To aware the students about the problems and utilization of Resources.
- 4) To understand about conservation of resources for sustainable development.
- 5) To aware the students about use of resources with prudence.

Course Outcomes:

After Completion of this course the student will be able to,

- 1) To understand the concepts in Geography of Resources.
- 2) Student able to evaluate different models of resources utilization.
- 3) Student compare the how to use of different resources.
- 4) Student know the various problems of resources.

Unit No.	Units	Sub – Units	Lectures
1	Introduction to Resource Geography	1.1 Meaning and Concept of Resource Geography 1.2 Nature and Scope of Resource Geography 1.3 Concepts of Resources : Adequacy and Scarcity 1.4 Components of resources : Natural and Human 1.5 Importance of the Study of Resource Geography	10
2	Classification of Resources	2.1 Basis of classification of Resources a) Renewable Resources b) Non – Renewable Resources c) Biotic Resources d) Abiotic Resources	8
		3.1 Distribution and Production of	

3	Renewable and Non Renewable Resources	<p>Renewable and Non- Renewable Resources in India.</p> <p>a) Solar b) Wind c) Hydel power d) Mineral Oil e) Coal</p> <p>3.2 Problems and management of Renewable and non- renewable Resources</p>	12
4	Biotic and Abiotic Resources	<p>4.1 Distribution and Production of Biotic & Abiotic Resources in India</p> <p>a) Forest b) Marine c) Water d) Minerals -Iron ore, Bauxite</p> <p>4.2 Problems and Management of Biotic and Abiotic Resources</p>	10
5	Problems of Resource Appraisal	<p>5.1 Population Pressure on Resources</p> <p>5.2 Models of Resource Utilization- Von-Thunen, M. Smith</p> <p>5.3 Resource Depletion and emerging issues:</p> <p>a) Desertification b) Loss of Biodiversity d) Water Scarcity and Conflicts e) Energy Crises</p>	10
6	Conservation and Management of Resources	<p>6.1 Concepts and Methods of conservation</p> <p>6.2 Conservation of Management of Resources in India i.e. Forest, Land and Water.</p> <p>6.3 Integrated Resource Development</p> <p>6.4 Sustainable Development and Conservation of Resources.</p>	10

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

- 1) Burton I. and Kates, R.W. (ed) Readings in Resource Management and Conservation, 1965.
- 2) Central Ground Water Board – <http://www.cgwb.gov.in/>
- 3) Dr. Vitthal Gharpure : “ Sadhansampatti Bhugol”, Pimpalapur and Company Publishers, Nagpur.
- 4) Ground Surveys and Development Agency – <https://gsda.maharashtra.gov.in/>
- 5) Holechek J.L. et al : Natural Resources : Ecology Economics and policy, prentice Hall, New Jersey, 2000.
- 6) Kates R.W. and Burton, I. (ed) : Geography Resources and Environment, Vol. II, University of Chicago press, Chicago, 1986.
- 7) Khullar D.R. (2017) India - A comprehensive Geography, kalyani publishers, New Delhi.
- 8) Mc. Laren D.J. and Skinnet, B.J. (ed) : Resources and World Development, John Wiley & Sons, New York, 1986.
- 9) Maharashtra Development Annual Report.
- 10) Mather A.S. and Chapman, K. : Environmental Resources, Longman Scientific and Technical, London, 1995.
- 11) Negi B.S. (1997): “ Geography of Resources”, Kedarnath Ramnath, Meerut.
- 12) Newson M.D. : Land, Water and Development, River basin Systems and Management, Rutledge London, 1991.
- 13) Prof. D.V. Patil and Sau Jayshri Patil : “ Sadhansampatti Bhugol.
- 14) Qwen S. and Qwens, P.L. : Environment, Resources and Conservation, Cambridge University Press, New York 1991.
- 15) Ramesh A: Resources Geography.
- 16) Ray S. (2008) : “ National Resources, Organization and Technology Linkages”.
- 17) Rees J. : Natural Resources : Allocation, Economics and Policy Methuen, London, 1988.
- 18) Redclift M. : Sustainable Development : Exploring the Contraction, Methuen London, 1987.
- 19) Simmons I.G. : Earth, Air and Water Resources and Environment In Late 20th Century, Edward Arnold, 1991.
- 20) Skinner, B.J. (1969) : “ Earth Resources”, Prentice Hall, Englewood Cliffs, N.J.
- 21) Thomas Alan et al : Environmental Policies & NGO Influence, Rutledge London, 1995.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Theory - Elective-Course

Gg. 403(C) : Industrial Geography
(With Effect from June 2022)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 04
Clock Hours : 60

Course Objectives:

- 1) To acquaint the students with stages of economic process.
- 2) To introduce the nature, development and significance of manufacturing industries and its links with the world economy.
- 3) To understand the role of industries in the economic development of India.
- 4) To understand the location of major manufacturing activities with the support of various industrial location theories.
- 5) To produce skilled expert in the field of industry.
- 6) To impart knowledge on advances and challenges in Geographical challenges.

Course Outcomes:

After completion of this course, students will be able to-

- 1) Suggest locations of industries with the help of factors of industrial location.
- 2) Find out the advantages and related problems of industrialization.
- 3) Identify the industrial regions of selected countries.
- 4) Acquire knowledge about world selected industries.
- 5) Acquire knowledge about social media network and industries.

Unit No.	Units	Sub - Units	Lectures
1	Introduction to Industrial Geography	1.1 Definition and concept of Industrial Geography 1.2 Nature and Scope of Industrial Geography 1.3 Approaches to the study of Industrial Geography 1.4 Social media network and Industries	10
2	Location of Industries	Factors of Industrial location 2.1 Primary: Raw material, Labour, Transport, Market, Power. 2.2 Secondary: Government policy (Role), Capital, Infrastructure facilities & external economics, Proper industrial	08

		climate, Required site condition	
3	Theories of Industrial location and classification of Industries	3.1 Theories of Industrial location 3.1.1 Alfred Weber 3.1.2 August Losch 3.2 Classification of Industries: 3.2.1 Small Industries 3.2.2 Medium Industries 3.2.3 Large Industries	10
4	World distribution of selected Industries	4.1 Iron & steel Industry 4.2 Cotton Textile Industry 4.3 Information Technology Industry 4.4 Engineering Industry 4.4.1 Automobile Industry 4.4.2 Aircraft Industry 4.4.3 Defence Industry	12
5	Industrial regions and Concepts	5.1 Major Industrial regions in world 5.1.1 India 5.1.2 Japan 5.1.3 U.S.A. 5.2 Concepts 5.2.1 Location quotient 5.2.2 Index of concentration 5.2.3 Scatter diagram	12
6	Advantages of Industrialization and related problems	6.1 Advantages of industrialization 6.2 World industrial problems 6.2.1 Industrial problems in developed countries 6.2.2. Industrial problems in developing countries	08

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested readings:

1. Mather J. R.: Climatology (1974): Fundamentals and Application. McGraw Hill New York
- 2) Hobbs, John E (1980): Applied Climatology, Dawson West View Press.
2. Oliver, John E. (1973): Climate and Mavis Environment, John Wiley and Sons, New York.
- 4) Geiger, Rudolf, (1966): The climate near the Ground, Harvard University Press.
3. Lal M. (ed.) (1981): Climatology, Selected Application, V .H. Winston and Sons, London.
- 6) Alexander, J. W. (1998): Economic Geography, Prentice Hall, Englewood Cliffs.
4. Alexanderson, C. (1967): Geography of Manufacturing, Prentice Hall, Bombay.
5. Hoover, E.M. (1948): The Location and Space Economy, McGraw Hill, New York.
6. Isard, W. (1956): Methods of Regional Analysis, The Technology Press of M.I.T. & John Wiley & Sons, New York.
7. Miller, E. (1962): Geography of Manufacturing, Prentice Hall, Englewood Cliffs, New Jersey.
8. Weber, Alfred (1957) Theory of Location of Industries, Chicago University Press, Chicago.
9. Goh Cheng Leong (1997): Human and Economic Geography, Oxford University Press, New York.
10. Truman, A. Harishorn, John W. Alexander (2000) "Economic Geography", Prentice Hall of India Ltd., New Delhi.
11. Thoman, R. S., Conkling E. C. and Yeates, M. H. (1968): Geography of Economic Activity, McGraw Hill Book Company.
12. Siddharth K (2017): Economic Geography Kitab Mahal, Allahabad.
13. Husain M. (1994): Industrial Geography, Anmol Publications Pvt ltd. Daryaganj, New Delhi
14. Sadhukhan S.K (1994): Economic Geography S. Chand and company ltd. Ram nagar, New Delhi
15. A. P. Chaudhari., Archana Chaudhari (2011): Industrial Geography, Prashant publication, Jalgaon.
16. M. A. Khandave (1979): Industrial Geography. Continental Publication, Pune-30.

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New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Practical – Core - Course

Gg. 404 : Practical in Physical Geography
(With Effect from June 2022)

(10 Students Per Batch.)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08
Clock Hours : 96

Course Objectives:

5. To introduce the students with basic knowledge of techniques in physical geography.
6. To know the importance role of physical geography in applied research.
7. To prepare the students for better planning of watershed.
8. To understand and evaluate the spatial patterns and processes in physical geography.

Course Outcomes:

1. Enhance interpretative skills of the students about techniques in physical geography.
2. Identifying the natural phenomena with the help of techniques in physical geography.
3. This course will place a strong emphasis on practical experience about physical geography
4. This course will give you an integrated scientific understanding of the earth surface & climate.

Unit No.	Units	Sub-Units	Lectures
1	Drainage Basin & Catchment Area	A) Delineation of Drainage Basin B) Delineation of Drainage network C) Measurement of drainage basin catchment area D) Drainage network hierarchy I. Strahler's stream ordering E) Longitudinal profile F) Cross Profile	16
2	Morphometric Analysis: Linear Aspects	A) Laws of drainage composition a) Law of stream order I. Measurement of order wise stream number II. Stream number v/s Stream order. (Preparation of graph) III. Bifurcation ratio b) Law of stream length I. Measurement of stream length and average stream length. II. Stream order v/s average stream length.	16

		(Preparation of graph) III. Length Ratio B) Sinuosity Indices I. S. A. Schumm's model II. J. E. Muller's model	
3	Morphometric Analysis: Areal Aspects	A) Geometry of Basin Shape I. Horton's form factor II. Stoddart's Ellipticity Index III. V. C. Miller's Circularity Index IV. S. A. Schumm's Elongation Ratio B) Calculation of Stream Frequency C) Calculation of Drainage Density	16
4	Morphometric Analysis: Relief Aspects	A) Relative Relief B) Dissection Index C) Slope Analysis D) Hypsometric curve	14
5	Climatic Maps & Diagrams	A) Construction and interpretation of wind rose B) Construction and interpretation of climograph C) Construction and interpretation of Hythergraph D) Construction of Isohyets Map E) Construction of Isotherms Map	16
6	Climatic Classification & Calculations	A) Calculation of Relative Humidity B) Calculation of Rainfall Intensity C) Estimation of Potential Evapotranspiration. (Thornwaite's Method.) D) To find out the mean rainfall for a given drainage basin by isohyetal method. E) Determination of climatic type by using Koppen's scheme of classification.	18

Weightage

Marks	
Internal Assessment	40 marks
External Assessment	60 marks

Suggested Readings :

1. Monkhouse F. J. & Wilkinson H. R. (1976): "Maps & Diagrams" Methune & Co. London.
2. King C. A. M. (1966): "Techniques in Geomorphology", Edward Arnold, London.

3. Savindra Singh (2005): "Geomorphology", Prayag Pustak Bhawan, Allahabad, India.
4. Savindra Singh (2005): "Climatology", Prayag Pustak Bhawan, Allahabad, India.
5. Singh Gopal (Rep. 2010): "Map Work and Practical Geography", Vikas Publishing House Pvt Ltd.
6. Singh L. R. (2011): "Fundamentals of Practical Geography", Sharda Pustak Bhawan.
7. Rana P. B. Singh, R.L. Singh (Rep. 2009): "Elements of Practical Geography", Kalyani Publisher.
8. P. Saha and P. Basu (2006): "Advanced Practical Geography", Books and Allied Publication, Kolkata, India

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
New Syllabus M.A./M.Sc. Geography
Semester-IV (CBCS Pattern)
Core - Course
Gg. 405 : Project Work
(With Effect from June 2022)

(10 Students Per Batch.)

Total Marks-100

Credit Points- 04

Teaching Hours/Week: 08
Clock Hours : 60

Course Objectives:

1. To motivate the students towards Research.
2. To understand the various problems in the field of Geography.
3. To develop the skill in statistical as well as cartographic techniques.
4. To enhance analytical thinking and report writing ability of the students.

Course Outcomes:

1. Students will acquire proficiency and skills in research techniques.
2. Students will aware about various problems related to geography through their critical thinking.
3. Students able to collect, analyse and interpret the primary as well as secondary data
4. Enhance capability and enthusiasm for self-improvement through continuous professional development and life-long learning.

Project Work & Report.			
Unit	Sub - Units	Marks	Lectures
<p style="text-align: center;">Project Work & Report</p> <p>(Each student selects separate topic)</p>	<p>-The project report on various geographical topics (especially related to the problems in concerned local region i.e. village/Tahsil/district/khandesh level) will be a comprehensive work based on conceptual aspects, field work, analysis of primary and secondary data in the laboratory.</p> <p>-Students are required to select an exploratory topic of geographical importance based on empirical evidences of literature. They are expected to carry out fieldwork & generate primary data or collect secondary data, analyze it & prepare a Project Report to submit at the time of examination.</p> <ul style="list-style-type: none"> • Project Work do with following steps- 	100	60

	<ul style="list-style-type: none"> ➤ Selection of the topic ➤ Design study plan ➤ Field work (if applicable) ➤ Collection of data ➤ Analysis and interpretation of data ➤ Report writing ➤ Submission etc. 		
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Internal Marks

Attendance & Behaviour	10
Participation in Field Work/Data Collection	30
Total Internal Marks	40

External Marks

Project Report	50
Presentation with PPT (Viva-Voce)	10
Total External Marks	60

- **General Guide Lines for the Project Work, Writing Report& Submission of Project Work Report :-**

1. A student should individually carry out project work and prepare report on one topic.
2. Guide teacher guided to the students about research methodology for conduct the project work.
3. The final project report should cover the following aspects.
 - A. Title Pages-
 - i. Title Page
 - ii. Certificate
 - iii. Acknowledgement
 - iv. List of tables/maps/photographs etc.
 - v. Index
 - B. Main Text-
 - i. Introduction to the problem.
 - ii. Aims and objectives of the study.
 - iii. Methodology
 - iv. Analysis, description and interpretation.
 - v. Results

- vi. Conclusions
- C. End Matter
 - i. Bibliography
 - ii. Appendices

4. Every table, figure, maps, photograph should have a caption and with references.
5. The list of references should be given at the end and all the references should be complete in all respects (author(s)) name, year, title of the article or book, name of the journal, name of the publisher of the book and place of publication, volume of journal and page numbers).

Example-

Wagh, S. A. (2015) : Physical Geography, Atharva Publications, Jalgaon

Wagh, S. A. And Patil, M. B. (2019) : Gender Disparity in Maharashtra : A Geographical Analysis, Ajanta Research Journal, Vol. III, Issue I, January-March 2019, Pp. 55-63.

6. The total number of pages should be **minimum 30 and maximum 40**, including text, figures, tables, photographs, references and appendices.
7. The medium of writing will be **English** only. Project report should be submitting in **Computer typing with Spiral/Hard bounding**.
8. At the time of viva-voce presentation may be given with the help of equipments which are available in the respective department.

• **Important Notes :**

1. Assessment of the project by external examiner/guide teacher. One Copy of the Project and Sealed Mark list submit to the College Principal by external examiner/guide teacher after conducting viva-voce.
2. Allocate of Guide Teacher to the students at the start of Sem-IV by Head of the concerned department through discussion with all other teachers as per their area of specialization/ interest.
3. Allotted guide teacher should assist the students for selecting research problem, construct objectives and hypothesis and guiding on related topics from beginning of the Sem-IV.
4. Guide teacher is expected to guide the students for data collection, data interpretation and writing project report.
5. Introduce theory part related to research methodology within allotted regular periods.

• **Suggested Topic for Project Work :-**

Each student should have select one topic of their interest through discussion with his/her guide teacher. The following inventory is for the convenient only. A guide

teacher or student is free to choose any other topic related to Geography apart from the list given below.

- **Population Geography-**
 1. Sex Ratio
 2. Population Growth
 3. Population Distribution
 4. Population Characteristics
 5. Literacy
 6. Occupational Structure
 7. Social study
 8. Migration
 9. Tribal/Rural/Urban Population Problems
- **Agricultural Geography-**
 1. Land Use
 2. Crop Combination/Diversification
 3. Cropping Pattern
 4. Agricultural Production
 5. Irrigation System
 6. Agricultural Market
 7. Farming
 8. Soil
 9. Live stock Farming
- **Economic Geography-**
 1. Human Occupations
 2. Trade and Transport
 3. Globalization
 4. Agricultural Economy
 5. Regional Development
- **Settlement Geography-**
 1. Settlement Pattern
 2. Rural Settlement study
 3. Urban Settlement study
 4. Tribal Settlement study
 5. Rural Service Centre
 6. Urban Sprawl
 7. Problems of villages/cities
- **Human Geography-**
 1. Human Race
 2. Food Security
 3. Poverty
- **Geomorphology/Physical Geography-**
 1. Geomorphic study
 2. Watershed Management

3. Groundwater
4. Morphometric Analysis
5. Endogenic Forces
6. Exogenic Forces
- **Biogeography/Phytogeography-**
 1. Natural Vegetation
 2. Wildlife
 3. Forest
 4. Biodiversity
- **Medical Geography-**
 1. Health status
 2. Malnutrition
 3. Fertility/Mortality
- **Social and Cultural Geography-**
 1. Religion Composition
 2. Social Aspects
 3. Language
 4. Cultural Aspects
- **Environmental Geography-**
 1. Environmental Issues
 2. Global Warming
 3. Climate Change
 4. Ozone Depletion
 5. Hazards
 6. Pollution
 7. Natural Resources
 8. Water Scarcity
- **Remote Sensing and GIS-**
 1. Application of Remote Sensing in....
 2. Analysis with the help of GIS

Suggested Readings :-

1. Archer J.E. & Dalton T.H. (1968): The field work in Geography, E.t.Batsford Ltd., London.
2. Dikshit, R. D. (2003) : The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Johnes, P.A. (2008): Field Work in Geography, Longman.
4. Karlekar, S. N. (2006) : Research Techniques in Geography, Diamond Publications, Pune
5. Kothari C.R.(1996): Research Methodology, Vishwas Prakashan, New Delhi.
6. Misra R.P. (1991): Research Methodology in Geography, concept pub. New Delhi.

7. Ranjeet Kumar : Research Methodologya Step-By-Step Guide For Beginners, Sage Publication
8. Pandey,Prabhat &Pandey, Meenu Mishra : Research Methodology: Tools And Techniques, Bridge Center, 2015
9. Sudhir Bodhankar and Vivek Aloni (2007) : SamajikSanshodhanPaddhati, Sainath Prakashan, Nagpur
10. Pradip Aaglave- SamajikSanshodhanPaddhati

Audit Course

Semester - IV

Choose One out of

AC 401 (A) , AC 401 (B), AC 401 (C), AC 401 (D)

(Practical)

Total Marks-100 (Internal)

Credit Points- 02

Teaching Hours/Week: 02

Total Teaching Hours: 30

AC-401(A): Human Rights	
Unit	Content
	<p>Course Objectives: To make students aware about human rights and human values.</p> <p>Learning Outcomes: Students will be able to</p> <ul style="list-style-type: none">Practice the learned issues under human rights and human values in real life.Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.
1.	<p>Introduction to Human Rights</p> <ul style="list-style-type: none">Concept of Human RightsNature and Scope of Human RightsFundamental Rights and Fundamental DutiesInterrelation of Rights and Duties
2	<p>Human Rights in India</p> <ul style="list-style-type: none">Meaning and Significance of : 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies.Constitutional Provisions for Human RightsDeclaration of Human RightsNational Human Rights Commission
3	<p>Human Values</p> <ul style="list-style-type: none">Meaning and Definitions of ValuesImportance of values in the life of Individual

	<ul style="list-style-type: none"> • Types of Values • Programmes for conservation of Values
4	<p>Unit 4: Status of Social and Economically Disadvantaged people and their rights</p> <ul style="list-style-type: none"> • Rights of women and children in the context of Social status • The Minorities and Human Rights • Status of SC/ST and other Indigenous People in the Indian Scenario • Human rights of economically disadvantaged Society
<p>Suggested Readings :</p> <ol style="list-style-type: none"> 1. Human rights education – YCMOU, Nasik 2. Value education – SCERT, Pune 3. Human rights reference handbook – Lucille whare 	

AC-401(B): Current Affairs**Course Objectives:**

To make students updated about current affairs of India and world.

Learning Outcomes: Students will be able to

- Identify important issues currently/recently happening in India or world.
- Summarize current affairs regularly.

Unit. No.	Title	Content	Hours
1.	Politics & Economy	<ul style="list-style-type: none">• National & International Political Activity, Organization.• Economy & Business, Corporate world	08
2	Awards and recognitions	<ul style="list-style-type: none">• National & International Awards and recognitions• Books and authors	07
3	Science & Technology	<ul style="list-style-type: none">• Software, Automobile, Space Research• New inventions and discoveries	07
4	Environment & Sports	<ul style="list-style-type: none">• Summit & conference, Ecology & Climate, Organization.• National & International Games, Olympics, commonwealth etc.	08

Suggested Course Reading (Use recent years 'data and current literature) :

1. India 2019, by Publications Division Government of India
2. Manorama Year Book by Philip Mathew,
3. India 2019, Rajiv Maharshi
4. Quick General Knowledge 2018 with Current Affairs Update, Disha Experts
5. General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board.

AC-401 C: Green Audit

Course Objectives: -

- 1) Understand the scope of audit.
- 2) Enable students to pursue knowledge with an insatiable thirst, discipline them to harness their energy for creative purposes.

Course Outcomes: -

To become a green auditor employment opportunities are available for an auditor in various sectors.

Unit No.	Units	Sub-Units
1	Introduction	1.1 Green Audit – Definition, Concept and features 1.2 Objectives of Green Audit 1.3 Benefits of Green Audit
2	Process of Green Audit	Stage I – Pre-audit or planning stage Stage II – On-site or field audit Stage III – Past audit Stage IV – Follow up or Review stage
3	Tools and Techniques used in Green auditing	Checklist, Questionnaires, observation, Photographs, Research base.
4	Assignment (Practical)	Assignment to conduct the Green Audit to your institute / any institute/ any garden/ any place, prepare report & submit it at the time of Examination

Assessment Type	Marks
CA Internal Conduction of the Green Audit to your institute / any institute/ any garden/ any place, prepare report & submission of report at the time of Examination and oral.	100
Total Marks	100

Suggested Readings : - Green Audit reports of various institutes are available on Google

Course Objectives:

1. To introduce some basic of review of research paper to the students.
2. To develop interest of students in research.
3. To Promote students for reading of research articles and writing its review.
4. Students will acquire analytical thinking on the topic of interest.

Course Outcomes:

After completion of this course, the students will be able to,

1. Search and Describe scientific research articles.
2. Recognize and Write the contents of research paper in summarized form.
3. Develop comparative and analytical thinking in students.
4. Compile the scientific information on a topic, verify for similarity index or plagiarism.

Unit No.	Units	Sub-Units	Lectures
1	Introduction of Literature review	1.1 Types of literature reviews: A) Evaluative B) Exploratory C) Instrumental D) Systematic review. 1.2 Types of research article: A) scientific research articles B) Review articles C) Theoretical D) Case studies E) Application oriented etc. 1.3 Purpose of literature review	30
2	Key steps of literature review	2.1 Search for relevant literature 2.2 Evaluate and select sources 2.3 Identify themes, debates and gaps 2.4 Outline your literature review's structure	
3	Other Aspects of literature review	3.1 Reference styles 3.2 Use of bibliography/ reference/ citation managers and generators A) Reference Manager B) End Note C) Ref Works D) Mendeley E) Zotero etc. 3.3 Ethics of publication A) Approval and consent B) Data ethics C) Plagiarism and self-plagiarism	

		D Collaborative authorship E) Conflict of interest F) Legal consequences 3.4 Content similarity detection A) Use of anti-plagiarism services (Urkund, iThenticate, Turnitin, Copyscape, Grammarly, etc.)	
4	Internal Assessment	4.1 At least 02 review research papers writing by the students and submit to the college (handwritten or typographical form) 4.2 Write your literature review with following points to be covered: A) Abstract B) Introduction C) Body D) Discussion E) Conclusion F) References.	

Weightage	
Internal Assessment (At least 02 review research papers writing by the students and submit at the time of examination and oral	100

Suggested Readings:

- 1) R. M. Desai (1988) : Strategy of food and agriculture – Bombay
- 2) Robinson H.A.A. -Geography of Tourism, MacDonald and Evans, London.
- 3) Seth: Tourism Management : Sustainable Tourism Development, Guide for Local Planners by WTO, Sterling Publishers Pvt. Ltd., New Delhi-110016
- 4) Smith, W. R. (1956). Product differentiation and market segmentation as alternative marketing strategies. *Journal of Marketing*. (Vol. 21, Issue 1, July). p3-8.

Model Question Paper Format

For

GG. 304 Practical in Remote Sensing-Interpretation of Aerial Photographs and Satellite Imageries.

Note: All questions are compulsory.

Que. 1 – Interpret the Aerial Photograph visually with the help of mirror stereoscope considering the following points. (12 Marks)

(a)

(b)

(c)

Que. 2 Interpret the Satellite Image visually with the help of mirror stereoscope considering the following points. (12 Marks)

(a)

(b)

(c)

Que. 3 Extraction and drawing of following natural or cultural features from the given photograph. (12 Marks)

(a)

(b)

(c)

(d)

Que. 4 A) Calculate the area measurement from aerial photograph as per oral instruction. (05 Marks)

B) Write short notes on chapter no 1, 2 & 3. (Any three out of five) (09 Marks)

Que. 5 a) Inspection of journal. (05 Marks)

b) Oral (05 Marks)

Model Question Paper Format
For
GG-305 : Practical of Computerize Data Analysis Techniques in Geography

Note: All questions are compulsory.

Que. 1 Solve Example: Chapter no-2 (10 Marks)

Que.2 Solve Examples: Chapter no-3 (Attempt A and B)
(12 Marks)

(A)

(B)

Que.3 Solve Example: Chapter no-5 (12 Marks)

Que.4 (A) Solve Example: Chapter no-6 (08 Marks)

(B) Solve Example: Chapter no-1 &4 (08 Marks)

Que. 5 Journal (05 Marks)

Oral (05 Marks)

Model Question Paper Format
For
Gg. 404: Practical in Physical Geography

Note: All questions are compulsory.

Que. 1 Solve Example: Chapter no-2 (10 Marks)

Que.2 Solve Examples: Chapter no-3 (08 Marks)

Que.3 Solve Example: Chapter no-4 (10 Marks)

Que.4 (A) Solve Example: Chapter no-5 (08 Marks)

(B) Solve Example: Chapter no-6 (08 Marks)

(C) Write short notes on. (Chapter no- 1) (06 Marks)

1.

2.

Que. 5 Journal (05 Marks)

Oral (05 Marks)

**Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon**

॥अंतरी पेटवू ज्ञानज्योत॥



SYLLABUS

for

**Master of Science (M. Sc.) II
[Mathematics]**

***Choice Based Credit System
(Outcome Based Curriculum)***

2022 - 2023

**Summary of Distribution of Credits under CBCS Scheme
for
M.Sc. (Mathematics)**

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV
01	Core	16	16	16	12
02	Skill based	04	04	-	-
03	Elective	-	-	04	08
04	Project	-	-	-	-
05	Audit	02	02	02	02
06	Total Credits	22	22	22	22

Subject Type	Core	Skill based	School Elective	Project	Audit	Total
Credits	60	08	12	00	08	88

Total Credits = 88

Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

M. Sc. (Mathematics)

Choice Based Credit System (Outcome Based Curriculum) with effect from 2021 -2022

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	4	16	16	1	4 + 0	4	1	2	2	22
II	4	16	16	1	4 + 0	4	1	2	2	22
III	4	16	16	1	4 + 0	4	1	2	2	22
IV	4	12	12	2	8 + 0	8	1	2	2	22
Total Credits		60			20			8		88

(T, Theory; P, Practical)

Structure of Curriculum

		First Year				Second Year				Total Credit Value
		Semester I		Semester II		Semester III		Semester IV		
		Credit	Course	Credit	Course	Credit	Course	Credit	Course	
(A)	Prerequisite and Core Courses									
	Theory	4	4	4	4	4	4	4	3	60
	Practical	0	0	0	0	0	0	0	0	00
(B)	Skill Based / Subject Elective Courses									
1	Theory /Practical	4	1	4	1	4	1	4	2	20
(C)	Audit Course (No weightage in CGPA calculations)									
1	Practicing Cleanliness	2	1							2
2	Personality and Cultural Development Related Course			2	1					2
3	Technology Related + Value Added Course					2	1			
4	Professional and Social + Value Added Course							2	1	2
	Total Credit/ Courses	22	6	22	6	22	6	22	6	88

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV (Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201A	Soft Skills	AC-301A	Computer Skills	AC-401A	Human Rights
		AC-201B	Sport Activities	AC-301B	Cyber Security	AC-401B	Current Affairs
		AC-201C	Yoga	AC-301C	Project work on typesetting in Latex	AC-401C	Review +Seminar of Research Papers in Mathematics
		AC-201D	Music	AC-301D	Project work on Recent topics in Mathematics	AC-401D	Vedic Mathematics

Semester-wise Course Structure of M.Sc. Mathematics

Semester I

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
MT-101	Core	Advanced Real Analysis	4	--	4	40	--	60	--	4
MT -102	Core	Topology	4	--	4	40	--	60	--	4
MT -103	Core	Abstract Algebra	4	--	4	40	--	60	--	4
MT -104	Core	Partial Differential Equations	4	--	4	40	--	60	--	4
MT -105	Skill Based	Programming in C++	4	--	4	40	--	60	--	4
AC -101	Audit Course	Practicing Cleanliness	--	2	2	--	100	--	--	2
Total Credit for Semester I: 22 (T = Theory: 16; P = Practical:00; Skill Based:04; Audit Course:02)										

Semester II

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
MT -201	Core	Number Theory	4	--	4	40	--	60	--	4
MT -202	Core	Complex Analysis	4	--	4	40	--	60	--	4
MT -203	Core	Linear Algebra	4	--	4	40	--	60	--	4
MT -204	Core	Classical Mechanics	4	--	4	40	--	60	--	4
MT -205	Skill Based	Python Programming	4	--	4	40	--	60	--	4
AC-201 A/B/C/D	Audit Course	Choose one out of Four (AC-201A/ AC-201B/AC-201C/AC-201D) from Personality and Cultural Development	--	2	2	--	100	--	--	2
Total Credit for Semester II: 22 (T = Theory Course: 16; P = Practical:00; Skill Based course:04; Audit course:02)										

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
MT-301	Core	Topics in Functional Analysis	4	--	4	40	--	60	--	4
MT -302	Core	Numerical Analysis	4	--	4	40	--	60	--	4
MT -303	Core	Topics in Field Theory	4	--	4	40	--	60	--	4
MT -304	Core	Fluid Dynamics	4	--	4	40	--	60	--	4
MT -305	Elective (Select any one)	Statistical Techniques	4	--	4	40	--	60	--	4
MT -306		Lattice Theory								
AC-301 A/B/C/D	Audit Course	Choose one out of Four (AC-301A/ AC-301B/AC-301C/AC-301D) from Technology + Value Added Courses	--	2	2	--	100	--	--	2
Total Credit for Semester III: 22 (T = Theory Course: 16; P = Practical:00; Elective Course:4; Audit Course:02)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
MT-401	Core	Linear Integral Equations	4	--	4	40	--	60	--	4
MT -402	Core	Operations Research	4	--	4	40	--	60	--	4
MT -403	Core	Commutative Algebra	4	--	4	40	--	60	--	4
MT -404	Elective (Select any two)	Advanced Abstract Algebra	8	--	8	40	--	60	--	8
MT -405		Algebraic Topology								
MT -406		Theory of Special Functions								
MT -407		Cryptography								
AC-401 A/B/C/D	Audit Course	Choose one out of Four (AC-401A/ AC-401B/ AC-401C/ AC-401D) from Professional and Social + Value Added Courses	--	2	2	--	100	--	--	2
Total Credit for Semester IV: 22 (T = Theory Course: 12; P = Practical:00; Elective Course:08; Audit Course:02)										

Program at a Glance

Name of the program (Degree)	: M. Sc. (Name of the Subject)
Faculty	: Science and Technology
Duration of the Program	: Two years (four semesters)
Medium of Instruction and Examination	: English
Exam Pattern	: 60 : 40 (60 marks University exam and 40 marks continuous internal assessment)
Passing standards	: 40% in each exam separately (separate head of passing)
Evaluation mode	: CGPA
Total Credits of the program	: 88 (60 core credits, 08 Skill enhancement credits, 12 Elective credits and 08 audit credits)

Program Objectives for M.Sc. Mathematics Program:

- To prepare skilled manpower with scientific knowledge of Mathematics for solving real life and industrial based problems
- To inculcate critical thinking to carry out scientific investigations in Mathematics.
- To equip the student with mathematical, software based and social thinking based skills to analyze problems, formulate hypothesis, evaluate or validate results, and draw reasonable conclusions thereof.
- Prepare students to pursue research or careers in mathematical sciences and allied fields
- Imbibe effective scientific and technical communication in both oral and writing.

Program Outcomes (PO) for M.Sc. Mathematics Program:

Upon successful completion of the M.Sc. program, student will be able to:

PO No.	PO	Cognitive level
PO1	Understand the fundamental axioms in mathematics and equipped with the capabilities of developing ideas based on them	2
PO2	Develop themselves as a professionals in mathematics	6
PO3	Carry our scientific research in mathematics and related fields.	5
PO4	Apply mathematical methods/tools/skills in other scientific, engineering and industrial domains	3
PO5	Nurture problem solving skills, social thinking, creativity through skill and audit based courses.	4
PO6	Prepare themselves for competitive examinations	3

Program Specific Objectives for M.Sc. Mathematics program:

- To provide quality education through effective teaching learning processes by introducing Choice based credit systems and latest software skills.
- Enable students to enhance mathematical skills and understand the fundamental concepts of pure and applied mathematics.
- To provide an opportunity through up to date curriculum to develop scientific temper among the students results into skilled manpower.
- To inculcate innovative skills, team work, ethical practices among students so as to meet societal expectations through audit courses.
- To inculcate the inquisitiveness for mathematics and motivate the students for research in mathematics. .

Program Specific Outcomes (PSOs) for M.Sc. Mathematics program:

Students who graduate with a Master of Science in **Mathematics** will:

PSO No.	PSO	Cognitive level
PSO1	Understand the technicalities of mathematics and software's to explore the acquire knowledge for further developments.	2
PSO2	Employ confidently the techniques of mathematics for solving problems and scientific investigations.	4
PSO3	Apply the knowledge of mathematical concepts in interdisciplinary fields.	3
PSO4	Continue to acquire mathematical knowledge and skills appropriate for their professional activities and demonstrate highest standard and ethics.	6
PSO5	Pursue research in advanced areas of pure and applied mathematics.	5
PSO6	Qualify national level tests like NET/SET/GATE etc.	4

Distribution of Course papers for M.Sc. Part II (Mathematics)

Subject Code	Title of the Paper		Duration (Hrs./Wk)	Max. Mark	Exam. Time (Hrs.)
M.Sc. Part II (Mathematics)					
Semester III : Theory Courses					
MT-301	Topics in Functional Analysis	Core course	04	100	03
MT-302	Numerical Analysis	Core course	04	100	03
MT-303	Topics in Field Theory	Core course	04	100	03
MT-304	Fluid Dynamics	Core course	04	100	03
MT-305	Statistical Techniques	Elective Course (Any one)	04	100	03
MT-306	Lattice Theory				
AC-301A/B/C/D	Choose one out of Four (AC-301A/AC-301B/AC-301C/AC-301D) from Technology + Value Added Courses	Audit course	02	100	--
Semester IV : Theory Courses					
MT-401	Linear Integral Equations	Core course	04	100	03
MT-402	Operations Research	Core course	04	100	03
MT-403	Commutative Algebra	Core course	04	100	03
MT-404	Advanced Abstract Algebra	Elective courses (Any two)	08	100	03 (for each course)
MT-405	Algebraic Topology				
MT-406	Theory of Special Functions				
MT-407	Cryptography				
AC-401A/B/C/D	Choose one out of Four (AC-401A/AC-401B/AC-401C/AC-401D) from Professional and Social + Value Added Courses	Audit course	02	100	--

M.Sc. Part II Semester III (Mathematics): Core Courses

MT-301: Topics in Functional Analysis		Lectures
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To acquire concepts and results of normed linear space, inner product spaces and some linear operations • The normed linear spaces which are complete metric space are especially very important for developing problem solving capabilities. 	
Unit I	Normed linear spaces, Banach Spaces, Quotient spaces, Continuous linear Transformations. The Hahn-Banach theorem and its consequences, conjugate space and separability, Second conjugate space. The natural embedding of normed linear space and its second conjugate space, Weak *Topology on conjugate space.	12 L
Unit II	The open mapping theorem, Projection on Banach space, The closed graph theorem, the conjugate of an operations, The uniform boundedness theorem (Banach-Steinhaus theorem). Inner Product spaces, Hilbert space: Definition, examples and simple properties, Schwartz's inequality, Orthogonal complements, Projection theorem, Orthogonal sets.	12 L
Unit III	The Bessel's inequality, Fourier expansion and Parseval's equations, Gram-Schmidt orthogonalization process, Separable Hilbert space, The conjugate space, Riesz Theorem.	12L
Unit IV	Operations and their adjoint on a Hilbert space, self adjoint operators, Normal and unitary operators projections. Finite dimensional spectral theory.	12 L
Unit V	Determinants and spectrum of an operator, The spectral theorem, Fixed points, Definition and examples, Banach contraction mapping theorem, Brouwer's fixed point theorem, Schauder's fixed point theorem.	12 L
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. Simmons G. F., (1963) Introduction to Topology and Modern Analysis, McGraw Hill Book Company New York 1963. (Chapter 9, Art 46 to 51. Chapter 10, Art 52 to 59, Chapter 11, Art 61 to 62, Appendix ONE) 2. Limaye B. V., (1996) Functional Analysis, second editions, New Age International (P), Ltd., Publishers. (chapter 6 Art 21 to 24, Appendix A) 3. B. Chaudhary and Sudarshan Nanda, Functional Analysis with applications, Wiley-Eastern. 4. Bachman G and Narici L, Functional Analysis, Academic Press. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C301.1	Know how functional analysis uses and unifies idea from vector spaces	2
C301.2	apply fundamental theorem from theory of normed and Banach space	3
C301.3	Understand and apply from theory of Hilbert spaces to others areas	2

M.Sc. Part II Semester III (Mathematics): Core Courses

MT - 302: Numerical Analysis		Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To know concept of Numerical Method to solve systems of solutions. • To study interpolations, numerical and differential methods for solving problems in allied fields of mathematics. • To get the ability to solve differential equations with the techniques in numerical methods. 	
Unit 1	Solution of Algebraic and Transcendental Equations: Bisection Method, Iteration Method, Method of False Position, Newton-Raphson Method, Ramanujan's Method, Muller's Method.	12 L
Unit 2	Interpolation: Errors in Polynomial Interpolation, Finite Differences, Detection of Errors by use of Difference Tables, Differences of a Polynomial, Newton's formulae for Interpolation, Central Difference, Interpolation with unevenly spaced points, Divided differences.	12 L
Unit 3	Numerical Differentiation and Integration: Numerical Differentiation, Maximum and Minimum values of a Tabulated Function, Numerical Integration.	12 L
Unit 4	Matrices and Linear systems of Equations: Basic Definitions, Solution of Linear Systems - Direct Methods, Solution of Linear Systems - Iterative Methods, Eigenvalue Problem.	12L
Unit 5	Numerical Solutions of Ordinary Differential Equations: Solution by Taylor's Series, Picard's Method of successive approximations, Euler's Method, Runge - Kutta methods, Predictor Corrector methods.	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. S. S. Sastry, (2004) Introductory Methods of Numerical Analysis, Prentice Hall of India Private Ltd. {Chapter 2, Art. 2.1-2.7, Chapter 3, Art. 3.1-3.7, 3.9, 3.11, Chapter 5, Art. 5.1 -5.4, {Chapter 6, Art.6.1-6.5, Chapter 7, Art. 7.1 - 7.6}. 2. M.K. Jain, S.R.K. Iyengar and R.K. Jain: Numerical methods for Scientific and Engineering Computation, New Age international Publishers. 3. V.N. Vedamurthy and N.Ch.S.N. Iyengar: Numerical methods, Vikash Publishing House. 4. C. Gerald and O. Wheatley: Applied Numerical Analysis, Addison Publishing company. 5. E. Balaguruswamy: Numerical Methods, Tata McGraw-Hill. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C302.1	Acquire techniques of numerical methods	2
C302.2	Solve system of equations with the help of numerical techniques	3
C302.3	Find solutions of differential equations numerically	3

M.Sc. Part II Semester III (Mathematics): Core Courses

MT - 303: Topics in Field Theory		Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To give knowledge of extensions on fields. • To study Galois Theory, Perfect fields of finite fields. • To acquire knowledge about Roots of unity, solvability of polynomials by radicals and constructability of geometrical figures 	
Unit 1	Algebraic Extensions of Fields: Field Extension, Algebraic Extension, Minimal Polynomial, Finite Fields, Finite Extension	12 L
Unit 2	Splitting Field and Irreducible Polynomial: Algebraic closure, algebraically closed fields, Simple Extension, Splitting field, Irreducible polynomials and Eisenstein criterion, multiple roots, F-isomorphism.	12 L
Unit 3	Normal and Separable Extensions: Normal extension, Separable and Inseparable extensions, Perfect fields of finite fields. Purely Inseparable Extension.	12 L
Unit 4	Galois Extensions: Galois extensions, Galois Group, Fixed Field, Fundamental theorem of Galois theory, Fundamental theorem of Algebra.	12 L
Unit 5	Solvability by Radicals: Roots of unity, Cyclic Extension, Solvability by radicals, Geometric construction, Transcendental extensions, Transcendental base.	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. N.S. Gopalakrishnan, (2003) University Algebra, New Age International (P), Ltd., Publishers. (Chapter-4: Art.-4.1 to 4.9.) 2. P. B. Bhattacharyya, S. K. Jain and S. R. Nagpaul, Basic Abstract Algebra, Cambridge University Press, Second Edition. 3. N. Jacobson, (2012) Basic Algebra I, Second Edition, Hindustan Publishing Corporation. 4. M. Nagata, (1997) Field Theory, Marcel-Dekker Inc. 5. I. S. Luthar, I. B. S. Passi, (2004) Algebra, Vol. 4, Field Theory, Narosa Publishing House 6. T. A. Hungerford, Algebra, Graduate Texts in Mathematics, Vol. 73, Springer Verlag. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C303.1	Understand extensions on fields, Eisenstein criterion, reducible and irreducible polynomials, algebraically closed field.	2
C303.2	understanding fundamentals of Normal extensions, Separable and Inseparable extensions.	2
C303.3	understand the applicability of Galois theory and Roots of Unity, Solve the problems on solvability by radicals, basic knowledge of Transcendental extensions	2

M.Sc. Part II Semester III (Mathematics): Core Courses

MT - 304: Fluid Dynamics		Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • Create a base to understand the motion of fluid. • Develop various techniques to solve the problems of fluid flow. • Benefit at advanced studies in the various fields of fluid motion. 	
Unit 1	<p>Kinematics: Introduction to some identities, formulae & theorems in vector calculus, Properties of fluids, Types of fluids, Types of flows, Eulerian & Lagrangian Methods, Real fluids & Ideal fluids, Velocity of a fluid at a point, Streamlines & Pathlines, The velocity potential, Velocity vector, Local and Particle Rates of Change, The equation of Continuity, Acceleration of fluid, Conditions at a rigid Boundary, General Analysis of Fluid Motion.</p>	12L
Unit 2	<p>Equation of Motion: Pressure at a point in a fluid at rest, Pressure at a point in a moving fluid, Conditions at a boundary of two Inviscid Immiscible fluids, Euler's equation of motion, Bernoulli's equation, Discussion of the case of steady motion under conservative body forces, some potential theorems, some flows involving axial symmetry, Some special two-dimensional flows, Impulsive motion, Some further aspects of vertex motion.</p>	12 L
Unit 3	<p>Three Dimensional Flows: Introduction, Sources, Sinks, Doublets, Images in a Rigid infinite plane, Images in Solid spheres, Axi-symmetric flows, Stokes's Stream function, Some special forms of the stream function for Axi-symmetric irrotational motions.</p>	12 L
Unit 4	<p>Two Dimensional Flows: Meaning of two-dimensional flow, Use of cylindrical polar coordinates, Stream function, Complex potential for two dimensional irrotational incompressible flow, Complex velocity potentials for standard Two-dimensional flows-uniform stream, line sources & line sinks, line doublets, line vortices, Two-dimensional image systems, Milne-Thomson circle theorem-Applications, extension of circle theorem, Theorem of Blasius.</p>	12 L
Unit 5	<p>Viscous Flow: Stress components in a Real fluid, Relations between cartesian components of stress, Translation motion of fluid element, The rate of strain quadric and principal stresses, Some properties of the rate of strain quadric, Stress analysis in fluid motion, Relations between stress and rate of strain, Coefficient of viscosity & Laminar flow, The Navier-Stokes equation of motion of a viscous fluid, Some solvable problems in viscous flow, Steady viscous flow.</p>	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. F. Chorlton, Textbook of Fluid Dynamics, CBS Publisher. Ch (1): 1.1-1.20; Ch (2): 2.1-2.11; Ch (3): 3.1-3.12; Ch (4): 4.1-4.5; Ch (5): 5.1-5.9; Ch (8): 8.1-8.11. 2. G. K. Batchelor, An Introduction to Fluid Dynamics, Cambridge University Press. 3. R. W. Fox, A. T. McDonald, P. J. Pritchard, Introduction to Fluid Mechanics, Sixth Edition, John Wiley & Sons. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C304.1	understand the concept of fluid & their types, lines to study of fluid flow.	2
C304.2	understand the equation of motion of fluid.	2
C304.3	understand the information regarding three-dimensional flows.	2
C304.4	understand the concept of two-dimensional flows.	2
C304.5	understand various models in viscous flows.	2

M.Sc. Part II Semester III (Mathematics): Elective Course (Select only one)

	MT 305-Statistical Techniques	Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To aware student about statistical concepts like mean, mode, median, regression, correlation, • To aware students about application of statistical techniques, sampling and distributions. • Students are expected to learn mathematical methods for Statistics, Mathematical Statistics, core Statistical Methods as per the syllabi provided by UGC or suggested by NET/SET. 	
Unit 1	Revision of Basic concepts: Discrete and Continuous series, Arithmetic Mean, Geometric Mean, Harmonic Mean, Median and Mode. Range, Quartile deviation, Mean deviation, Standard deviation, Variance and coefficient of variation, Probability: Sample space, discrete probability, Mathematical theory of probability, independent events, Addition and Multiplication theorems of probability.	12 L
Unit 2	Conditional probability and Baye's theorem, Theoretical distributions: Random variable, probability distribution of a discrete and continuous random variable. Probability density function, mathematical expectation. Binomial, Poisson and Normal distributions and their properties.	12 L
Unit 3	Correlation: Definition, meaning, scatter diagram method, Karl Pearson's method, Probable error, Standard error and Rank correlation and concurrent deviations. Regression: Definition, meaning, two lines of regression, regression coefficients, standard error and relation between correlation and regression.	12 L
Unit 4	Sampling and Large sample tests: Introduction to sampling, Simple random sampling, stratified sampling and systematic sampling. Testing of hypothesis, level of significance, tests of significance for large samples. Tests for single proportion, difference of proportion, single mean, difference of means, difference of S.D.	12 L
Unit 5	Exact sampling distributions: Chi-Square variate and Chi-Square distribution, conditions of validity of Chi-Square test, applications of Chi-square distribution, Chi -Square test for population variance, Chi-square test for Goodness of fit and Independence of Attributes. Definition of student's 't' distribution and derivation, Fisher's 't' distribution constants of t-distribution, graph of t-distribution, application, test for single mean, test for difference of means, paired t-test testing significance of observed sample. Definition of F statistic, F-distribution, applications, F-test for equality of population variances	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. E.J. Dudewicz and S.N. Mishra (1988), Modern Mathematical Statistics, John Willey & Sons. 2. Erwin Kreyszig (1970) Introductory Mathematical Statistics, Willey International Ltd. 3. J.K. Goyal and J.N. Sharma (2014) Mathematical Statistics, Krushna Prakashan. 4. S.C. Gupta and V.K. Kapoor (2001): Mathematical Statistics, Sultan Chand & Co-New Delhi. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
MT 305.1	Upon successful completion of this course : 1. Students will understand Basic concepts : Discrete and Continuous series, Arithmetic Mean, Geometric Mean, Harmonic Mean, Median and Mode. Range, Quartile deviation, Mean deviation, Standard deviation, Variance and coefficient of variation. 4. Correlation: Definition, meaning, scatter diagram method, Karl Pearson's method, Probable error, Standard error and Rank correlation and concurrent deviations.	2
MT 305.2	Solving examples based on Sample space, discrete probability, Mathematical theory of probability, independent events, Addition and Multiplication theorems of probability, conditional probability and Baye's theorem.	2
MT 305.3	Making applications Theoretical distributions: Random variable, probability distribution of a discrete and continuous random variable. Probability density function, mathematical expectation. Binomial, Poisson and Normal distributions and their properties.	3
MT 305.4	Analzing statistical data to study Correlation, scatter diagram method, Karl Pearson's method, Probable error, Standard error and Rank correlation and concurrent deviations.	4

M.Sc. Part II Semester III (Mathematics): Elective Course (Select only one)

MT-306: Lattice Theory		Lectures
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • This course is mainly introduced for the students to understand Lattice Theory and to some extents Boolean algebras. • The syllabus of Lattice Theory discusses Modular lattice, Distribute Lattice, Boolean Lattices and Characterization theorem, Dedekind characterization, stone algebra. • The last units discuss standard and neutral elements, semi modular lattice and modular pairs. 	
Unit I	Two Definitions of Lattices: Introduction to Posets, Duality principle, Semi-lattice, How to Describe Lattices: Join and Meet table, Covering, Some Algebraic Concepts: Homomorphism, sublattice, Lattice ideal, Congruence relations, Congruence lattice, The homomorphism theorem, Product of lattices, complete lattices, ideal lattice.	10 L
Unit-II	Polynomials. Identities and Inequalities, n-ry polynomial, lattice inequality, preservation of identities, Special Element: relatively complemented lattice, $S(L)$, pseudocomplemented semilattice, join and meet irreducible elements.	14 L
Unit- III	Distributive lattice, Stone, Nachbin, Hashimoto theorem, Congruence Relations, Distributive Lattices with Pseudocomplementation: $S(L)$ and $D(L)$ and properties.	12 L
Unit- IV	Distributive, Standard and Neutral Elements, Distributive, Standard and Neutral Ideals, Structure Theorems	12 L
Unit-V	Semimodular lattices, isomorphism theorem and Modular pairs.	12 L
<p>Suggested Readings:</p> <ul style="list-style-type: none"> • George Gratzner, (1978) General Lattice Theory, Academic press, New York. (Chapter 1: Sections 1, 2, 3, 4, 6, Chapter 2: Sections 3, 6 Chapter 3: Section 2,3,4 Chapter 4: Section 2) • Birkhoff G., (1968) Lattice Theory, Amer. Math. Soc., Colloq. Publ., New York, 1968 • Crawley P. and Dilworth R.P. (1973) Algebraic theory of lattices, Prentice-Hall, Englewood Cliffs, N.J. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C306.1	Understand Lattice and Lattice as an algebraic structures	2
C306.2	Explain Homomorphism between two Lattices, Boolean algebra	2
C306.3	understand neutral elements, structure theorem	2

M.Sc. Part II Semester III (Mathematics) : Audit Courses

AC-301(A): Computer Skills		
(Technology + Value added Audit course; Practical; 2 Credits)		
(Optional: Campus + Program level)		
Course Objectives (COs):		
<ul style="list-style-type: none"> To inculcate different daily useful computer skills among students. 		
Unit 1	Elements of Information Technology 1.1 Information Types: Text, Audio, Video, and Image, storage formats 1.2 Components: Operating System, Hardware and Software, firmware 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics	2 L
Unit 2	Office Automation-Text Processing 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View, ReadingLayout View 2.2 Working with Files: Create New Documents, Open Existing Documents, SaveDocuments to different formats, Rename Documents, Close Documents 2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins 2.4 Lists: Bulleted and Numbered Lists, 2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Moveand Resize Tables, Moving the order of the column and/or rows inside a table, TableProperties 2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents, 2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters 2.8 Types of document files: RTF, PDF, DOCX etc.	5 L
Unit 3	Office Automation-Worksheet Data Processing 3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets, 3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells 3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells 3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts	5 L
Unit 4	Office Automation- Presentation Techniques and slide shows 4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout 4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes 4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check,	6 L

	<p>Spelling options</p> <p>4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing rowwidth, Adding a row/column, Deleting a row/column, Combining cells ,Splitting a cell,Adding color to cells, To align text vertically in cells, To change table borders,Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slideanimation/transitions.</p>	
Unit 5	<p>Internet & Applications:</p> <p>5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing theInternet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers,Uniform resource locator</p> <p>5.2 Internet Resources: Email, Parts of email,</p> <p>5.3 Protecting the computer: Password protection, Viruses, Virus protection software,Updating the software, Scanning files, Net banking precautions.</p> <p>5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services</p> <p>5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing</p> <p>5.6 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat(NPTEL) portal, MIT courseware</p>	4 L
Unit 6	<p>Cloud Computing Basics</p> <p>6.1 Introduction to cloud computing</p> <p>6.2 Cloud computing models: SAS, AAS, PAS</p> <p>6.3 Examples of SAS, AAS, PAS (DropBox, Google Drive, Google Docs, Office 365 Prezi, etc.)</p>	3 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & BartlettLearning, 2010, ISBN: 1449609821, 9781449609825 2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: CengageLearning, 2010, ISBN: 0538472464, 9780538472463 3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5,Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552 4. Cloud computing online resources 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301A.1	Identify their lacunas about some computer skills and try to overcome the same.	2
AC301A.2	Practice the learned computer skills in real life and do their jobs more effectively.	3

M.Sc. Part II Semester III (Mathematics) : Audit Courses

AC-301(B): Cyber Security		
(Technology + Value added Audit course; Practical; 2 Credits)		
(Optional: Campus + Program level)		
Course Objectives (COs):		
<ul style="list-style-type: none"> To make students aware of different daily useful cyber security skills/rules. 		
Unit 1	Networking Concepts Overview Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet	3 h
Unit 2	Security Concepts Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography. Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.	7 h
Unit 3	Security Threats and vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Cyber crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes	7 h
Unit 4	Cryptography Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure	5 h
Unit 5	System & Network Security System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.	3 h
Unit 6	OS Security OS Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.	2 h
Unit 7	Security Laws and Standards Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its amendments.	3 h

Suggested readings:

1. Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon
2. BPB Publication, "Fundamentals of Cyber Security", Mayank Bhushan, Rajkumar Singh Rathore , Aatif Jamshed
3. Create Space Independent Publishing Platform, "Cyber Security Basics", Don Franke, ISBN-13: 978-1522952190 ISBN-10: 1522952195
4. Online references

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301B.1	Practice learned cyber security skills/rules in real life.	3
AC301B.2	Provide guidance about cyber security skills/rules to their friends, parents and relatives.	2

M.Sc. Part II Semester III (Mathematics) : Audit Courses

AC-301(C): Typesetting with Latex

(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)

Course Objectives (COs):

- Acquire proficiency in basic typesetting of Latex
- Demonstrate the use of Latex for Letter, Bio-data typing,
- Be familiar with Research paper, article and Book typing with cross referencing and bibliography.

Unit 1	The Basics: Simple typesetting, Fonts, Typesize, The Document, Document class, Page style, Page numbering, Formatting lengths, Parts of a document, Dividing the document . Table of contents, Index and Glossary:	07 L
Unit 2	Table of contents, Index, Glossary, Displayed Text, borrowed words, Poetry in typesetting, making lists, Rows and Columns, Keeping tabs, Tables..	08 L
Unit 3	Typesetting Mathematics: The basics, Custom commands, More on mathematics, Mathematics miscellany, New operators, The many faces of mathematics, Symbols. Typesetting Theorems: Theorems in L ATEX, Designer theorems, The amsthm package,	08 L
Unit 4	Housekeeping. Several Kinds of Boxes: LR boxes, Paragraph boxes, Paragraph boxes with specific height, Nested boxes, Rule boxes Floats: The figure environment, The table environment. Cross References in LATEX. Pointing to a page—the package varioref, Pointing outside— the package, Footnotes, Margin pars, and Endnotes: Footnotes, Marginal notes, Endnotes. Bibliography.	07 L

Suggested readings:

1. E. Krishnan and G. S. Krishna, (2003), **Latex Tutorials —A Primer**, Indian TEX Users Group Floor III, SJP Buildings, Cotton Hills Trivandrum 695014, India.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301C.1	Acquire skill of mathematical typing Using Latex	2
AC301C.2	Write communication letters, mathematical note, research articles using Latex typesetting	3
AC301C.3	Type Books, Research thesis with figure, cross referencing and Bibliography	5

M.Sc. Part II Semester III (Mathematics) : Audit Courses

AC-301(D): Project on Topics in Mathematics

(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)

Course Objectives (COs):

- Develop skills to understand and analyze recent topics in Mathematics
- Make aware the students for research in Mathematics
- Make a project work on the knowledge acquired on the topic of interest

1	Choice of topics for project work	04 L
2	Collection of the materials such as books, references, website printouts etc	04 L
3	Analysis of the collected material in an uniform manner	10 L
4	Discussion and guidance from teacher or available expert of the field	04 L
5	Writing articles, research paper etc after finalization of the content	--
6	Preparation of the content of the project	04 L
7	Typing and Binding of the project work	04 L

Suggested readings: (Sample projects/lists can be found on the following links)

1. <https://eduprojecttopics.com/product-category/mathematics/>
2. https://scholarworks.boisestate.edu/math_gradproj/
3. <https://uniprojectmaterials.com/mathematics/project-topics-materials-for-final-year-students>
5. https://www.monash.edu/_data/assets/pdf_file/0009/2085399/MTH3000_Projects.pdf
6. <https://www.uhd.edu/academics/sciences/mathematics-statistics/PublishingImages/Pages/ms-index/MathStatistics-SeniorProject.pdf>

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301D.1	Analyze material available at different sources	4
AC301D.2	Write articles/research notes/review on particular topic of interest	3
AC301D.3	develop research skills	3

M.Sc. Part II Semester IV Mathematics: Core course

	MT-401: Linear Integral Equations	Lecture
	<p>Course Objectives: The aim of this course is</p> <ul style="list-style-type: none"> • To provide adequate knowledge of fundamentals of Fredholm, Volterra and singular integral equations • To understand different methods for finding the solutions of Fredholm, Volterra and singular integral equations. • To motivate students, how to solve problems on differential and integral equations using Laplace and Fourier transforms. 	
Unit 1	Definition and classification of linear integral equations, Fredholm integral equation with separable kernel, Singular integral equations, Integro-differential equations, Homogeneous Fredholm equations and eigenfunctions.	12 L
Unit 2	Solutions of Fredholm integral equations by: Successive approximations Method, Successive substitution Method, Adomian decomposition method, Modified decomposition method, Resolvent kernel of Fredholm equations and its properties.	12 L
Unit 3	Solutions of Volterra integral equations: Successive approximations method, Neumann series, Successive substitution Method. Solution of Volterra integral equations by Adomian decomposition method, and the modified decomposition method, Resolvent kernel of Volterra equations and its properties, Convolution type kernels,	12 L
Unit 4	Applications of Laplace and Fourier transforms to solutions of Volterra integral equations, Symmetric Kernels: Fundamental properties of eigenvalues and eigenfunctions for symmetric kernels, expansion in eigenfunctions and bilinear form. Hilbert Schmidt Theorem and its consequences, Solution of symmetric integral equations,	12 L
Unit 5	Operator method in the theory of integral equations, Solution of Volterra and Fredholm integrodifferential equations by Adomian decomposition method, Green's function: Definition, Construction of Green's function and its use in solving boundary value problems.	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. R. P. Kanwal, (1971) Linear Integral Equation- Theory and Technique: Academic Press. 2. Abdul-Majid Wazwaz,(2011) Linear and Nonlinear Integral Equations-Methods and Applications: Springer. 3. L. G. Chambers,(1976) Integral Equations- A Short Course: International Text Book Company. 4. M. A, Krasnov, et.al. (1971) Problems and exercises in Integral equations: Mir Publishers. 5. J. A. Cochran, (1972) The Analysis of Linear Integral Equations: McGraw Hill Pub.. 6. 6. C. D. Green, (1969) Integral Equation Methods: Thomas Nelson and sons. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C401.1	Know the relation between differential and integral equations, and how to change from one to another.	2
C401.2	Understand different kinds of kernels and use techniques for solving problems on each kind.	2
C401.3	Use Laplace transform, Fourier transform for solving a wide range of differential and integral equations.	3

M.Sc. Part II Semester IV Mathematics: Core course

MT-402: Operations Research		Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> to introduce the theory of PERT and CPM to understand the Queuing Models and decision theory to acquire knowledge of replacement and Inventory models model for solving problems related to industry. 	
Unit 1	PERT AND CPM: Introduction, Phases of project management, Network diagrams, Fulkerson's rule, slack, forward pass, backward pass, critical path, project duration, various floats, tabular form, differences between PERT and CPM, Project cost and crashing the Network.	12 L
Unit 2	Queuing Models: Introduction, application of Queuing models, characteristics, arrival and service distribution, Kendall's notation for Queuing models, Single channel queuing theory, M/M/I model and generalization, M/M/I:SIRO/model, M/M/1: FCFS/N/Finite queue length model, M/M/1:FCFS/n/N Limited source model, M/M/C:FCFS/ / Multichannel queuing theory model.	12 L
Unit 3	Decision theory: Steps involved in Decision theory, decision making under uncertainty, Minimax, Maximin, Maximax, Hurwitz and Laplace criteria. Decision making under risk, Expected monetary value and Expected opportunity loss criteria and EVPI, Decision trees.	12 L
Unit 4	Replacement Models: Introduction, Replacement of Items that deteriorate with time with no changes in money value, with change in value of money, replacement of items that fail suddenly, individual replacement policy, group replacement policy and staffing problems.	12 L
Unit 5	Inventory Models: Necessity and maintenance of Inventory, inventory costs, inventory control problems, inventory models with deterministic demand, with probabilistic demand, with price breaks, multi-item deterministic models, forecasting of demand, forecasting methods, seasonal demand, when to order, safety stock and how much to order.	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> V. K. Kapur: Quantitative Techniques for Management, Sultan Chand & Co. New Delhi. P. K. Gupta and D.S. Hira: Operations Research, Sultan Chand & Co., New Delhi. Taha, Operations Research: An introduction, Macmillan publishing Co. Vohra N D, Quantitative techniques in management, Tata Mc-Graw Hill. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C402.1	analyze the results and propose solutions to the decision-making processes in Management and Engineering.	4
C402.2	describe mathematical tools needed to evaluate decision problems	3
C402.3	develop technical knowledge for replacement and inventory models to solve problem arises in allied fields.	4

M.Sc. Part II Semester IV Mathematics: Core course

MT - 403: Commutative Algebra		Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • To know concept of sequence of modules and R-module homomorphisms, Tensor products. • To study ring extensions. • To know the concepts of integral extensions and valuation domain. 	
Unit 1	Projective Modules: Exact sequences, Projective modules, Finitely generated modules, Shanuel's lemma, Tensor product, Tensor product w. r. t. exact sequences, flat modules, Faithfully flat modules.	15 L
Unit 2	Localisation: Jacobson radical, Nakayama lemma, multiplicatively closed set, Localisation, Localisation and exact sequence, localisation and tensor product.	10 L
Unit 3	Ideal and Chain conditions in modules: Extension and Contraction of ideals, Artinian modules, Structure theorem of Artinian rings.	10 L
Unit 4	Integral extensions: Integral elements, Integral closure, Integral extensions, Going up theorem, Integrally closed domain, Going down theorem	15 L
Unit 5	Valuation rings: Valuation rings, Ordered group, valuation on a field, Discrete valuation rings, Dedekind domain.	10 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. Gopalakrishnan N. S. (2016), Commutative Algebra, Universities Press (India) Pvt. Ltd. (Chapter- I: Art.-1.2 to 1.4, Chapter-II: Art.- 2.2 to 2.3, Chapter-III: Art.- 3.1 to 3.3, Chapter-IV: Art.-4.1 to 4.3, Chapter-V: Art- 5.1 to 5.3). 2. Atiyah M. F. and Donald Mac (2007), Introduction to Commutative Algebra, Sarat Book House. 3. Eisenbud David (1995), Commutative Algebra with a view toward Algebraic Geometry, Springer Verlag, New York. 4. Jacobson N. (1980), Basic Algebra Vol.-I & II, Hindustan Publishing Corporation (India). 5. Zarski O. and Samuel P. (1975), Commutative Algebra, Springer. 6. Rowen L. (1988), Ring theory Vol.-I & II, Academic Press. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C403.1	Understand the concept of exact sequences, projective and flat modules.	2
C403.2	Explain the concepts of Artinian module and Artinian rings.	2
C403.3	Learn the Valuation rings and Discrete valuation rings.	2

M.Sc. Part II Semester IV (Mathematics): Elective Course

MT - 404: Advanced Abstract Algebra		Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> To introduce nil radical of an ideal of a ring and semiprime ideal. to introduce Jacobson radical and prime radical of a ring. To introduce the direct sum of rings and study more results on Noetherian rings. 	
Unit 1	Basic concepts of maximal ideals, prime ideals and nil radical .of an ideal, semiprime ideal and primary ideals.	12 L
Unit 2	Minimal prime ideals, Prime avoidance theorem, Jacobson radical of a ring, semisimple ring and prime radical of a ring.	12 L
Unit 3	Quasi-regular element, J-radical, J-semisimple ring, regular ring.	12 L
Unit 4	Direct sum of rings, subdirectly reducible and irreducible rings.	12 L
Unit 5	Noetherian ring, irreducible ideals, irrdundant primary representation, Cohen's theorem and Krull intersection theorem.	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> D. M. Burton, (1970) A first course in ring and ideals, Addison-Wisley Publishing Company Inc. Chapter-V: Art.-5.1 to 5.16, Chapter-VIII: Art.- 8.1 to 8.21, Chapter-IX: Art.-9.4 to 9.6, Chapter-X: Art- 10.1 to 10.6, Chapter-XII: Art.-12.1 to 12.11. N. Jacobson, (1980) Basic Algebra Vol- I & II, Hindustan Publishing Corporation, India. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C404.1	Know the different types of ideals and their importance	2
C404.2	Know Jacobson radical and prime radical of a ring with the relative concepts	2
C404.3	Know the direct sum of rings and some advanced results on Noetherian rings	2

M.Sc. Part II Semester IV (Mathematics): Elective Course

MT 405 Algebraic Topology		Lecture
	<ul style="list-style-type: none"> • To know the concept of Geometric complexes and simplicial homology. • To study simplicial approximations. • To know the homotopic paths and fundamental group. 	
Unit 1	Geometric complexes, polyhedron, orientation of Geometric complexes.	10 L
Unit 2	Chains, Cycles, Boundaries, Homology groups, Examples and structure of homology groups, The Euler-Poincare theorem, Euler's theorem, Pseudo manifolds, Fundamental group of S_n .	15 L
Unit 3	Simplicial approximation, Induced homomorphism on the homology groups, The Brouwer's fixed point theorem.	15 L
Unit 4	Homotopic paths and Fundamental groups, Covering homotopy property for S_1 , Examples of Fundamental groups	10 L
Unit 5	Relation between first homology group and fundamental group.	10 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. F.H. Croom, (1978) Basic Concepts of Algebraic Topology, Springer under graduate text. (Chapter-I: Art- 1.1 to 1.4, Chapter-II: Art-2.1 to 2.5, Chapter-III: Art-3.1 to 3.4, and Chapter-IV: Art-4.1 to 4.4.) 2. Satya Deo, (2003) Algebraic Topology-A primer, Hindustan Book Agency,. 3. B. K. Lahiri, (2005) A First Course in Algebraic Topology, Second Edition, Alpha Science Intl Ltd. 4. E. H. Spanier, (1994) Algebraic Topology, Third Edition, Springer Verlag New York Inc. 5. I .M. Singer & J.A. Thorpe, (1976) Lecture Notes on Elementary Topology and Differential Geometry, Springer Verlag New York. 		

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C405.1	Understand the fundamental concepts and methods in algebraic topology.	2
C405.1	Explain the well known theorems: The Euler-Poincare theorem, Euler's theorem, Brouwer's fixed point theorem.	2
C405.1	Learn the relation between first homology group and fundamental group.	2

M.Sc. Part II Semester IV (Mathematics): Elective Course

	MT – 406: Theory of Special Functions	Lecture
	<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To analyze properties of special functions by their integral representations and symmetries. 2. To determine properties of Legendre polynomials, Rodrigue’s formula, Generating function and Fourier Legendre’s series which may be solved by application of special functions. 3. To determine properties of solution of Bessel’s differential equation and Bessel’s functions, Bessel’s function of first kind and second kind, Orthogonality of Bessel’s functions, The Hypergeometric Functions. 4. Study of Hypergeometric series, Euler’s Integral Representation, the Hypergeometric equation, the Barnes Integral for the Hypergeometric function 	
Unit I	The Gamma & Beta Functions: The Gamma and Beta integrals, Functions and their properties, The Euler Reflection formula, Riemann Zeta functions, Gauss’s multiplication formula for $\Gamma(mx)$, Integral representation for $\log \Gamma(mx)$, The Bohr-Mollerup theorem.	12 L
Unit II	Legendre Polynomials: Solution of Legendre differential equation and Legendre polynomials, Rodrigue’s formula, Generating function, Recurrence relations,	12 L
Unit III	Orthogonal and orthonormal functions, Orthogonal property of Legendre’s polynomials, Fourier Legendre’s series.	12 L
Unit IV	Bessel’s Functions: Solution of Bessel’s differential equation and Bessel’s functions, Bessel’s function of first kind and second kind, Orthogonality of Bessel’s functions, Fourier Bessel’s series.	12 L
Unit V	The Hypergeometric Functions: The Hypergeometric series, Euler’s Integral Representation, the Hypergeometric equation, the Barnes Integral for the Hypergeometric function.	12 L
<p>Suggested Readings:</p> <ol style="list-style-type: none"> 1. George E. Andrews, Richard Askey, Ranjana Roy, (2010) Special Functions, Cambridge University Press. {Chapter 1; 1.1, 1.2, 1.3, 1.5, 1.6, 1.9, Chapter 2; 2.1,2.2, 2.3, 2.4} 2. R. K. Jain and S. R. K. Iyengar, (2008) Advanced Engineering Mathematics, Narosa Publishing House, New Delhi. {Chapter 7;7.1, 7.2, Chapter 7; 7.4, 7.5, 3. Mark A. Pinsky, (1991) Partial Differential Equations and Boundary Value Problem with Applications, McGraw - Hill, Ins. {Chapter 4; 4.2, Chapter 3; 3.2} 4. Earl D. Rainville, (1960) Special Functions, Chelsea Publishing Company, New York, (1960). 5. H. M. Srivastava, A Treatise, On Generating Functions, John Wiley & Sons, New York. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C406.1	list the basic concept of integral calculus and special functions of various engineering problem and to know the application of some basic mathematical methods via all these special functions.	2
C406.2	Explain the applications and the usefulness of these special functions.	2
C406.3	Justify the use of gamma function, beta function special functions, Hypergeometric function and Hypergeometric series to: evaluate different types of integral calculus problems and solve differential equations	3

M.Sc. Part II Semester IV (Mathematics): Elective Course

	MT – 406: Cryptography	Lecture
	<p>Course Objectives:</p> <ul style="list-style-type: none"> • to know how pure mathematics like Finite Fields and Number Theory are used to secure our daily online communication. • Acquire knowledge of different cryptosystems and their mathematical settings 	
Unit 1	<p>Introduction to Cryptography: Classifications of Cryptography along with few applications of Cryptography in day-to-day activities, Purpose of Cryptography, Basic Terminology, Applications of Modern Algebra and Number Theory in Cryptography</p> <p>Classical Ciphers: Some Simple Ciphers - Ceaser Cipher, Shift Cipher, Affine Cipher, Substitution Ciphers with examples, Transposition Ciphers with examples</p> <p>Cryptanalysis of Classical Ciphers: Cryptanalysis of Affine Ciphers, Cryptanalysis of Substitution Ciphers, Cryptanalysis of Vigenere Cipher and Cryptanalysis of the Hill Cipher</p> <p>Shannon’s Theory, Perfect Secrecy, and the One-Time Pad: Perfect Secrecy, Entropy, Properties of Entropy, Spurious Keys and Unicity Distance</p>	08 L
Unit 2	<p>Mathematical Background for Cryptography:</p> <p>Algorithm to produce an irreducible polynomial of degree n over \mathbb{E}. Modular exponentiation by the repeated squaring, Primality Testing, Probabilistic Algorithms, The Pseudo-prime Test, The Miller-Rabin Test, The Agrawal-Kayal-Saxena (AKS) Algorithm, Primitive Roots,</p>	08 L
Unit 3	<p>Symmetric (Private) Key Ciphers:</p> <p>Block Ciphers: Feistel Structure — Balanced and Unbalanced, DES Cipher, Substitution-Permutation Network, AES Cipher, Applications of finite fields in designing AES S-box, Modes of Operation</p> <p>Pseudo-Random Bit Generator (PRBG): Random bit generators, Pseudo-random bit generators, Statistical tests, Cryptographically secure pseudorandom bit generation</p> <p>Stream Ciphers: Feedback shift registers, Stream ciphers based on LFSRs, Salsa20/20 and ChaCha20 stream ciphers</p>	14 L
Unit 4	<p>Cryptographic Hash Functions: Definition and examples of hash functions, Definition of cryptographic hash functions, Properties of cryptographic hash functions, design principle of commonly used cryptographic hash functions</p> <p>SHA-1, SHA-2 Family: Detailed discussion of SHA-1 algorithm, Detailed</p>	06 L

	<p>discussion of SHA-256 algorithm. Brief description of SHA-224, SHA-384 and SHA-512 algorithms</p> <p>SHA-3 and Applications: Brief description of SHA-3 competition, Keccak Algorithm, SHA-3 standardization, Applications of cryptographic hash functions</p>	
Unit 5	<p>Asymmetric (Public) Key Ciphers:</p> <p>Introduction to Public Key Cryptography: Trapdoor one-way function, Introduction to Non-secret encryption</p> <p>Diffie-Hellman Key Exchange and RSA: Description of Diffie-Hellman (DH) key exchange protocol, RSA cryptosystem with examples, Integer factorization, Attack on RSA cryptosystem</p> <p>ElGamal Cryptosystem: Discrete logarithm problem (DLP), ElGamal cryptosystem with examples, algorithm to solve DLP</p> <p>Elliptic Curve Cryptography: Elliptic Curves over the Reals, Elliptic Curves Modulo a Prime, Elliptic Curves over Finite Fields, Properties of Elliptic Curves, ElGamal Cryptosystems on Elliptic Curves.</p> <p>Signature Schemes: RSA Signature Scheme, Security Requirements for Signature Schemes, The ElGamal Signature Scheme and its variants, Security of the ElGamal Signature Scheme</p>	12 L
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. Douglas R. Stinson and Maura B. Paterson,(2019) <i>Cryptography Theory and Practice</i>, CRC Press, Fourth Edition. 2. Hans Delfs and Helmut Knebl,(2015)<i>Introduction to Cryptography — Principles and Applications</i>, Springer, Third Edition. 3. Chuck Easttom, (2016)<i>Modern Cryptography — Applied Mathematics for Encryption for Encryption and Information Security</i>, McGraw-Hill Education, 2016 4. Jonathan Katz and Yehuda Lindell, (2021) <i>Introduction to Modern Cryptography</i>, CRC Press, Third Edition. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C407.1	explain symmetric and Asymmetric cryptography	2
C407.2	see how Finite Fields and Number Theory are used to design modern cryptosystems for securing our online communication	3
C407.3	explain how digital signature is used in place of handwritten signature on a document	3

M.Sc. Part II Semester IV (Mathematics): Audit Courses

AC-401(A): Human Rights (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional:)		
	Course Objectives (COs): • To make students aware about human rights and human values.	
Unit 1	Introduction to Human Rights 1.1 Concept of Human Rights 1.2 Nature and Scope of Human Rights 1.3 Fundamental Rights and Fundamental Duties 1.4 Interrelation of Rights and Duties	6 L
Unit 2	Human Rights in India 2.1 Meaning and Significance of : 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies. 2.2 Constitutional Provisions for Human Rights 2.3 Declaration of Human Rights 2.4: National Human Rights Commission	8 L
Unit 3	Human Values 3.1 : Meaning and Definitions of Values 3.2 : Importance of values in the life of Individual 3.3: Types of Values 3.4: Programmes for conservation of Values	8L
Unit 4	Status of Social and Economically Disadvantaged people and their rights 4.1: Rights of women and children in the context of Social status 4.2: The Minorities and Human Rights 4.3: Status of SC/ST and other Indigenous People in the Indian Scenario 4.4: Human rights of economically disadvantaged Society	8L
Suggested readings: 1. Human rights education – YCMOU, Nasik 2. Value education – SCERT, Pune 3. Human rights reference handbook – Lucille whare		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401A.1	Practice the learned issues under human rights and human values in real life.	3
AC401A.2	Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.	5

M.Sc. Part II Semester IV (Mathematics): Audit Courses

AC-401(B): Current Affairs (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional:)			
Course Objectives (COs):			
<ul style="list-style-type: none"> • To make students updated about current affairs of India and world. 			
	Title	Content	Hours
Unit 1	Politics & Economy	<ul style="list-style-type: none"> • National & International Political Activity, Organization. • Economy & Business, Corporate world 	08 L
Unit 2	Awards and recognitions	<ul style="list-style-type: none"> • National & International Awards and recognitions • Books and authors 	07 L
Unit 3	Science & Technology	<ul style="list-style-type: none"> • Software, Automobile, Space Research • New inventions and discoveries 	07 L
Unit 4	Environment & Sports	<ul style="list-style-type: none"> • Summit & conference, Ecology & Climate, Organization. • National & International Games, Olympics, commonwealth etc. 	08 L
Suggested readings (Use recent years' data and current literature):			
<ol style="list-style-type: none"> 1. India 2019, by Publications Division Government of India 2. Manorama Year Book by Philip Mathew, 3. India 2019, Rajiv Maharshi 4. Quick General Knowledge 2018 with Current Affairs Update, Disha Experts 5. General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board. 			

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401B.1	Identify important issues currently/ recently happening in India or world.	5
AC401B.2	Summarize current affairs regularly.	6

M.Sc. Part II Semester IV (Mathematics): Audit Courses

AC-401(C): Review and Seminar of Research Papers in Mathematics		
(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)		
Course Objectives (CObs):		
<ul style="list-style-type: none"> • Develop presentation skills for particular topic of interest among the students • Students will acquire analytical thinking on the topic of interest 		
Unit 1	Algebra, Semiring Theory, Commutative Algebra, Linear Algebra, Field Theory, Graph theory, Metric spaces, Fixed point theory, Topology, Lie Algebra, Number Theory etc	--
Unit 2	Analysis, Complex Analysis, Differential Equations, Numerical Analysis, Functional Analysis, Integral Equations, Fractional Differential Equations, Integral and Transform Theory etc	--
Unit 3	Mechanics, Fluid Dynamics, Classical Mechanics, Computational Fluid Mechanics, Fuzzy Mathematics, Coding theory, Cryptography etc	--
Unit 4	At least 02 seminars by students on their review done in above topics etc	--
Suggested readings:		
<ul style="list-style-type: none"> • Research papers, Articles, Books, Monographs, recommended websites etc 		

Course Outcomes (COts):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401C.1	Prepare own notes for presentation	3
AC201C.2	Cultivate research skill	5
AC401C.3	Think analytically	3

M.Sc. Part II Semester IV (Mathematics): Audit Courses

AC-401(D): Vedic Mathematics		
(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)		
Course Objectives (COs):		
<ul style="list-style-type: none"> To enhance computation skills among the students. Improve clarity on mathematical concepts. Develop analytical thinking through Vedic Mathematics. 		
Unit 1	Actual Applications of the Vedic Sutras, Arithmetical Computations, Multiplication, Practical Application (compound multiplication), Practice and Proportion, Division by the Nikhilam method, Division by the Parevartpa method, Argumental Division, Factorization (of simple quadratics), Factorization (of harder quadratics), Factorization of Cubics etc., Highest Common Factor.	
Unit 2	Simple Equations (First Principles), Simple Equations (by Sunyam etc.), Merger Type of Easy Simple Equations, Extension method, Complex Mergers, Simultaneous Simple Equations, Miscellaneous (Simple) Equations, Quadratic Equations, Cubic Equations, Bi-quadratic Equations, Multiple Simultaneous Equations, Simultaneous Quadratic Equations.	
Unit 3	Factorization & Differential Calculus, Partial Fractions, Integration by Partial Fractions, The Vedic Numerical Code, Recurring Decimals, Straight Division, Auxiliary Fractions, Divisibility & Simple Osculators, Divisibility & Complex Multiplex Osculators, Sum & Difference of Squares	
Unit 4	Elementary Squaring, Cubing etc. Straight Squaring, Vargamula (square root), Cube Roots of Exact Cubes, Cube Roots (General), Pythagoras Theorem etc., Apollonius' Theorem, Analytical Conics.	
Suggested readings:		
1. Jagadguru Shankaracharya, Sri Bharati Krisna Tirtha Maharaja,(1981), Vedic Mathematics , (edited by Dr. V. S. Agrawala), Motilal Banaridas, Delhi.		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401D.1	recognize their hidden potential, improve their mathematical abilities	4
AC401D.2	Enhance academic performance particularly in mathematical calculations	3
AC401D.3	know the effectiveness of the Vedic mathematics techniques	2

Shankar

Equivalence for M.Sc. (Mathematics) Courses

Old Syllabus (June 2017) (Semester pattern 60:40)		New Syllabus (June 2021) CBCS pattern (Semester pattern 60:40)	
Course code	Paper	Course code	Paper
Semester-1			
MT 101	Advanced Real Analysis	MT 101	Advanced Real Analysis
MT 102	Topology	MT 102	Topology
MT 103	Abstract Algebra	MT 103	Abstract Algebra
MT 104	Ordinary and Partial Differential Equations	MT 104	Partial Differential Equations
Any one of the following			
MT 105	Theory of Fuzzy sets	MT 105	Programming in C++
MT 106	Programming in C++	MT 105	Programming in C++
Semester II			
MT 201	General Measure Theory	MT 204	Classical Mechanics
MT 202	Complex Variables	MT 202	Complex Analysis
MT 203	Linear Algebra	MT 203	Linear Algebra
MT 204	Mathematical Methods	MT 205	Python Programming
Any one of the following			
MT 205	Number Theory	MT 201	Number Theory
MT 206	Classical Mechanics	MT 204	Classical Mechanics

Old Syllabus (June 2018) (Semester pattern 60:40)		New Syllabus (June 2022) CBCS pattern (Semester pattern 60:40)	
Course code	Paper	Course code	Paper
Semester III			
MT 301	Topics in Functional Analysis	MT 301	Topics in Functional Analysis
MT 302	Statistical Techniques	MT 305	Statistical Techniques
MT 303	Topics in Field Theory	MT 303	Topics in Field Theory
Any two of the following			
MT 304	Fluid Dynamics	MT 304	Fluid Dynamics
MT 305	Difference Equations	MT 304	Fluid Dynamics
MT 306	Theory of Lattices	MT 306	Theory of Lattices
MT 307	Elements of Graph Theory	MT 407	Cryptography
Semester-IV			
MT 401	Advanced Mathematical Methods	MT 406	Theory of Special Functions
MT 402	Operations Research	MT 402	Operations Research
MT 403	Commutative Algebra	MT 403	Commutative Algebra
Any two of the following			
MT 404	Advanced Abstract Algebra	MT 404	Advanced Abstract Algebra
MT 405	Advanced Numerical Methods	MT 302	Numerical Analysis
MT 406	Algebraic Topology	MT 405	Algebraic Topology
MT 407	Linear Integral Equations	MT 401	Linear Integral Equations

f. Khanolkar

**Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon**

॥अंतरी पेटवू ज्ञानज्योत॥



1A Grade
NAAC Re Accredited
(3rd Cycle)

SYLLABUS

for

Master of Science (M. Sc.)

II

[Physics]

***Choice Based Credit System
(Outcome Based Curriculum)***

2022 - 2023

**Summary of Distribution of Credits under CBCS Scheme
for
M.Sc. (Physics)**

Sr. No	Type of course	Sem I	Sem II	Sem III	Sem IV	Total
01	Core	16	16	08	08	48
02	Skill based	04	04	04	04	16
03	Elective	-	-	04	04	08
04	Project	-	-	04	04	08
05	Audit	02	02	02	02	08
06	Total Credits	22	22	22	22	88

Subject Type	Core	Skill based	Elective	Project	Audit	Total
Credits	48	16	08	08	08	88

Total Credits = 88

Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

M. Sc. Physics

Choice Based Credit System (Outcome Based Curriculum) with effect from 2021 -2022

Course credit scheme

Semester	(A) Core Courses			(B) Skill Based / Elective Course			(C) Audit Course (No weightage in CGPA)			Total Credits (A+B+C)
	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (T+P)	Total Credits	No. of Courses	Credits (Practical)	Total Credits	
I	4	16 + 0	16	1	0 + 4	4	1	2	2	22
II	4	16 + 0	16	1	0 + 4	4	1	2	2	22
III	2	08 + 0	08	3	4 + 8	12	1	2	2	22
IV	2	08 + 0	08	3	4 + 8	12	1	2	2	22
Total Credits	48			32			8			88

(T, Theory; P, Practical)

Structure of Curriculum

		First Year				Second Year				Total Credit Value
		Semester I		Semester II		Semester III		Semester IV		
		Credit	Course	Credit	Course	Credit	Course	Credit	Course	
Prerequisite and Core Courses										
(A)	Theory	16	4	16	4	8	2	8	2	48
	Practical					8	2	8	2	16
(B) Skill Based / Subject Elective Courses										
1	Theory /Practical	4	1	4	1	4	1	4	1	16
(C) Audit Course (No weightage in CGPA calculations)										
1	Practicing Cleanliness	2	1							2
2	Personality and Cultural Development Related Course			2	1					2
3	Technology Related + Value Added Course					2	1			2
4	Professional and Social + Value Added Course							2	1	2
Total Credit Value		22	6	22	6	22	6	22	6	88

List of Audit Courses (Select any ONE course of Choice from Semester II; Semester III and Semester IV)

Semester I (Compulsory)		Semester II (Choose One)		Semester III (Choose One)		Semester IV (Choose One)	
		Personality and Cultural Development		Technology + Value Added Course		Professional and Social + Value Added Course	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
AC-101	Practicing Cleanliness	AC-201A	Soft Skills	AC-301A	Computer Skills	AC-401A	Human Rights
		AC-201B	Sport Activities	AC-301B	Cyber Security	AC-401B	Current Affairs
		AC-201C	Yoga	AC-301C	Seminar + Review Writing	AC-401C	Seminar + Review Writing
		AC-201D	Music	AC-301D	Biostatistics	AC-401D	Intellectual Property Rights (IPR)

Semester-wise Course Structure of M.Sc. Subject name

Semester I

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
PHY-101	Core	Mathematical Methods for Physics	4	--	4	40	--	60	--	4
PHY -102	Core	Classical Mechanics	4	--	4	40	--	60	--	4
PHY -103	Core	Solid State Physics	4	-	4	40	-	60	-	4
PHY -104 A/B/C	Skill Based (Select any one)	A) :Physics of Semiconductor Devices B) : Electronic Instrumentation C) Bio- Physics	4	-	4	40	-	60	-	4
PHY -105	Core	Basic Physics Laboratory – I	-	4+4	8	-	40	-	60	4
AC-101	Audit Course	Practicing Cleanliness	-	2	2	--	100	--	--	2
Total Credit for Semester I: 22 (T = Theory: 16; P = Practical:4; Skill Based:4; Audit Course:2)										

Semester II

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
PHY-201	Core	Statistical Mechanics	4	--	4	40	--	60	--	4
PHY -202	Core	Classical Electrodynamics	4	--	4	40	--	60	--	4
PHY -203	Core	Quantum Mechanics	4	--	4	40	--	60	--	4
PHY-204	Skill Based	Material Science	4	-	4	40	-	60	-	4
PHY-205	Core	Basic Physics Laboratory – II	-	4+4	8	-	40	-	60	4
AC-201 A/B/C/D	Audit Course(S elect any one)	AC-201A -Soft Skills/ AC-201B- Sport Activities/ AC-201C- Yoga/ AC-201D Music) from Personality and Cultural Development	--	2	2	--	100	--	--	2
Total Credit for Semester II: 22 (T = Theory: 12; P = Practical:4; Skill Based:4; Audit course:2)										

Semester III

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
PHY-301	Core	Atomic and Molecular Physics	4	--	4	40	--	60	--	4
PHY-302 A/B/C	Elective (Select any one)	A) Materials Synthesis and Preliminary Analysis	4	-	4	40		60	-	4
		B) Computational Method sand Programming Using 'C' Language								
		C) Acoustics and Entertainment Physics								
PHY-303 A/B/C	Skill Based(Select any one)	A) Systematic Materials Analysis	4		4	40		60		4
		B) Microprocessor and its Applications								
		C) Communication Electronics								
PHY-304	Core	Special Laboratory-I	-	4+4	8	-	40	-	60	4
PHY-305	Project Based	Project Work-II (Literature Survey, Definition of Problem, Experimental work, Oral etc.)	--	4+4	8	--	40	--	60	4
AC-301 A/B/C/D	Audit Course(Select any one)	Choose one out of Four (AC-301A- Computer Skills / AC-301B - Cyber Security/ AC-301C- Seminar + Review Writing / AC-301D- Biostatistics) from Technology + Value Added Courses		2	2		100	--	--	2
Total Credit for Semester III: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

Semester IV

Course	Course Type	Course Title	Teaching Hours/ Week			Marks (Total 100)				Credits
			T	P	Total	Internal		External		
						T	P	T	P	
PHY-401	Core	Nuclear Physics	4	--	4	40	--	60	--	4
PHY -402 A/B/C	Skill Based	A) Nanomaterials: Synthesis, Properties and Applications	4	-	4	40	-	60	-	4
		B) LASER and it's Applications								
		C) Astrophysics								
PHY-403 A/B/C	Elective (Select any one)	A) Renewable Energy Sources	4	--	4	40	--	60	--	4
		B) Microwave: Applications								
		C) Environmental Physics								
PHY -404	Core	Special Laboratory-II	--	4+4	8	--	40	--	60	4
PHY -405	Project	Project Work-II (Characterization, Analysis of Result, Conclusions, Project	--	4+4	8	--	40	--	60	4

	Based	Report, Oral etc.)								
AC-401 A/B/C/D	Audit Course(Select any one)	Choose one out of Four (AC-401A- Human Rights / AC-401B –Current Affairs / AC-401C- Seminar + Review Writing / AC-401D - Intellectual Property Rights (IPR)) from Professional and Social + Value Added Courses	2	2	100	--	--	2		
Total Credit for Semester IV: 22 (T = Theory: 8; P = Practical:8; Skill Based:4; Audit Course:2)										

M. Sc. Programme

Number of teaching days/ year	180
Number of teaching days/ term	90
Number of contact hours for theory course or practical course/ week	04
Number of teaching hours for theory course/ term	52
Number of contact hours/ term for test, seminar and tutorial	08
Total number of contact hours/ term for course	52+08=60

Program at a Glance

Name of the program (Degree)	: M. Sc. (Physics)
Faculty	: Science and Technology
Duration of the Program	: Two years (four semesters)
Medium of Instruction and Examination	: English
Exam Pattern	: 60: 40 (60 marks University exam. And 40 marks continuous internal Assessment)
Passing standards	: 40% in each exam separately (Separate head of passing)
Evaluation mode	: CBCS
Total Credits of the program	: 88 (64 core credits including 4 credits of project/dissertation, 08 skill enhancement credits, 08 subject elective credits and 08 audit credits)

Program Objectives for M.Sc. Program:

The objectives of this Programme are to develop:

1. The students through high quality of education/study which enables them to succeed in career in which can understanding of physics is relevant.
2. The ability to think logically, to analyze problems and phenomena and to devise explanations or solutions.
3. An appreciation of the role of mathematical modeling of physical phenomena to produce predictions which can be tested against experimental observations.
4. An awareness of the importance of accurate experimentation in the understanding of natural phenomena.
5. The practical and technical skills required for physics experimentation.
6. An awareness of the value and the power of computer based techniques for experimentation, analysis and presentation and a familiarity in their exploitation.
7. An ability to communicate the concepts and discoveries of physics both orally and in writing.
8. An ability to organize time and meet deadlines.
9. An additional skills resulting from the experience of more extensive project work.
10. An ability to integrate 'Information Communication Technology' with basic concepts of physics to promote relevant education and training.
11. The qualities of adoptability, innovation and dynamism.

Important Instructions:

1. **B. Sc. (Physics)** students are eligible to offer this program.
2. Two written tests, one oral test and one seminar (per semester) should be conducted for each course in addition to regular teaching schedule.
3. Faculty members are advised to use 'compact disks' and computers as teaching aids so as to ingrain the basic ideas of Physics.
4. Students are advised to borrow scientific information (published worldwide) from scientific websites on Internet.
5. A well-equipped computer laboratory with at least 5 computers is necessary to conduct related experiments and Project
6. Student should start the Project work soon after the commencement of third semester. Literature survey, Definition of the problem, Pre-oral before finalization of the topic, Preliminary experimental work, Oral to assign the internal marks etc should be covered in the third semester.
7. Student should carry out the experimental work, keep record of the observations and results and should draw the conclusions of the project. Systematic project report should be prepared. Teacher should arrange oral examination to assign internal marks.

Program Outcomes (PO) for M.Sc. Program:

Upon successful completion of the M.Sc. program, student will be able to:

PO No.	PO	
PO1	M.Sc. Physics students can find jobs in public and private sectors. There are many opportunities available for M. Sc. Physics students in technical as well as scientific fields. They can work as Scientist, Assistant Scientist, Quality Control Manager, Laboratory Technician, School Science Technician or Research Analyst in any government or private organization. Besides these, they can also go for teaching in government or private institutions.	General

PO2	<p>There are many opportunities available in IT field for M. Sc. Physics graduates. Many IT companies such as Infosys, Wipro and TCS are recruiting M. Sc. Physics graduates for software jobs. They can also get jobs in Energy Plants. Another job available for these graduates is Technician in Electronic Industry. They can apply for jobs in many companies in automobile industry. Some of those companies are Maruti Udyog, TATA Motors and Tech Mahindra.</p>	Private Sector
PO3	<p>: There are vast opportunities available for M.Sc. graduates in Government sector. They can apply for jobs in Scientific Research and Development Organizations such as The Defense Research and Development Organization (DRDO), CSIR, Physical Research Laboratory (PRL) Ahmedabad, Saha Institute of Nuclear Physics Kolkata and Nuclear Science Centre New Delhi. They can also apply for various jobs in popular government organizations such as:</p> <ul style="list-style-type: none"> • Bhabha Atomic Research Centre (BARC) • Atomic Energy Regulatory Board (AERB) • Oil and Natural Gas Corporation (ONGC) • Bharat Heavy Electricals Limited (BHEL) • National Thermal Power Corporation (NTPC) • Indian Space Research Organization (ISRO) • National Chemical Laboratory (NCL) • Indian Institute of Tropical Meteorology (IITM) <p>They can also apply for the various competitive exams conducted by Union Public Service Commission such as IFS, IPS and IAS. Several other government exams conducted for recruiting M.Sc. Physics graduates are given below:</p> <ul style="list-style-type: none"> • Tax Assistant Exam, Statistical Investigator Exam, Combined Graduate Level Exam. After qualifying NET or SET exam they can apply for teaching jobs in government colleges or schools. Another option available for M.Sc. Physics graduate is to apply for jobs in public sector banking. Several banks are conducting exam every year for recruiting graduates to the post of Probationary Officers. They can also find many jobs in Railway sector. They should qualify the exams conducted by Railway Recruitment Board to get a job in Railway sector. These graduates can also apply for Combined Defense Services Exams conducted for recruiting candidates to various posts in Defense Department. 	Government Sector
PO4	<p>There are wide opportunities available for M. Sc. Physics graduates in foreign countries. They can work in several health care, manufacturing and electronics companies in foreign countries. Students having high percentage during their post-graduation can apply for jobs in National Aeronautics and Space Administration (NASA), one of most famous space research organization in the world.</p>	Foreign countries
PO5	<p>: Those who have completed M. Sc. degree in Physics can find a long term career in the research field. Even though they are joining the research organization as assistant /research fellow (JRF, SRF), can earn lot of experience and/or Ph.D. Degree. After these achievements, they will have chances to get promoted to higher posts.</p>	Long term Career in Research

Program Specific Outcomes (PSOs) for M.Sc. Physics program:

Students who graduate with a Master of Science in **Physics** will:

The Master of Science in Physics program provides the candidate with knowledge, general competence, and analytical skills on an advanced level, needed in industry, consultancy, education, and research.

PSO No.	PSO	Cognitive level
PSO1	Apply the knowledge and skill in the design and development of Electronics circuits to fulfill the needs of Electronic Industry	
PSO2	Become professionally trained in the area of electronics, optical communication nonlinear circuits, materials characterization and lasers.	
PSO3	Pursue researches related to Physics and Materials characterization	
PSO4	Demonstrate highest standards of Actuarial ethical conduct and Professional Actuarial behavior, critical, interpersonal and communication skills as well as a commitment to life-long learning	
PSO5	Prepare students to become Physics professionals with comprehensive knowledge and Practical skills for emerging requirement	
PSO6	Prepare students who will achieve peer-recognition; as an individual or in a team; through demonstration of good analytical, design and implementation skills.	
PSO7	To prepare them to take up higher studies of interdisciplinary nature.	
PSO8	To give exposure to a vibrant academic ambience and To create a sense of academic and social ethics among the students	

Distribution of Course papers for M.Sc. Part II (Physics)

Subject Code	Title of the Paper		Duration (Hrs./Wk)	Max. Mark	Exam. Time (Hrs.)
M.Sc. Part II (Subject Name)					
Semester III : Theory Courses					
PHY -301	Atomic and Molecular Physics	Core course	04	100	03
PHY-302	Any ONE of the following A) Materials Synthesis and Preliminary Analysis OR B)Computational Methods and Programming Using 'C' Language OR C) Acoustics and Entertainment Physics	Elective course	04	100	03
PHY -303	Any ONE of the following A) Systematic Materials Analysis OR B)Microprocessor and its Applications OR C) Communication Electronics	Skill Course	04	100	03
Semester III : Practical Courses					
PHY -304	Special Laboratory I	Core course	04+04	100	06
PHY -305	Project Work-I(Literature Survey, Definition of Problem, Experimental work, Oral etc.)	Skill course	04+04	100	06
AC-301A/B/C/D	Choose one out of Four (AC-301A- Computer Skills / AC-301B - Cyber Security/ AC-301C- Seminar + Review Writing / AC-301D- Biostatistics) from Technology + Value Added Courses	Audit course	02	100	
Semester IV : Theory Courses					
PHY -401	Nuclear Physics	Core course	04	100	03
PHY -402	Any ONE of the following A) Nanomaterials: Synthesis, Properties and Applications OR B) LASER and it's Applications OR C) Astrophysics	Core course	04	100	03
PHY -403	Any ONE of the following A) Renewable Energy Sources OR B) Microwave: Theory and Applications OR C) Environmental Physics	Elective course	04	100	03
Semester IV : Practical Courses					
PHY -404	Special Laboratory II	Core course	04+04	100	06
PHY -405	Project Work-II(Characterization, Analysis of Result, Conclusions, Project Report, Oral etc.)	Skill based	04+04	100	06
AC-401A/B/C/D	Choose one out of Four (AC-401A-Human Rights / AC-401B –Current Affairs / AC-401C- Seminar + Review Writing / AC-401D - Intellectual Property Rights (IPR)) from Professional and Social + Value Added Courses	Audit course	02	100	

M.Sc. Part II Semester III (Physics): (Core Courses)

PHY– 301: Atomic and Molecular Physics		
	<p>Course description: This course is aimed at introducing the fundamentals of Atomic and Molecular Physics to the students.</p> <p>Course objectives:</p> <ol style="list-style-type: none"> 1. To impart knowledge of basic concepts in Atomic and Molecular Physics. 2. To provide the knowledge and methodology necessary for solving problems in Physics. 3. The course also involves the related experiments based on the theory. 	
Unit 1	<p>Atomic spectra: Introduction, origin of hyperfine structure, hyperfine structure of two or more valence electrons, Zeeman Effect in hyperfine structure, Back Goudsmit effect in hyperfine structure. (H-14, M-17)</p>	14 L
Unit 2	<p>Rotational Spectra: Classification of molecular spectra (pure rotational spectra, Rotation-vibration spectra, visible and UV spectra), Types of molecules: Diatomic linear symmetric top, asymmetric top and spherical top molecules, Introduction to rotational spectra, relative intensities of spectral lines, rotational spectra of rigid and non-rigid molecules through microwave spectroscopy, Determination of moment of inertia and bond length from rotational spectra. (H-10, M-12)</p>	10 L
Unit 3	<p>Vibrational spectra: Anharmonic oscillator, deduction of molecular properties from vibrational spectra of diatomic molecules. (H-4, M-5)</p>	04 L
Unit 4	<p>Rotation-Vibrational spectra: Coupling of rotation and vibration, rotation-vibration spectra, selection rules and transitions for the vibrating rotator, intensities in rotation and irrotational spectra, parallel and perpendicular bands of linear molecules, isotope effect in vibrational rotational spectra. (H-5, M-6)</p>	05 L
Unit 5	<p>Electronic spectra of Diatomic molecules: Electronic energy curves, potential energy curves, stable and unstable molecular states, vibrational structure of electronic spectra, general formula, graphical representation, rotational structure of electronic spectra, P,Q,R branches of band, Band head formation, shading of bands: fortrat diagram, intensities in electronic – vibrational bands structure, Frank Condon principle. (H-7, M-07)</p>	07 L
Unit 6	<p>RAMAN spectra: Raman effect, quantum theory, Molecular polarizability, Pure rotational Raman spectra of diatomic molecules, vibration rotation Raman spectrum of diatomic molecule, intensity alternations in Raman spectra of diatomic molecules, applications of IR & Raman spectroscopy in the structure determination of simple molecules, polarization of Raman lines. (H-7, M-7)</p>	07 L
Unit 7	<p>NMR spectroscopy: Resonance Technique: NMR – nuclear spin magnetic moment, interaction of nuclear magnet with external field. Quantum description of N.M.R, NMR spectrometer, Chemical shift, spin – spin interaction, Application of NMR spectroscopy. (H-5, M-6)</p>	05 L
<p>Suggested Readings: / References:</p> <ol style="list-style-type: none"> 1. Molecular Spectra & Molecular Structure: G. Herzberg, Vol. 1 & 2 (Von no strand Co. Inc 1965) 2. Fundamentals of Molecular Spectroscopy: C.B. Banwell. 3. Atomic and Molecular Spectra: Rajkumar 4. Fundamental of molecular spectroscopy: Raymond Chang, McGraw Hill-Kogakusha Ltd, London 1971. 5. Introduction to IR & Raman spectroscopy: Calthup, Daiy& Wimberley, Academic press1964. 6. Spectroscopy Vol I & II: Edited by B.P. Stranghan& S. Walker. 7. Spectroscopy and Molecular Structure: C. W. King Holt Reinhardt & Winston Inc. 1964. 8. Atomic Spectra – H. E. White 9. Physical Methods in Inorganic Chemistry – Drago 10. Physical Chemistry – Puri, Sharma, Patharia. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C301.1	After successful completion of the course, the student is expected to : know about different atom model and will be able to differentiate different atomic systems, different coupling schemes and their interactions with magnetic and electric fields.	
C301.2	Have gained ability to apply the techniques of microwave and infrared spectroscopy to elucidate the structure of molecules.	
C301.3	<ul style="list-style-type: none"> • Be able to apply the principle of Raman spectroscopy and its applications in the different field of science & Technology. • To become familiar with different resonance spectroscopic techniques and its applications. • To find solutions to problems related different spectroscopic systems. 	

M.Sc. Part II Semester III (Physics): Elective Course (Select only one)

PHY-302(A): Materials Synthesis and Preliminary Analysis		
Unit 1	Nucleation , Growth of Thin Films and Single crystal: Condensation, Langmuir-Frankel theory of condensation. Theories of nucleation: Capillarity model, Atomistic model, Various stages of growth. Types thin film deposition techniques (list only). (H-5, M-7) Single crystals: Importance of growing single crystals and their uses, Thermodynamic principles and crystal growth equilibrium. Theory of crystal growth, Nucleation, Growth of single crystal by water solution method, growth by Gel method, growth by Flux method, Hydrothermal growth. (H-5, M-7)	10 L
Unit 2	Physical Vapour Deposition Techniques: Thermal evaporation: General considerations, evaporation methods: Resistance heating, Flash evaporation, R.F. heating, Electron beam (e-beam) heating, Molecular Beam Epitaxy (MBE). (H-6, M-7) Sputtering: Cathodic sputtering- Sputtering process, glow discharge sputtering pressure, Deposit distribution, current and voltage dependence, cathode, contamination problem, Deposition control, Sputtering variants, Low pressure sputtering: Magnetic field, Assisted(triode)sputtering, R.F. sputtering, Ion-beam sputtering. Reactive sputtering. (H-6, M-7)	12 L
Unit 3	Chemical vapour deposition Techniques: Principle, chemical reactions used. Pyrolysis (Thermal decomposition), Hydrogen reduction, Halide disproportionation, Transfer reactions, polymerization. (H-4, M-5)	04 L
Unit 4	Chemical Bath Deposition Technique: Electrode less deposition: Mechanisms of chemical bath deposition. Introduction, Nucleation, Adhesion and film growth processes in Ion-by-Ion mechanism, Hydroxide cluster mechanism, complex decomposition mechanism. (H-5, M-5) Chemical Spray Method: Nucleation and growth process in film deposition, General idea of air pressure spray pyrolysis, Ultrasonic spray pyrolysis to prepare nanostructured films. (H-5, M-5)	10 L
Unit 5	Thick film deposition technique: Fundamental aspect of the process, Design aids, Screens, Substrate materials, Screen printing, Firing process, Components and network: Passive components, active components, Assembly, packaging and testing:	08 L

	soldering methods for component attachment, wire bonding, packaging, testing. (H-8, M-7)	
Unit 6	Thickness measurement and Electrical Properties of films: Thickness measurement: Optical interference technique, Multiple beam interferometry, Quartz crystal microbalance, Stylus (Talyestep) method. (H-4, M-5) Electrical Properties: Electrical conductivity of bulk, thin and thick films, two probe, Van-der Pauw and Four probe methods, Hall measurements, TEP measurements. (H-4, M-5)	08 L
Suggested Readings: References:		
<ol style="list-style-type: none"> Thin Film Phenomenon, K.L. Chopra, McGraw Hill, 1969. Hand book of Thin Film Technology L.I. Maissel & R.Glang, McGraw Hill, 1970. Thin Film Processes: J.L. Vossen and W. Kern, Academic Press, 1978. Thin Film Fundamentals, A.Goswami, New Age International Publishers. Chemical Solution Deposition of Semiconductors Films : Gary Hodes- Weizmann Institute of Science, Rehovot, Israel. New York-Basar. The materials science of Thin Films: M.Ohring Academic Press,1992. Active and Passive Thin Film Devices: T.J.Coutts, Acadmeic Press 1978. An Introduction to Physics and Technology of Thin Films : A Wegendristel and Y.Wang, World Scientific 1994. Handbook of Sensor and Actuators- Thick Film Sensors- Edited by M.Prudenziati, Elsevier (1994), Vol. I, Series editor S. Middelhoek. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C302.A.1	After successful completion of the course, the student is expected to : know about Films Thin Deposition Techniques	
C302.A.2	Have gained ability to apply the techniques of Chemical vapour deposition Techniques , Principle and chemical reactions	
C302.A.3	The students will know the Mechanical response of Materials under <ul style="list-style-type: none"> Chemical Spray Method: Nucleation and growth process in film deposition. Thickness measurements. Thick film deposition technique. Gel method, growth by Flux method, Hydrothermal growth. Electrical Growth of single crystal by water solution method 	

PHY-302(B): Computational Methods and Programming Using 'C' Language

	<p>Course description: This course is aimed at introducing the fundamentals of Computational Methods and Programming Using 'C' Language to the students.</p> <p>Course objectives:</p> <ol style="list-style-type: none"> To impart knowledge of basic concepts in Computational Methods and Programming Using 'C' Language and its Applications The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing. 	
Unit 1	'C' Language: a) Review of C language for preparing and running 'C' programs. (H-5, M-6)	05 L

	b) Pointers: The concepts of pointers, The address operator, pointer arithmetic, pointers as function parameters, pointers and arrays, Dynamic storage allocation. (H-4, M-4)	04 L
	c) Structures and Unions: Declaration and period operator, structure initialization, structure and arrays, structure and functions, structure and pointers, structure within structure, Unions, Rules to use unions. (H-4, M-4)	04 L
	d) File handling: Opening and closing a data file, creating a data file, processing a data file. (H-3, M-4)	03 L
Unit 2	Numerical methods: In the following topics on numerical methods, students are expected to write programs using 'C' language as well as perform numerical calculations using electronic calculators and mathematical tables.	07 L
	a) Iterative methods to obtain roots of equations: The method of successive bisection, false position method, Newton Raphson method. Derivation of formula and advantages as well as limitations of these methods solve each other. (H-7, M-9)	
	b) Interpolation: Definition of Interpolation and extrapolation, finite differences, Interpolation with equally spaced and unevenly spaced points. Lagrange's interpolation, curve fitting, polynomial least squares and cubic spline fitting. (H-8, M-9)	08 L
	c) Numerical Integration: Derivation and application of Trapezoidal, Simpson1/3 and Simpson's 3/8 th rule. (H-8, M-9)	08 L
	d) Solution of simultaneous line are equations: Gauss elimination method, pivotal condensation, Gauss Seidal method. (H-7, M-9)	07 L
	e) Solution of first order differential equation: Euler's method, Runge-Kutta methods. (H-6, M-6)	06 L
Suggested Readings: References:		
<ol style="list-style-type: none"> 1. The 'C' Programming Language: Kernighan B.W. & Ritchie D.M.(Prentice Hall India Pvt. Ltd.). 2. Letus 'C': Yashwant Kanetkar (BPB Publications). 3. Schaum's outline of theory and problems of programming with 'C': Gottfried B.S. (Tata McGraw Hill Publishing Co. Ltd.). 4. Programming in ANSIC (IIndEdition)-E. Balagurusamy (Tata McGraw Hill Publishing Co. Ltd.) 5. The C language Trainer with C graphics and C++ -J.Jayasri (New Age International Pvt. Ltd. New Delhi.) 6. The spirt of 'C'-Mullish Cooper (Jaico Publishing Co. New Delhi). 7. Programming in ANSIC-Ramkumar (Tata McGraw Hill). 8. Introductory methods of Numerical Analysis-S.S. Sastry. 9. Numerical methods for engineers with programming and software applications-Sтивен C Chapra, Raymond P. Canale. (McGraw Hill). 10. Numerical Methods problems and solutions- M.K.Jain, S.R.K. Iyengar, R.K. Jain (Wiley Eastern Ltd). 11. Computer Oriented Numerical Methods – V. Rajaraman (Prentice Hall India Pvt Ltd.). 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C302.B.1	After successful completion of the course, the student is expected to : know about Computational Methods and Programming Using 'C' Language and Applications	
C302.B.2	Have gained ability to apply the techniques of Computational Methods and Programming Using 'C' Language	
C302.B.3	The students will know the: <ul style="list-style-type: none"> • Review of C language for preparing and running 'C' programs. • Structures and Unions: Declaration and period operator, structure initialization. • Numerical Integration: Derivation and application of Trapezoidal, Simpson 1/3 and Simpson's 3/8th rule. 	

PHY-302(C): Acoustics and Entertainment Physics		
	<p>Course description: This course is aimed at introducing the fundamentals of Acoustics and Entertainment Physics to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts in Acoustics and Entertainment Physics and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	<p>Basic Principles: Sound wave propagation, Plane and Spherical waves, Plane wave equation (without derivation), Acoustic Intensity, Energy density, Acoustic impedance, Decibel Scales : Intensity level, Sound Pressure level, Sound power level, Loudness level, Equivalent continuous sound level, LAeq, Perceived noise level LEPN, Noise pollution level, LNP. Human Speech and hearing mechanism, Threshold of audibility and feeling, Analogy among Electrical, Mechanical and Acoustical systems. (H-10, M-10)</p>	10 L
Unit 2	<p>Architectural Acoustics: Reverberation time, Decay of sound in a live room, Sabine Equation, Decay of sound in a dead room, Eyring's Journals, Optimum reverberation time, Coefficient of absorption and its measurement. Methods of measurement of reverberation time, Synthetic reverberation, Acoustical evaluation of Theatre/ auditoria/studios, Requirements for good acoustics of Theatre/Studios/auditoria. Sound reinforcement systems for auditoria. Amplifier power requirements, Audio delayers. (H-10, M-12)</p>	10 L
Unit 3	<p>Loudspeakers: Direct radiator dynamic loudspeakers, Horn loudspeakers, Directional characteristics, Equivalent circuits, Efficiency of loudspeakers, Special Purpose loudspeakers, Loudspeaker systems, woofer, midrange/squawks, tweeter, Crossover, networks, Loudspeaker Cabinets. (H-6, M-6)</p>	06 L
Unit 4	<p>Microphones: Carbon, Condenser, Moving coil dynamic and ribbon microphones, Microphone sensitivity, directional characteristics and applications, Calibration of microphones. (H-6, M-6)</p>	06 L
Unit 5	<p>Sound Recording and Reproducing systems: Basic requirements of a system for good quality recording and reproduction, Hi-Fi system, volume compressors. Limiters and expanders, Graphic equalizers. Monophonic and stereophonic sound reproducing systems. Magnetic tape sound recording and reproducing systems, Basic principles Analogue recording, Digital Audio tape, recording (DAT), Noise reduction in sound reproducing system-(I) Dolby A. B. System, Basic principles of compact Disc (CD), audio systems. (H-10, M-12)</p>	10 L
Unit 6	<p>Musical Acoustics: Characteristics of musical notes: Vibrato, tremolo, portamento, waveforms of typical musical tones, Basic principles of musical instruments, Electronic musical instruments, Computer music, MIDI and applications. (H-5, M-7)</p>	05 L
Unit 7	<p>Ultrasonic and underwater acoustics: Ultrasonic transducers-Principles and applications, Under water acoustics-Principles and applications of underwater transducers, underwater communication, SONAR. (H-5, M-7)</p>	05 L
<p>Suggested Readings: References: 1. Fundamentals of acoustics (2nd Ed.)-Kinsler and Frey. 2. Acoustics-W.W.Sets (Schwim series) 3. Music Physics and Engineering-HIF Olson 4. Acoustics Measurement-L.L.Bernek 5. Basic Acoustics-D.E.Hall</p>		

6. Technical Aspects of sound-(Vol. I) Richardson
7. Noise reduction-L.L.Bernk.
8. Audio Cyclopedia-H. Tremanic
9. Hand book of sound Engineers (New Audio cyclopedia)-G.M. Balloh(Ed.)
10. Acoustic techniques for the Home and Studio-F Alton Everest.
11. Design for good acoustics and noise control-J.E. Moore.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO
C302.C.1	After successful completion of the course, the student is expected to : know about Acoustics and Entertainment Physics and Applications
C302.C.2	Have gained ability to apply the techniques of Acoustics and Entertainment Physics
C302.C.3	The students will know the : <ul style="list-style-type: none"> • Review of C language for preparing and running 'C' programs. • Structures and Unions: Declaration and period operator, structure initialization. • Numerical Integration: Derivation and application of Trapezoidal, Simpson 1/3 and Simpson's 3/8th rule.

M.Sc. Part II Semester III (Physics): Skill Course (Select only one)

PHY-303(A): Systematic Materials Analysis		
	<p>Course description: This course is aimed at introducing the fundamentals of Systematic Materials Analysis to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts in Systematic Materials Analysis and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	Characterization Techniques: Importance of materials characterization, Classification of characterization techniques, Destructive and non-destructive techniques, Electromagnetic spectrum, Properties of electromagnetic radiation. (H-6, M-6)	06 L
Unit 2	Infrared Spectroscopy: Range of IR absorption, Requirements for infrared radiation Absorption, Theory of IR absorption Spectroscopy, Linear molecules, Spherical top molecules, Symmetric top molecules, Asymmetric molecules, Spectrophotometers, Application of IR Spectroscopy, Limitation of IR Spectroscopy. (H-7, M-10)	07 L
Unit 3	UltraViolet & Visible Spectroscopy: Regions of UV-Visible radiation, Colour and light absorption, The chromophore concept, Theory of electronic spectroscopy– orbital involved in electronic transitions, Laws of light absorption-Beer's and Lambert's laws, Instrumentation. U.V. spectrometer, Sample and reference cells, Applications of UV visible spectroscopy. (H-10, M-12)	10 L

Unit 4	X-Ray Diffraction: Crystalline state, X-ray diffraction processes, Preliminary discussion of powder and single crystal pattern and their information content, Structure determination, Particle size determination, Crystallography by diffraction of radiation other than X-ray, Applications of X-ray diffraction measurements. (H-10, M-10)	10 L
Unit 5	Electron Microscopy: Demerits of optical microscope at nano level, Need of Electron Microscopy, Why electrons? Electron Specimen interaction (Emission of secondary electrons, back scattered electrons, characteristics x-rays, transmitted electrons), Specimen interaction volume, resolution, Scanning electron microscope (SEM) Schematic diagram, Short details of each component, Field Emission Gun, Field Emission Electron Scanning electron microscope(FESEM), Principle of Image Formation, Energy Dispersive Analysis of X-rays (EDAX), Transmission electron microscope(TEM), Merits of TEM over SEM/FESEM. (H-14, M-16)	14 L
Unit 6	Scanning Tunneling Microscopy: An Introduction to Quantum Mechanical Tunneling, Basic Principles of STM, Two Modes of Scanning, Interpreting STM Images, and Applications of STM. (H-5, M-6)	05 L
Suggested Readings: References:		
<ol style="list-style-type: none"> 1. Elements of X-ray diffraction, B.D.Cullity, Addison-Wesely Publishing Co., USA. 2. SEM micro characterization of semiconductors, D.B. Holt, and D.C. Joy, Academic Press, New Delhi. 3. Fundamentals of Molecular Spectroscopy, C.N. Banwell, Tata McGraw-Hill Publ. Delhi. 4. Instrumental methods of Analysis (Seventh Edition) H.H. Willard, L.L. Merritt, John A Dean, F.A. Settle CBS Publishers and Distributors, New Delhi-110002. 5. Introduction to Nanoscience and Nanotechnology, K.K. Chattopadhyay and A.N. Banerjee, PHI Pvt. Ltd., New Delhi- 110001. 5. Characterization of Materials, Volume1, & 2, Elton N. Kaufman, Wiley-Inter science. 6. Hand book of Microscopy for Nanotechnology, NanYao, Ahong LinWang, Kluwer Academic Publishers. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C303.A.1	After successful completion of the course, the student is expected to : know about Systematic Materials Analysis and Applications	
C303.A.2	Have gained ability to apply the techniques of Introduction to Characterization Techniques: Importance of materials characterization	
C303.A.3	The students will know the Mechanical response of Materials under <ul style="list-style-type: none"> • Infrared Spectroscopy. • Ultra Violet & Visible Spectroscopy: Regions of UV-Visible radiation. • Scanning Tunneling Microscopy: An Introduction to Quantum Mechanical Tunneling. • Crystalline state, Xray diffraction processes. 	

PHY-303(B): Microprocessor and its Applications

Course description: This course is aimed at introducing the fundamentals of Microprocessor and its Applications to the students.	
Course objectives:	

	1) To impart knowledge of basic concepts in Microprocessor and its Applications. 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.	
Unit 1	The 8086 Microprocessor: Register organization of 8086, 8086 Architecture, Pin configuration, Physical Memory organization, General bus operation, I/O address capability, Special purpose activities, minimum and maximum mode of 8086 systems with timings. (H-15, M-20)	15 L
Unit 2	Instruction set of 8086 and programming: Addressing modes of 8086, Instruction set of 8086, Assembler directives and operators. Simple programs like addition of two numbers, BCD addition, find the largest number, addition of two 3 x 3 matrices, move the string of data, find the number of positive numbers and negative numbers from, a given series of signed numbers etc. (H-17, M-20)	17 L
Unit 3	Special Architectural features: Stack structure of 8086, Interrupts and interrupt service routine, Interrupt programming, Macros. (Programming is not expected). (H-6, M-10)	06 L
Unit 4	Programmable Peripheral Devices and their Interfacing: i] Programmable peripheral interface 8255, ii] Programmable Communication interface 8251USART, iii] Programmable DMA interface 8257, iv] Programmable interrupt Controller 8259. (H-10, M-5)	10 L
Unit 5	32 bit Processor: Features of 80386, 80486, 80586 (Pentium), MMX (Multimedia Extension) (H-4, M-5)	04 L
Suggested Readings: References: 1. Advance Microprocessor and Peripherals: A.K.Ray, K.M.Bhurchandi., Tata McGraw Hill, New Delhi. 2. Microprocessor and Interfacing: DauglasV.Hall, McGraw Hill International Edition. 3. Architecture, Programming and Design: Yu Cheng Liu,G.A.Gibson, 2ndEdition. PHI Publications.		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C303.B.1	After successful completion of the course, the student is expected to : know about Microprocessor and its Applications	
C303.B.2	Have gained ability to apply the techniques of Programmable Peripheral Devices and their Interfacing	
C303.B.3	The students will know the Mechanical response of Materials under- <ul style="list-style-type: none"> • The 8086 Microprocessor: Register organization of 8086, 8086 Architecture. • 32 bit Processor: Features of 80386, 80486, 80586 (Pentium). • Instruction set of 8086 and programming: Addressing modes of 8086 	

PHY-303(C): Communication Electronics

<p>Course description: This course is aimed at introducing the fundamentals of Communication Electronics to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts in Communication Electronics and its applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of</p>	
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	areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.	
Unit 1	Electronic Communication: Importance of Communication, Introduction to Elements of communication systems and types of electronics communication (Simplex, Duplex, Analog, Digital, Base band and modulated signals) [Kennedy]. (H-3, M-4)	03 L
Unit 2	Modulation Systems Amplitude Modulation: (Spectrum of an Amplitude Modulated signal, Low level AM Modulator), Single Sideband (SSB) Modulation, Generation of SSB signal (Filter Method), Vestigial-Sideband (VSB) Modulation, Demodulation of AM Waves (Square-law Detectors, Linear Diode Detector) Frequency and Phase Modulation:- FM generation (Parameter Variation method), Frequency multiplication, FM Demodulation (Slope Detector) Pulse Modulation, Pulse Code Modulation (PCM), Pulse Amplitude Modulation (PAM), Time-Division Multiplexing (TDM), Pulse Time Modulation (PTM) [Roddy & Coolen]. (H-11, M-12)	11 L
Unit 3	Radiation & Propagation of Waves Electromagnetic Radiation: (Fundamentals of electromagnetic waves & effect of environment), Propagation of waves (Ground or surface waves, sky wave propagation- The ionosphere, space waves, Tropospheric scattering propagation, Extraterrestrial communications) [Kennedy]. (H-7, M-8)	07 L
Unit 4	Antennas: Antenna parameters- power gain, isotropic radiator, radiation resistance, directivity, directional gain, radiation parameter, polarization, effective apparatus, effective length, front to back ratio. Types of antenna- Half wave dipole (without mathematical derivation), Yagi & dish antenna. [Roddy & Coolen]. (H-7, M-8)	07 L
Unit 5	Television Fundamental: Introduction to TV, TV systems & standards, Black & White transmission & reception, Colour transmission & reception. [Kennedy] (H-4, M-5)	04 L
Unit 6	Radar and Satellite Systems Fundamentals of RADAR system: Block Diagram, Frequencies and Powers used in RADAR, RADAR performance Factors, Effects of Noise, Basic Pulse RADAR systems (Block Diagram and Description), Antenna and Scanning, Moving target Indication (Doppler Effect), Other RADAR systems (RADAR Beacons, Phased RADAR), RADAR applications. [Kennedy]; Orbital Satellites, Geostationary Satellites, Look Angles (angle of elevation, Azimuth angle), Satellite system Link Model (UP Link Model, Transponder, Down-Link Model) [Roddy] (H-10, M-10)	10 L
Unit 7	An overview of Telecommunication: History of Telecommunication, Telecommunication network, Internet, classification of data network, by spatial distance (WAN, MAN, LAN), by Cellular concept, Mobile Telephone communication [A. A. Gokhale] (H-4, M-6)	04 L
Unit 8	Introduction To Fiber Optic Technology: Introduction, Principle of light transmission in a fiber, losses in fiber, dispersion, light sources for fiber optics, photo detector, fiber optic communication system.[Roddy & Coolen] (H-6, M-7)	06 L
Suggested Readings: References: 1. Electronic communication System- Kennedy & Davis (Tata Mc-Graw Hill) 4 th ed. 2. Electronic communication- Roddy & Coolen. (PHI) 3 rd ed. 3. Satellite Communication- Dennis Roddy, (Mc-Graw Hill), 3 rd ed. 9 4. Fiber Optic Communication- John Senior, (Prentice Hall International), 2 nd ed. 5. Antenna & Wave Propagation- K. D. Prasad, (Satya Prakashan New Delhi) 6. Introduction to Telecommunication-Anu A Gokhale, (Cengage Learning) 2 nd ed. 7. Electronic communication-Sanjeev Gupta (Khanna Publication, New Delhi). 8. Electronic communication: Fundamentals Through Advances-Wame Tomdsi (Prentice Hall Publications)		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C303.C.1	After successful completion of the course, the student is expected to :	

	know about Communication Electronics and Applications	
C303.C.2	Have gained ability to apply the techniques of Introduction to Elements of communication systems and types of electronics communication	
C303.C.3	The students will know the Mechanical response of Materials under <ul style="list-style-type: none"> • Modulation Systems Amplitude Modulation. • Radiation & Propagation of Waves of Electromagnetic Radiation. • Types of antenna- Half wave dipole. • Television Fundamental, Introduction to TV, TV systems. • Radar and Satellite Systems Fundamentals of RADAR system: Block Diagram, Frequencies and Powers 	

M.Sc. Part II Semester III (Physics): Practical (Core course)

PHY -304: Special Laboratory I	
Course description: This course is aimed at introducing the fundamentals of Special Laboratory I to the students.	
Course objectives:	
<ol style="list-style-type: none"> 1. To impart knowledge of basic concepts in Special Physics II. 2. To provide the knowledge and methodology necessary for Practical problems in Physics. 3. The course involves the related experiments based on the Practical. 	
Group A	
Perform at least TEN experiments from the following	
1	<ol style="list-style-type: none"> 1. To measure the thermoelectric power of semiconductor. 2. Study of Haynes-Schokley experiment for determination of mobility and diffusion constant. 3. Measurement of thickness of thin film by Tolansky method. 4. Study of electron spin resonance spectrum for given sample and determination of Lande 'g' factor. 5. To record and analyze the spectral response of a given photo conducting sample. 6. Determination of resonance frequency of piezoelectric element. 7. Study of hysteresis of hard and soft ferrites. 8. Skin depth of electromagnetic radiation in Al. 9. Determination of Fermi energy in Cu. 10. Coherence & width of spectral lines using Michelson interferometer. 11. The Franck-Hertz experiment. 12. Absorption Spectrum Of Iodine Vapour. 13. Charge on an electron using spectrometer.
2	Material Synthesis <ol style="list-style-type: none"> 1. Deposition of metallic thin films by vacuum evaporation method and measurement of resistance/resistivity/ conductivity and TCR at different temperatures by the two probe/four probe method. 2. Deposition of thin films by spray pyrolysis method and thickness measurement by gravimetric method. 3. Measurement of reflectivity and transferability of thin films by using He-Ne laser. 4. Determination of refractive index of a transparent film by Abe's method. 5. Study of vacuum system to measure speed of rotary pump. 6. Pattern generation by Photolithography. 7. Electrical conductivity measurements in thick films. 8. Synthesis of CdS thin film by chemical bath deposition (CBD) method.

	<p>9. Stress measurement of transparent conducting oxides (Newton's ring method)</p> <p>10. Determination of band gap energy of a given sample using absorption/transmission spectra.</p>
3	<p>Material Science:</p> <ol style="list-style-type: none"> 1. Study of phase transformation in a ferroelectric crystal. 2. Study of creep behaviour of Sn-Pb alloy. 3. Thermoluminescence of alkali halides. 4. Determination of diffusion coefficient of cobalt atoms in Gel medium. 5. Determination of crystal structure of given material by X-ray diffract meter. 6. Determination of grain size of a given sample by Scherer method. 7. Determination of direct and indirect band gap of a given materials by UV-visible spectroscopy. 8. Determination of inter atomic bond length in a diatomic molecule by studying rotational vibrational IR spectra. 9. Study of Beer Lamberts Law in absorption spectroscopy using IR spectroscopy. 10. Synthesis of conducting oxide films by pyrolysis method.
4	<p>Communication Electronics:</p> <ol style="list-style-type: none"> 1. Pulse amplitude modulation. 2. Pulse position modulation. 3. Pulse width modulation. 4. Study of delta modulation. 5. Characteristics of antenna. 6. Study of amplitude modulator and demodulator. 7. Study of frequency modulator. 8. Study of FSK modulator and demodulator. 9. Study of Digital multiplexer.
5	<p>Microprocessors:</p> <ol style="list-style-type: none"> 1. Square, Triangular and Ramp wave generator using microprocessor. 2. Interfacing an eight bit ADC with microprocessor. 3. Write a program for four digit hexadecimal counters. The counter should stop and resume counting by pressing a key. 4. Temperature measurement using ADC. 5. Read data through thumb wheel switches and display it on monitor and 7-segment display. 6. Write a program to control relay switches with a delay of 1 second. 7. Average the given set of data and display the result in decimal form. 8. Stepper motor speed control using microprocessor. 9. Read string through keyboard which is terminated by any specified character and reverse the string. 10. Read two digit hexadecimal number through key board and convert it into binary form. 11. Interrupt driven clock.(Ref. Ramesh S. Gaonkar Page No.376)
6	<p>Computational Methods & 'C' Language programming :</p> <ol style="list-style-type: none"> 1. Draw a flowchart and write a program to find the root of the equation $f(x)=0$ by Bisection method. 2. Draw a flowchart and write a program to find the root of the equation $f(x)=0$ by Newton Raphson method. 3. Draw a flowchart and write a program to find the root of the equation $f(x)=0$ by False position method. 4. Draw a flowchart and write a program to integrate the given function using Trapezoidal rule. 5. Draw a flowchart and write a program to integrate the given function using Simpson's 1/3 rule. 6. Draw a flowchart and write a program to integrate the given function using Simpson's 3/8 rule. 7. Draw a flowchart and write a program for fitting of a polynomial of degree n using Lagrange's Interpolation formula. 8. Draw a flowchart and write a program to solve given set of simultaneous equations using Gauss Elimination method.

	<p>9. Draw a flowchart and write a program to solve given set of simultaneous equations using Gauss Seidal method.</p> <p>10. Draw a flowchart and write a program to solve given differential equation using Euler's simple method.</p> <p>11. Draw a flowchart and write a program to solve given differential equation using Runge Kutta method.</p> <p>12. Draw a flowchart and write a program for finding the inverse of a given matrix./transpose of a matrix.</p> <p>13. Implement strlen (), Strcat (), Strcpy (), Strcmp () using pointers.</p> <p>14. Write a menu driven program to create, list, modify and calculate the student record details. Assume the file structure: Register No., Subject 1 mark, Subject 2 mark and Subject 3 mark.</p>	
7	<p>Biomedical Instrumentation :</p> <ol style="list-style-type: none"> 1. ECG preamplifier- instrumentation amplifiers design & testing. 2. Active filters for bio-signals-design & testing. 3. Wave shaping circuits for cardiac pacemaker. 4. Acoustic impedance measurement. 5. Recording of action potentials with extra cellular electrodes. 6. ECG signal recording with surface electrodes. 7. Blood pressure measurement with transducer/pressure differentiation circuits. 	
Course Outcomes (COs):		
On completion of this course, the student will be able to:		
CO No.	CO	Cognitive level
C304.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of the Special Physics II course to real life problems.	
C304.2	2. Understanding of the Special Physics II course which will create scientific temperament..	
C304.3	Students will have hand on experience of Practical Based on : <ul style="list-style-type: none"> • Measurement of thickness of thin film by Tolansky method. • Franck-Hertz experiment. Magnetic susceptibility. • Material Synthesis. • Material Science. • Communication Electronics. • Microprocessors. • Computational Methods & 'C' Language programming. • Biomedical Instrumentation 	

PHY-305 M. Sc. Project – I(Skill Base)		
	<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To give exposure to the students to research culture and technology. 2. To introduce students how to select a research topic, plan, perform experiments, collect data and analyse the data. 3. To foster self-confidence and self-reliance in the students as he/she learns to work and think independently. 	
	<p>Activities:</p> <ol style="list-style-type: none"> 1. To display the list of 'project titles' on notice board. 2. To organize a meeting of project supervisors' and students for discussion about 	

	<p>projects.</p> <p>3. To finalize the project titles so as to match student's particular interest.</p> <p>4. Survey of the Literature.</p> <p>5. To set the experiment/to start Preliminary Experimental work.</p> <p>6. Internal examination.</p> <p>The guide should regularly monitor the progress of the project work.</p> <p>ASSESSMENT OF PROJECT TERM WORK (FIRST TERM):</p> <p>Student should submit a Progress Report on the work done by him/her during the First Phase of the project including following points;</p> <ol style="list-style-type: none"> 1. Project Selection, 2. Literature Search Strategy, 3. Literature Review, 4. Project Planning. <p>Student will have to give a seminar on the above topics.</p> <p>Internal examination (40 marks): Components of internal assessment: Project Selection (05 Mark.) Literature Collection and Literature Revive(10 marks) planning and design (10 marks), Submission of progress report (10 marks), and regular attendance (5 marks) recorded: Research Supervisors</p> <p>External Examination system should be held on fourth semester with assessment of PHY-405.</p>	
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Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C305.1	Conceive a problem based on published research and carry out comprehensive survey of literature	4
C305.2	Plan and carry out task in given framework of dissertation and present the work in written and viva	6
C305.3	Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues.	6
C305.4	Learn handling of instruments, use of chemicals and how to conduct the experiments	3
C305.5	Learn how to present the project in power point and answer the queries to examiners as well as science of writing	6

M.Sc. Part II Semester III Physics: Audit Courses

AC-301(A): Computer Skills		
(Technology + Value added Audit course; Practical; 2 Credits)		
(Optional: Campus + Program level)		
Course Objectives (COs):		
<ul style="list-style-type: none"> • To inculcate different daily useful computer skills among students. 		
Unit 1	Elements of Information Technology 1.1 Information Types: Text, Audio, Video, and Image, storage formats. 1.2 Components: Operating System, Hardware and Software, firmware. 1.3 Devices: Computer, Mobile Phones, Tablet, Touch Screen, Scanner, Printer, Projector, smart boards. 1.4 Processor & Memory: Processor functions, speed, Memory types: RAM /ROM /HDD /DVD-ROM/Flash drives, memory measurement metrics.	2 H
Unit 2	Office Automation-Text Processing 2.1 Views: Normal View, Web Layout View, Print Layout View, Outline View,	5 H

	<p>Reading Layout View.</p> <p>2.2 Working with Files: Create New Documents, Open Existing Documents, Save Documents to different formats, Rename Documents, Close Documents.</p> <p>2.3 Working with Text: Type and Insert Text, Highlight Text, Formatting Text, Delete Text, Spelling and Grammar, paragraphs, indentation, margins.</p> <p>2.4 Lists: Bulleted and Numbered List.</p> <p>2.5 Tables: Insert Tables, Draw Tables, Nested Tables, Insert Rows and Columns, Move and Resize Tables, Moving the order of the column and/or rows inside a table, Table Properties.</p> <p>2.6 Page Margins, Gutter Margins, Indentations, Columns, Graphics, Print Documents.</p> <p>2.7 Paragraph Formatting, Paragraph Attributes, Non-printing characters.</p> <p>2.8 Types of document files: RTF, PDF, DOCX etc.</p>	
Unit 3	<p>Office Automation-Worksheet Data Processing</p> <p>3.1 Spreadsheet Basics: Adding and Renaming Worksheets, Modifying Worksheets.</p> <p>3.2 Moving Through Cells, Adding Rows, Columns, and Cells, Resizing Rows and Columns, Selecting Cells, Moving and Copying Cells.</p> <p>3.3 Formulas and Functions: Formulas, Linking Worksheets, Basic Functions, AutoSum, Sorting and Filtering: Basic Sorts, Complex Sorts, Auto-fill, Deleting Rows, Columns, and Cells.</p> <p>3.4 Charting: Chart Types, drawing charts, Ranges, formatting charts.</p>	5 H
Unit 4	<p>Office Automation- Presentation Techniques and slide shows</p> <p>4.1 Create a new presentation, AutoContent Wizard, Design Template, Blank Presentation, Open an Existing Presentation, PowerPoint screen, Screen Layout.</p> <p>4.2 Working with slides: Insert a new slide, Notes, Slide layout, Apply a design template, Reorder Slides, Hide Slides, Hide Slide text, Add content, resize a placeholder or textbox, Move a placeholder or text box, Delete a placeholder or text box, Placeholder or Text box properties, Bulleted and numbered lists, Adding notes.</p> <p>4.3 Work with text: Add text and edit options, Format text, Copy text formatting, Replace fonts, Line spacing, Change case, Spelling check, Spelling options.</p> <p>4.4 Working with tables: Adding a table, Entering text, Deleting a table, Changing row width, Adding a row/column, Deleting a row/column, Combining cells, Splitting a cell, Adding color to cells, To align text vertically in cells, To change table borders, Graphics, Add clip art, Add an image from a file, Save & Print, slide shows, slide animation/transitions.</p>	6 H
Unit 5	<p>Internet & Applications:</p> <p>5.1 Computer Network Types: LAN, PAN, MAN, CAN, WAN, Defining and describing the Internet, Brief history, Browsing the Web, Hypertext and hyperlinks, browsers, Uniform resource locator</p> <p>5.2 Internet Resources: Email, Parts of email,</p> <p>5.3 Protecting the computer: Password protection, Viruses, Virus protection software, Updating the software, Scanning files, Net banking precautions.</p> <p>5.4 Social Networking: Features, Social impact, emerging trends, issues, Social Networking sites: Facebook, Twitter, linkedin, orkut, online booking services</p> <p>5.5 Online Resources: Wikipedia, Blog, Job portals, C.V. writing</p> <p>5.6 e-learning: e-Books, e-Magazines, e-News papers, OCW(open course wares): Sakshat (NPTEL) portal, MIT courseware</p>	4 H
Unit 6	<p>Cloud Computing Basics</p> <p>6.1 Introduction to cloud computing</p> <p>6.2 Cloud computing models: SAS, AAS, PAS</p> <p>6.3 Examples of SAS, AAS, PAS (Drop Box, Google Drive, Google Docs, Office 365 Prezi, etc.)</p>	3 H
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. TCI, "Introduction to Computers and Application Software", Publisher: Jones & Bartlett Learning, 2010, ISBN: 1449609821, 9781449609825 2. Laura Story, Dawna Walls, "Microsoft Office 2010 Fundamentals", Publisher: Cengage Learning, 2010, ISBN: 0538472464, 9780538472463 		

3. June Jamrich Parsons, Dan Oja, "Computer Concepts Illustrated series", Edition 5, Publisher Course Technology, 2005, ISBN 0619273550, 9780619273552
4. Cloud computing online resources

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301A.1	Identify their lacunas about some computer skills and try to overcome the same.	2
AC301A.2	Practice the learned computer skills in real life and do their jobs more effectively.	3

AC-301(B): Cyber Security		
(Technology + Value added Audit course; Practical; 2 Credits)		
(Optional: Campus + Program level)		
Course Objectives (CObs):		
<ul style="list-style-type: none"> • To make students aware of different daily useful cyber security skills/rules. 		
Unit 1	Networking Concepts Overview Basics of Communication Systems, Transmission Media, ISO/OSI and TCP/IP models, Network types: Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks: Wireless concepts, Advantages of Wireless, Wireless network architecture, Reasons to use wireless, Internet.	3 H
Unit 2	Security Concepts Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography. Importance of Physical Security, Biometric security & its types, Risk associated with improper physical access, Physical Security equipments. Passwords: Define passwords, Types of passwords, Passwords Storage – Windows & Linux.	7 H
Unit 3	Security Threats and vulnerabilities Overview of Security threats, Hacking Techniques, Password Cracking, Types of password attacks, Insecure Network connections, Wi-Fi attacks & countermeasures, Information Warfare and Surveillance. Cyber crime: e-mail related cyber crimes, Social network related cyber crimes, Desktop related cyber crimes, Social Engineering related cyber crimes, Network related cyber crimes, Cyber terrorism, Banking crimes.	7 H
Unit 4	Cryptography Understanding cryptography, Goals of cryptography, Types of cryptography, Applications of Cryptography, Use of Hash function in cryptography, Digital signature in cryptography, Public Key infrastructure.	5 H
Unit 5	System & Network Security System Security: Desktop Security, email security: PGP and SMIME, Web Security: web authentication, Security certificates, SSL and SET, Network Security: Overview of IDS, Intrusion Detection Systems and Intrusion Prevention Systems, Overview of Firewalls, Types of Firewalls, VPN Security, Security in Multimedia Networks, Fax Security.	3 H
Unit 6	OS Security OS Security Vulnerabilities updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, configuring the OS for security, Trusted OS.	2 H
Unit 7	Security Laws and Standards Security laws genesis, International Scenario, Security Audit, IT Act 2000 and its	3 H

amendments.
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. Skills Factory, Certificate in Cyber Security, Text Book Special edition, Specially published for KBC NMU, Jalgaon. 2. BPB Publication, “Fundamentals of Cyber Security”, Mayank Bhushan, Rajkumar Singh Rathore, Aatif Jamshed. 3. Create Space Independent Publishing Platform, “Cyber Security Basics”, Don Franke, ISBN-13: 978-1522952190 ISBN-10: 1522952195. 4. Online references.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301B.1	Practice learned cyber security skills/rules in real life.	3
AC301B.2	Provide guidance about cyber security skills/rules to their friends, parents and relatives.	2

AC-301(C): Seminar + Review Writing	
(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)	
<p>Course Objectives (COs):</p> <ul style="list-style-type: none"> • To motivate students to develop skills to search, retrieve, interpret, organize, and present relevant biological information. 	
<p>Writing a Scientific Literature Review:</p> <ul style="list-style-type: none"> • Choosing a topic, Deciding the scope of topic, Significance and impact of scientific problem being addressed, Relevance to subject, current issues and social relevance, Strengths and limitations of the study, Enticing broad audience. • Literature Survey and Information to consider in the review: <ul style="list-style-type: none"> ○ Literature search using authentic library resources (print and non-print, digital and virtual) for Almanacs, Encyclopaedia, Dissertations, Theses, Research papers, Review articles, Reference/ Textbooks, and Popular articles (INFLIBNET, Google Scholar, Pub Med, Highwire, Google patents, Indian patent database, etc.). ○ Analyzing the literature quality (indexing, peer review, citations, journal impact factor, etc.). • Deciding a writing approach (theoretical, experimental, interpretive, clinical, etc.), prepare the highlights and drawing important conclusion from literature. • Sections to include and tips for writing them: Abstract, Introduction, Body, Discussion, Conclusion, References. • Reference styles (MLA, APA, etc.), Use of bibliography/ reference/ citation managers and generators (Reference Manager, EndNote, RefWorks, Mendeley, Zotero, Qiqqa, etc.). • Ethics of publication: Approval and consent, Data ethics (accuracy, falsification, fabrication, and confidentiality), Plagiarism and self-plagiarism, collaborative authorship, conflict of interest, legal consequences. • Content similarity detection, Use of anti-plagiarism services (Urkund, iThenticate, Turnitin, Copyscape, Grammarly, etc.). 	
<p>Seminar Activity:</p> <ul style="list-style-type: none"> • Students are encouraged to deliver seminars on the topics of research, preferably published research paper in a reputed and indexed journal to develop presentation skills and enable to build confidence which will lead them to read different themes and enhance their scientific approach and knowledge assimilation abilities. • Presentations must be created and presented by students using digital platform using a suitable software in the presence of student audience and faculty for evaluation. 	

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301C.1	Retrieve, analyses, comprehend the scientific information on a given topic and derive logical inferences.	4
AC301C.2	Compile the scientific information on a topic, verify for similarity index or plagiarism.	2
AC301C.3	Deliver the interactive presentation of scientific data before audience and participate in open discussion with confidence.	2

AC-301(D): Biostatistics

(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)

Course Objectives (COs):

- To learn basic statistical concepts/methods and their applications in biological processes and experiments.

Unit 1	Descriptive Statistics and Presentation of Data <ul style="list-style-type: none"> Types of Data: qualitative and quantitative data; nominal and ordinal data; discrete and continuous data; frequency and non-frequency data, Different types of scale - nominal, ordinal, ratio and interval. Analysis of univariate Quantitative Data: Concepts of central tendency or location, dispersion, skewness and kurtosis, measures of dispersion: range, quartile deviation, variance, standard deviation. Analysis of bivariate Data: measures of association, correlation. Presentation of Data: construction of tables with one or more factors of classification, diagrammatic and graphical representation of non-frequency data, frequency distributions, histogram. Graphical presentation of data through bar graph, line graph, pie chart, histogram, dot plot, box-plot, multiple line/bar graphs etc. 	8 H
Unit 2	Correlation and regression <ul style="list-style-type: none"> Bivariate data: scatter diagram, coefficient of determination, rank correlation: Spearman's rank correlation coefficient. Meaning and concept of regression, fitting of simple linear regression and quadratic regression in single predictor variable. Multivariate data: multiple regression, coefficient of determination, R-square and its interpretation, testing significance of predictor variables. 	8 H
Unit 3	Testing of hypothesis and basic statistical designs <ul style="list-style-type: none"> Introduction of methods of sampling. Statistical hypothesis, problem of testing of hypothesis, simple and composite hypothesis, types of errors, p-value, conclusions in hypothesis testing. Statistical tests: one sample t-test, paired t-test, test for proportions, chi-square test for testing independence/association of attributes. Design of experiments: introduction to basic terms of design of experiments, standard designs: Completely Randomized Design (CRD), Randomized Block Design (RBD), concept of ANOVA, F-test in ANOVA, interpretation of results from ANOVA. 	8 H
Unit 4	PRACTICALS (Emphasis on examples from Biological Sciences) <ul style="list-style-type: none"> Based on graphical Representation. Based on measures of Central Tendency & Dispersion. Based on Distributions Binomial Poisson Normal. 	6 H

	<ul style="list-style-type: none"> • Based on t, f, z and Chi-square. • Based on basic statistical designs. 	
<p>Suggested readings:</p> <ol style="list-style-type: none"> 1. Le CT (2003) Introductory Biostatistics. 1st edition, John Wiley 2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications, (7th Edn.), Pearson Education, Asia. 3. Edmondson A and Druce D (1996) Advanced Biology Statistics, Oxford University Press. 4. Danial W (2004) Biostatistics: A foundation for Analysis in Health Sciences, John Wiley and Sons Inc. 5. Design and Analysis of Experiments by Montgomery D.C. (2001), John Wiley. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC301D.1	Describe and identify data generated from biological processes and experiments.	1
AC301D.2	Use summary statistics: measures of central tendency, measures of dispersion with their interpretations for explain the data more effectively through graphical tools.	3
AC301D.3	Apply knowledge of correlation, regression analysis and testing of hypothesis to real life data and understand their interpretation.	3

M.Sc. Part II Semester IV (Physics): Core Courses

PHY– 401: Nuclear Physics		
	<p>Course description: This course is aimed at introducing the fundamentals of Nuclear Physics to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Nuclear Physics and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	<p>General Properties of Nuclei: Constituents of nucleus and their properties; packing fraction; mass defects; binding energy; average binding energy and its variation with mass number; concept of parity; magnetic dipole moment; electric quadrupole moment; problems. (H-5, M-6)</p>	05 L
Unit 2	<p>Nuclear Model: Types of nuclear models (list only); Liquid drop model: assumptions, semi empirical mass formula, achievements, failure and limitations of liquid drop model; Shell model, basic assumptions, nuclear magic numbers, experimental evidences of nuclear magic number and its significance, achievements and limitations of shell model; rules for angular momenta and parity of nuclear ground state; prediction of angular momenta and parity of nuclear ground state; nuclear energy level and their applications; problems. (H-7, M-8)</p>	07 L
Unit 3	<p>Nucleon – Nucleon Interaction: The deuteron problem; radius of deuteron; magnetic dipole moment and electric quadrupole moment of deuteron; Nature of interactions: electromagnetic, weak interactions and hadronic interactions; nucleon - nucleon scattering; scattering cross section; Low-energy neutron proton scattering and proton-proton scattering, High energy neutron-proton and proton -proton scattering. (H-8, M-8)</p>	08 L
Unit 4	<p>Interaction of charged particle and EM radiations with matter: Energy loss of charged particles (Bohr formula); stopping power; range and straggling; Cerenkov radiation; gamma (γ) ray interaction through matter; law of absorption of γ – rays; linear and mass absorption coefficient; the photoelectric process; Compton effect; pair production and annihilation of electron – positron pair; Dirac’s theory of pair production; problems. (H-14, M-18)</p>	14 L
Unit 5	<p>Particle accelerators and Radiation Detectors: Classification of accelerators; Van-de-Graaf generator; linear accelerator; synchrocyclotron; pellet on; microtone; types of detectors; scintillation detector and photomultiplier tube (PMT); semiconductor detector; bubble chamber; cloud chamber; spark chamber. (H-10, M-12)</p>	10 L
Unit 6	<p>Elementary Particle Physics Introduction; classification of elementary particles; particle interactions; elementary particle and their intrinsic quantum numbers (charge, Lepton number, Baryon number, iso-spin, strangeness etc.); conservation laws; Invariance under charge; Electrons and Positrons, Protons and antiprotons, Neutrons and antineutrons, Neutrinos and antineutrinos; Quark: assumption and properties; Quark model; colour of a Quark and its importance. (H-8, M-8)</p>	08 L
<p>Suggested Readings: Reference Books:</p> <ol style="list-style-type: none"> 1. Concepts of Nuclear Physics: B.L. Choen, Tata McGraw Hill. 2. Subatomic Physics: Franenfelder and Hanley, Prentice Hal.l 3. Nuclei and Particles: E. Segre. 4. Atomic Nucleus: R. C. Evans. 5. Basic Nuclear Physics: B.N. Shrivastava. 6. Introduction to Nuclear Physics: David Halliday. 7. Introduction to Nuclear Physics: Herald Enge. 30. 8. Nuclear Physics: Irving Kaplan. 9. Elements of Nuclear Physics: M.L. Pandya and Yadav. 10. An Introduction to Nuclear Physics: Bhide & Joshi. 11. Nuclear Physics: D.C. Tayal. 		

12. Radiation Detectors By Ramamurthy and Kapoor.
 13. Introduction to Nuclear Physics By S. B. Patel.
 14. Radiation Detection Techniques By Price.
 15. Introduction to Nuclear Techniques By Knoll.

Course Outcomes (Cots):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C401.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of the Nuclear Physics course to real life problems.	
C401.2	2. Understanding of the Nuclear Physics course which will create scientific temperament.	
C401.3	Students will have hand on experience of theory Based on : <ul style="list-style-type: none"> • General Properties of Nuclei Constituents of nucleus and their properties. • Interaction of charged particle and EM radiations with matter Energy loss of charged particles. • Particle accelerators and Radiation Detectors Classification of accelerators; Van-de-Graaf generator etc. • Elementary Particle Physics Introduction; classification of elementary particles; particle interactions. • Nucleon – Nucleon Interaction The deuteron problem. 	

M.Sc. Part II Semester IV (Physics): SkillCourse(Select only one)

PHY- 402 (A): Nanomaterials: Synthesis, Properties and Applications		
	<p>Course description: This course is aimed at introducing the fundamentals of Nanomaterials: Synthesis, Properties and Applications to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Nanomaterials: Synthesis, Properties and its applications 2) The graduates will have knowledge of fundamental concepts and principles in a variety of areas of Nanoscience and Nano Technology with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques related to Nanomaterials.</p>	
Unit 1	<p>Introduction: Definition of, Nanomaterials-Definition and Necessity, Properties of Nanoscale, Comparison of Nanomaterials with bulk material, What is nanotechnology? What should we expect from it? Introduction to low dimensional structures: Quantum wells, Quantum wires and Quantum dots, Nanoclusters and Nanocrystals. Quantum mechanics for low dimensional structures: Electron confinements, Schrodinger equation for particle in one dimensional box, Density of states, Density of states for a zero dimensional quantum dots, Density of states for 1-D Quantum wire, Density of states for two dimensional thin films, Density of states for a particle in three dimensional box. (H-10, M-12)</p>	10 L
Unit 2	<p>Techniques for synthesis of nanomaterials: I. Physical methods: High energy ball milling, Physical vapour deposition: Resistive heating, LASER ablation, sputter deposition.</p>	20 L

	<p>II Chemical methods: Colloid, Synthesis of colloids, Growth of nanoparticles, synthesis of metal nanoparticles by colloidal route, synthesis of semiconductor nanoparticles by colloidal route, Langmuir-Blodgett method, Sol-gel method, Synthesis of metal oxides by sol-gel technique.</p> <p>III Biological, methods: Introduction, Synthesis of nanoparticles using Microorganisms, Synthesis using plant extracts, Use of proteins and Temples like DNA.</p> <p>IV Hybrid techniques: Chemical vapor deposition, Ultrasonic automization, Electrochemical.</p> <p>V Nanolithography: Lithography using photons, using particle beams, Scanning probe lithography. (H-20, M-24)</p>	
Unit 3	<p>Synthesis of some special Nanomaterials: Synthesis of magnetic nanoparticles, Magnetic properties-Super paramagnetic materials, processes for their biocompatibility, applications of magnetic nanoparticles. Carbon nanotubes: Synthesis of SWNT and MWNT, Applications of SWNT and MWNT. (H-6, M-08)</p>	06 L
Unit 4	<p>Nanophotonics: Foundation for nanophotonics, Synthesis of metal chalcogenides (S, Se and Te) nanocomposites, photo conducting and photoluminescence properties of metal chalcogenides, photoconductivity of nanorods. (H-6, M-08)</p>	06 L
Unit 5	<p>Characterization of Nanomaterials: X-ray diffraction- structural studies, Interpretation of broadening of peaks, Electron microscopy (FESEM/TEM)- Micro structural properties (Topographical and morphological studies) Scanning Tunneling Microscopy- Determination of surface structures UV-VIS- optical properties related to Quantum confinement, Electrical and thermal transport properties, Plasmon resonance peaks and blue shift at Nanoscale. (H-10, M-08)</p>	10 L

Suggested readings: Reference Books: /

1. Nanotechnology: Michel Kohler, Wolfgang Fritzsche.
2. Nanomaterials: Synthesis, Properties and Applications: A.S. Edelstein and R.C. 20 Cammarata, Institute of Physics Publishing Bristol and Philadelphia.
3. Nanoparticles: Building blocks for Nanotechnology, Vincent Rotello-Springer.
4. Introduction to Nanotechnology: Charles P. Poole Jr., Frank J. Owens
5. Nanoparticles Edited by Gunter Schmid.
6. Nanoscale Science and Technology: Robert W. Kelsall, Ian W. Hamley, Mark Geoghegan, John Wiley & Sons Ltd.
7. Nanoparticles & Nanostructure films: Preparation, Characterization & Applications: Wiley-VCH 8.
- Nanomaterials: An Introduction to Synthesis, Properties and Applications: Dieter Vollath
9. Nanostructured Materials and Nanotechnology: Hari Singh Nalwa, Academic Press
10. Nanophotonics: Paras N Prasad, Wiley Interscience John Wiley & Sons, Inc Publication
11. Handbook of Microscopy for Nanotechnology: Nan Yao, Zhong Lin Wang, Kluwer Academic Publishers.
12. Nanotechnology: Principles and Practice, S.K. Kulkarni, Capital Publishing Company.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C402.A.1	<p>Course outcome: Learner will be able to</p> <p>1. Apply the concept and use of knowledge of the Nanomaterials: Synthesis, Properties and Applications course to real life problems.</p>	
C402.A.2	<p>2. Understanding of the Nanomaterials: Synthesis, Properties and Applications Physics course which will create scientific temperament..</p>	
C402.A.3	<p>Students will have hand on experience of Theory Based on :</p> <ul style="list-style-type: none"> • Comparison of Nanomaterials with bulk material. • Different Techniques for synthesis of Nanomaterials of magnetic nanoparticles, Magnetic properties-Super paramagnetic materials. • Foundation for nanophotonics, Synthesis of metal chalcogenides (S, Se and Te) nanocomposites 	

PHY-402(B):LASER and its Applications		
	<p>Course description: This course is aimed at introducing the fundamentals of LASER and its Applications to the students.</p> <p>Course objectives:</p> <ol style="list-style-type: none"> 1) To impart knowledge of basic concepts LASER and its Applications and Applications and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing. 	
Unit 1	<p>Basics of Lasers: Introduction, Brief history of LASER, Interaction of radiation with matter, Einstein's prediction about emission, Absorption, Spontaneous and Stimulated emission, Einstein's coefficients and relations between them, Condition for light amplification, Population inversion, Pumping and pumping methods, Active medium, Pumping schemes. (H-8, M-8)</p>	08 L
Unit 2	<p>Principles of Lasers: Introduction, Optical resonator, Basic components of laser, Principle of laser action, Difficulties in laser process and their removal, Threshold condition for laser oscillation, resonance frequencies, Laser operating frequencies, Cavity configurations, Modes; Longitudinal and Transverse modes, Single mode operation. (H-8, M-10)</p>	08 L
Unit 3	<p>Laser Rate equations: Two level system. Three and four level system, Rate equations for three and four level system, Threshold pumping power, Relative merits and demerits of three and four level systems. (H-6, M-8)</p>	06 L
Unit 4	<p>Laser Systems and Types: Classification of Lasers: CW and Pulsed lasers, Detail discussion about constructional features, energy level diagrams, Laser action and working, characteristics etc of the following laser systems:</p> <ol style="list-style-type: none"> I) Solid State Lasers: The Ruby Laser, Nd-YAG Laser, Nd-Glass Laser etc. II) Dye (Liquid) Lasers, III) Gas Lasers: <ul style="list-style-type: none"> • Atomic Gas Lasers: He-Ne Laser. • Ion Gas Lasers: Argon ion and Krypton ion lasers, He-Cd metal vapour laser, • Molecular gas Lasers: CO₂ Lasers, Eximer laser, N₂ laser etc. IV) Semiconductor lasers, V). Chemical Lasers: HF laser. CO₂ mixture lasers. (H-14, M-18) 	14 L
Unit 5	<p>Laser beam characteristics: Directionality, Intensity, Coherence, Monochromaticity, Polarization, Speckles', Measurements of Laser power, energy-wavelength, frequency, line width. etc. (H-6, M-6)</p>	06 L
Unit 6	<p>Applications of Lasers: Applications of lasers in Material Processing and Mechanical industries, Medicine and Surgery, Defense and Military applications, Laser Range finders. Optical communication, Holography, Electronic industries. Laser Spectroscopy. (H-10, M-10)</p>	10 L
<p>Suggested Readings:Reference Books:</p> <ol style="list-style-type: none"> 1. Lasers – A.G.Sigman- Oxford University Press 1986. 2. Principles of Lasers- O.Suelto-Plenum, 1982. 3. An introduction to lasers and their applications. – D.C.O.Shea, W. Russell and W.T.Rhodes, Addison – Welslay Pub.Co. (1977) 4. Laser Systems and Applications- SatyaPrakash , PragatiPrakashan, IIInd Ed, (2012) 5. An introduction to Lasers - Theory and Applications- M. N. Avadhanulu, S. Chand & CO. (2008) 6. Principles of laser and their Applications – by Callen, O'shea, Rhodes. 7. Lasers and non linear Optics – B.B. Laud (2nd edition). 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C402.B.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of the LASER and its Applications course to real life problems.	
C402.B.2	2. Understanding of the LASER and its Applications of Physics course which will create scientific temperament.	
C402.B.3	Students will have hand on experience of Theory Based on : <ul style="list-style-type: none"> • Basics of Lasers: Introduction, Brief history of LASER, Interaction of radiation with matter, Einstein's prediction. • Laser Rate equations: Two level system. Three and four level system. • Laser beam characteristics: Directionality, Intensity, Coherence, Monochromaticity, Polarization, Speckles'. • Applications of lasers in Material Processing and Mechanical industries, Medicine and Surgery, Defence and Military applications. 	

PHY-402(C): Astrophysics		
	<p>Course description: This course is aimed at introducing the fundamentals of Astrophysics to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Astrophysics and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	Astronomical Instruments: Optical telescopes-refracting and reflecting- (Newtonian & Cassegrain), Radio telescopes, Hubble's space telescope, spectroscopes, photometry, spectro-photometry, Detectors & image processing. (H-8, M-8)	08 L
Unit 2	Message from starlight: Electromagnetic spectrum, Radiation from heated object, Doppler effect, Stellar spectra, determination of abundance of elements from stellar spectra. (H-6, M-8)	06L
Unit 3	The Hertzsprung- Russel diagram: Brightness and luminosity, population of stars, H-R diagram, variable and binary stars. (H-4, M-6)	04 L
Unit4	Stellar Evolution: Nuclear Fusion, Fusion reactions in stars formation of Helium, Carbon Oxygen and other reactions, E equation of state for stellar interior, Mechanical and thermal equilibrium in stars, stellar evolution, white dwarfs red giants, pulsars, neutron stars, black holes. (H-10, M-12)	10 L
Unit 5	Galaxies: Types of galaxies, evolution of galaxies, radio galaxies, seyfert galaxies, quasars, milky way galaxy. (H-8,M-8)	08 L
Unit 6	General theory of relativity: Space time & gravitation, vectors & tensors-contravariant & covariant vectors, symmetric and antisymmetric tensors, contraction, space time curvature, Geodesics, Principle of equivalence. (H-9, M-10)	09L
Unit 7	Cosmology: Big bang theory, steady state universe, oscillating universe, Hubble's law, experimental evidences for big bang, open and close universes. (H-7, M-8)	07L
<p>Suggested Readings: Reference Books: 1. Astronomy-Fundamentals and Frontiers-Robert Jastow and Malcolm H. Thompson (Pub. John Wiley & Sons). 2. An Introduction to Astrophysics-Baidyanath Basu(Pub. Prentice Hall India Pvt. Ltd.).</p>		

3. Introduction to Cosmology– J. V. Narlikar (Pub: Cambridge University Press).
4. An Introduction to the study of stellar structure-S. Chandrasekhar (Pub: Dover).
5. Measure of the universe-T.D. North (Pub. Oxford University Press).

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C402.C.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of the LASER and its Applications course to real life problems.	
C402.C.2	2. Understanding of the LASER and its Applications of Physics course which will create scientific temperament..	
C402.C.3	Students will have hand on experience of theory based on : <ul style="list-style-type: none"> • Basics of Lasers: Introduction, Brief history of LASER, Interaction of radiation with matter, Einstein’s prediction. • Laser Rate equations: Two level system. Three and four level system. • Laser beam characteristics: Directionality, Intensity, Coherence, Monochromaticity, Polarization, Speckles. • Applications of lasers in Material Processing and Mechanical industries, Medicine and Surgery, Defence and Military applications. 	

M.Sc. Part II Semester IV (Physics): Elective Course (Select only one)

PHY-403(A): Renewable Energy Sources		
	<p>Course description: This course is aimed at introducing the fundamentals of Renewable Energy Sources to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Renewable Energy Sources and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	Solar Energy: Solar Energy conversion systems and their applications, Fundamentals of photovoltaic. Energy conversion, Principles of photo voltaic cell, Materials and fabrication technologies of P. V cell, P.V. systems: configuration, output power and conversion efficiency, Basic P.V. system for power generation, Applications and limitations of P.V systems. (H-9, M-10)	09 L
Unit 2	Biomass Energy Conversion Technologies: Origin of biomass, Biomass energy resources, Biomass energy conversion processes, generation of gaseous fuels from biomass, digesters and their designs, Energy from Cereals, grains, sugar, fruits, starch etc. (H-8 M-10)	08 L
Unit 3	Wind Energy: Introduction to wind energy, Nature & Origin of winds, Power in a wind stream, principles and basic components of wind mill, Efficiency of wind turbine, horizontal and vertical axis wind mills, performance of wind mills, merits and limitations of wind energy conversions. (H-9, M-10)	09 L
Unit 4	Ocean Energy: Ocean as the potential energy resource: various ocean energy	07 L

	conversion technologies, Introduction to OTEC, Principle of OTEC, Open cycle OTEC system, closed cycle OTEC system, Ocean waves, energy and power from ocean waves, origin of tidal energy, Tidal energy conversion. (H-7, M-8)	
Unit 5	Geothermal Energy: Geothermal energy as are new able source of energy, Types of geothermal resources, Origin of geothermal resources, Hydro geothermal, Geopressure, geothermal and Petro geothermal resources, Basics of geothermal electric power plant. (H-6, M-7)	06 L
Unit 6	Emerging trends in Renewable Energy sources: Fuel Cells: Principle and operation of fuel cell, classification and types of fuel cells, Phosphoric acid fuel cell (PAFC), Alkaline fuel cell (AFC), Molten carbonate fuel cell (MCFC), Solid oxide fuel cell(SOFC), Fuels for fuel cells, Performance characteristics of fuel cells. Hydrogen Energy: Hydrogen as clean source of energy, sources Production, storage, Use of hydrogen as fuel, conversion to energy, Applications. (H-13, M-15)	13 L
<p>Suggested Readings: Reference Books:</p> <ol style="list-style-type: none"> 1. Energy Technology Non-Conventional, Renewable and Conventional, S. Rao, Dr.B.B. Parulekar, Khanna Publications, 3rdEd, 2005. 2. Non-Conventional Energy Sources, G. D. Rai, Khanna Publications, 2000. 3. Solar Energy Utilization, G.D. Rai, Khanna Publishers (1996). 4. Non-Conventional Energy Resources, Khan B.H., Tata McGraw Hill. 2006. 5. Solar Energy Conversion, S. P. Sukhatme (2ndedition). 6. Solar Cells, M.A. Green. 7. Hydrogen as Energy carrier Technologies systems Economy-Winter & Nitch. 8. Solar Energy Conversion– A. E. Dixnon & J. D. Leslie. 9. Biomass Energy– S.H. Pawar, L.J. Bhosale, A.B. Sabale, S.K. Goel. 10. Renewable Energy Sources and Conversion Technology, Bansal, N.K., M.KM. Meliss (1990)Tata McGraw Hill. 11. Non Conventional and Renewable energy sources, S.S. Thipse, Narosa Publishing House Pvt. Ltd. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C403.A.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of the Renewable Energy Sources course to real life problems.	
C403.A.2	2. Understanding of the Renewable Energy Sources of Physics course which will create scientific temperament..	
C403.A.3	Students will have hand on experience of Theory Based on: <ul style="list-style-type: none"> • Solar Energy: Solar Energy conversion systems and their applications. • Bio mass Energy Conversion Technologies: Origin of biomass, Biomass energy resources. • Ocean Energy: Ocean as the potential energy resource. • Emerging trends in Renewable Energy sources. 	

PHY-403(B):Microwaves: Theory and Applications		
	<p>Course description: This course is aimed at introducing the fundamentals of Microwaves: Theory and Applications to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Microwaves: Theory and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	<p>Transmission Lines: Introduction to microwaves, applications of microwaves, Skin effect, Transmission line theory, Transmission line equations and their solutions, Open and terminated transmission lines, Line impedances, Line admittance, reflection coefficient, transmission coefficient, standing wave ratio, Impedance matching, Smith chart, Single stub matching and double stub matching. (H-8, M-10)</p>	08 L
Unit 2	<p>Waveguides: Rectangular and Circular waveguides, Solution of wave equation in rectangular coordinate, TE and TM modes in rectangular waveguide, Power transmission in rectangular waveguides, Power losses and excitation modes in rectangular waveguides. (H-7, M-8)</p>	07 L
Unit 3	<p>Waveguide components: Attenuators, filters, junctions, rectangular cavity resonator, circular cavity resonator, Enplane (series tee), H-plane (shunt tee), magic tee (Hybrid tee), directional couplers, hybrid rings (Rat-Race), waveguide corners, bends, loads, Microwave circular isolators. (H-7, M-8)</p>	07 L
Unit 4	<p>Microwave Generators: Microwave generation problems and principles, Tubes: Two cavity klystron and Reflex-klystron. Two cavity Klystron operation as amplifiers and oscillators, velocity modulation, bunching process, output power and beam loading efficiency of klystron. Reflex Klystron: Velocity modulation, power output efficiency, electronic admittance. Magnetron, Traveling wave tube amplifier: construction and operation. Microwave transistors: Principle of operation, microwave characteristics-cutoff frequency, current gain, power gain. Varactor diode: Principle of operation, use of varactor diode for frequency multiplication. Microwave Tunnel diode: Principle of operation, Gunn diode, PIN diode: Principle of operation, microwave characteristics. (H-10, M-12)</p>	10 L
Unit 5	<p>Microwave Antennas: Transmitting and receiving antenna: Horn antenna, Microwave dish antenna, antenna gain, resistance and band width, Beam width and polarization, Introduction to Micro strip antenna. (H-6, M-6)</p>	06 L
Unit 6	<p>Measurements: Smith chart: Derivation, use of chart for solving various problems in wave guide/ transmission lines, Microwave measurements: Measurement of impedance, power, frequency, attenuation, SWR, dielectric constant, quality factor. (H-7, M-8)</p>	07 L
Unit 7	<p>Applications: Radar: Block diagram and working of pulsed Radar system. Satellite: Active, passive, design requirements, payload, launching sequence. Microwave link, Microwave Remote Sensing Microwave ovens: Design requirements, sizes available, and application areas, Applications of microwaves in the medical field. (H-7, M-8)</p>	07L
<p>Suggested Readings: / Reference Books:</p> <ol style="list-style-type: none"> 1. Microwave Devices and Circuits - Samuel Y. Liao, Prentice-Hall, New Delhi, 2006. 2. Microwave Engineering – Annapurna das & S.K. Das, Tata McGraw Hill, 2009. 3. Foundation of microwave engineering – Colin R.E. McGraw Hill 1969. 4. Introduction to microwaves – Atwater, McGraw Hill 1962-63. 5. Introduction to microwave – Wheeler, McGraw Hill 1962-63. 6. Microwave semiconductor devices and their circuit application.- Watson , McGraw-Hill 1962-63. 7. Microwave circuits and elements – M.L.Sisodia 8. Microwave circuits & passive Devices–M. L. Sisodia, G.S. Raghuvanshi, Wiley Eastern Ltd, 1987. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C403.B.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of Microwaves: Theory and Applications course to real life problems.	
C403.B.2	2. Understanding of the Microwaves: Theory and Applications Physics course which will create scientific temperament..	
C403.B.3	Students will have hand on experience of Theory Based on : <ul style="list-style-type: none"> • Transmission Lines: Introduction to microwaves, applications of microwaves. • Waveguides: Rectangular and Circular waveguides. • Microwave generation problems and principles. • Microwave Antennas: Transmitting and receiving antenna. • Applications: Radar: Block diagram and working of pulsed Radar system. • Satellite: Active, passive, design requirements. 	

PHY-403(C): Environmental Physics		
	<p>Course description: This course is aimed at introducing the Environmental Physics: Theory and Applications to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Environmental Physics s: Theory and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>	
Unit 1	Introduction: Meaning of Environment, Environmental science an overview, definition, concept & scope, types of environmental approaches, Nomenclature, environmental segments, Natural cycles (hydrologic, oxygen, nitrogen cycle). (H-7, M-8)	07 L
Unit 2	Atmosphere: Composition of atmosphere, Major regions of atmosphere, evolution of atmosphere, earth's radiation balance, Particles in the atmosphere, chemical & photochemical reactions in the atmosphere. (H-8, M-8)	08 L
Unit 3	Environmental Resources: Forest-Utilization, degradation & conservation, water-water cycle, degradation & conservation, Soil-utilization degradation & conservation. (H-7, M-8)	07L
Unit 4	Pollution & environmental problems: Meaning of pollution, sources, causes elementary fluid dynamics, factors governing air, water and noise pollution Green house effect/Global warming ozone hole. El Nino phenomenon. Acid Rain. (H-6, M-8)	06 L
Unit 5	Water Pollution: Aquatic environment, water pollutant, Sources of contamination of water pollution, waste water treatment, water quality parameters & standards, sampling, preservation, monitoring techniques pH dissolved oxygen, chemical oxygen demand, total oxygen demand, analysis of water quality parameter. (H-9, M-10)	09 L
Unit 6	Air Pollution: Air pollutant, air quality standard, sampling, monitoring, sampling, analysis technique, Gaseous and particulate matter. (H-7, M-8)	07L
Unit 7	Global & Regional Climate: Elements of weather and climate, stability and vertical and horizontal motion of air and water, viscous force, inertia force, Reynolds number, energy balance, pressure gradient force, global climate model and climate of India. (H-8, M-10)	08L
<p>Suggested Readings: / Reference Books: 1. Environmental Chemistry: A.K. De</p>		

2. Environmental Chemistry: O.D. Tyagi, M. Mehra (Anmol Publications).
 3. Physics of atmosphere: J.T. Houghton (Cambridge Uni.Press:1977)
 4. Renewable Energy Sources: Elbs.1988.J.T.Widell & J. Weir.
 5. Water Pollution (problems and Prospects): V.K. Prabhakar (Anmol Publications).
 6. The Physics of Mansoons: R. N. Keshavmurthy & M. Shankar Rao Allied Publishers, 1992.
 7. Solar Energy: S.P. Sukhatme.
 8. Solid State Energy Conversion: S.H. Pawar, V.H.Shinde.
 9. Environmental Physics: Egbert Boekar and Rienk Van Groundelle (John Wiley).
 10. An Introduction to Solar Energy for Scientists and Engineers: Sol-Wieder John Wiley, 1982.
 11. Numerical Weather Prediction: G.J. Haltiner and R.T. Williams John Wiley, 1980.

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C403.C.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of Environmental Physics: Theory and Applications course to real life problems.	
C403.C.2	2. Understanding of the Environmental Physics: Theory and Applications Physics course which will create scientific temperament..	
C403.C.3	Students will have hand on experience of theory based on: <ul style="list-style-type: none"> • Meaning of Environment, Environmental science an overview, definition, concept & scope. • Composition of atmosphere, Major regions of atmosphere, evolution of atmosphere, earth's radiation balance. • Environmental Resources: Forest-Utilization, degradation & conservation, water-water cycle. • Water Pollution.. • Air Pollution. 	

M.Sc. Part II Semester IV (Physics): Core Based Courses

PHY-404 Special Laboratory II	
	<p>Course description: This course is aimed at introducing the Special Laboratory II: Practical and Applications to the students.</p> <p>Course objectives: 1) To impart knowledge of basic concepts Special Laboratory II: Practical and its Applications 2) The graduates will have knowledge of fundamental laws and principles in a variety of areas of Physics along with their applications. 3) The graduates will develop research skills which might include advanced laboratory techniques, numerical techniques, computer algebra, computer interfacing.</p>
	Perform at least TEN experiments from the following.

1	<ol style="list-style-type: none"> 1. To find water of crystallization in Copper sulphate by TGA. 2. Differential thermal analysis [DTA] of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$. 3. Schottky barrier determination for various semiconductors. 4. To analyses the Raman Spectrum of a sample. 5. To determine Young's modulus of a metallic rod by Searle's optical interference method (Newton's Rings). 6. To analyses the photoluminescence spectrum of a given sample. 7. Determination of Curie temperature of a given sample. 8. Determination of calorific value of wood/cow dung. 9. Determination of wind power. 10. Wind data analysis of a given site. 11. Study of power vs. load characteristics of solar P.V. systems and study of series and parallel combination of solar P.V. panels. 12. Study of Optical Properties of Selective Coatings. 13. Hyperfine structure of spectral lines using FP etalon/L.G. plate. 14. To study the Quantum defects of S and P states of Na atom using constant deviation spectrometer. 15. Study of dielectric behavior of BaTiO_3 sample.
2	<p>Nanomaterials</p> <ol style="list-style-type: none"> 1. Synthesis of metal nanoparticles. 2. Synthesis of porous silicon. 3. Absorption by metal nanoparticles. 4. X-ray Diffraction of nanoparticles. 5. Photoluminescence of nanoparticles. 6. Synthesis of semiconductor nanoparticles by chemical method. 7. Optical absorption of nanoparticles (observation of Blue shift with size of particles). 8. Photoluminescence of nanoparticles (Luminescence decay time). 9. X-ray diffraction studies of nanoparticles (effect of temperature). 10. Density of states calculation of small clusters (experiments on computer).
3	<p>LASERS:</p> <ol style="list-style-type: none"> 1. To verify Heisenberg uncertainty principle using He-Ne laser source. 2. Study of Faraday's effect using Laser source. 3. Diameter of a given wire by diffraction. 4. Determination of bandwidth of a given optical fiber. 5. Measurement of reflectivity and transferability of thin film by using He-Ne laser. 6. Verification of Brewster's law of polarization using He-Ne laser. 7. Study of magneto-optic rotation and magneto-optic modulation. 8. To determine the wavelength of a LASER source using an engraved scale as a reflecting diffraction grating.
4	<p>Astrophysics :</p> <ol style="list-style-type: none"> 1. To estimate the temperature of an artificial star by photometry. 2. To study characteristics of a CCD camera. 3. To study the solar limb darkening effect. 4. To polar align an astronomical telescope. 5. To estimate their active magnitudes of a group of stars by a CCD camera.
5	<p>Microwaves :</p> <ol style="list-style-type: none"> 1. Study of passive components. 2. Study of various loads. 3. To study characteristics curve of Klystron. 4. Determination of constants of transmission line, strip lines. 5. Study of cavity resonator.

	6. Study of ring resonator and rejection filter. 7. To design, fabricate and test stripline resonator. 8. To find dielectric constant of given liquid using microwave bench. 9. Measurement of Quality factor Q of a microwave resonator.
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Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C404.1	Course outcome: Learner will be able to 1. Apply the concept and use of knowledge of Special Laboratory II: Practical and Applications course to real life problems.	
C404.2	2. Understanding of Special Laboratory II: Practical Physics and Applications Physics course which will create scientific temperament.	
	Students will have hand on experience of theory based on : <ul style="list-style-type: none"> • Schottky barrier determination for various semiconductors. • To analyse the Raman Spectrum of a sample. • Nanoparticles. • LASERS. • Astrophysics. • Microwaves. 	

M.Sc. Part II Semester IV (Physics): Skill Based Courses

PHY-405: M. Sc. Project – II (Project Dissertation)

Course Objectives:

1. To give exposure to the students to research culture and technology
2. To introduce students how to select a research topic, plan, perform experiments, collect data and analyse the data
3. To foster self-confidence and self-reliance in the students as he/she learns to work and think independently

Activities:

1. To complete the experimental work.
2. To carry out the measurements.
3. To characterize the samples.
4. To obtain the results.
5. To draw the conclusions.
6. To write the project report.
7. To appear for Internal examination
8. To appear for External examination

Project Report:

1. Students have to write a 'project report'.
2. A report should be a concise account of project work containing full descriptions of the aims, method and outcomes.
3. Length of report should not normally exceed 40 pages. Assessment Criteria of the project: The

following criteria are to be used in assessing the project work:

(i) The conduct of project work:

The following questions are considered in assessing how well students have carried out the project work.:

1. How difficult was the project?
2. How well did the student understand the scientific principles behind the project?
3. How well did the student plan the project work?
4. How much effort was put into the project?
5. Was an interim report presented on time?
6. Is the student's project logbooks adequate?
7. How much initiative and/or originality did the student contribute to the project?
8. How well did the student cope with problems that arose during the course of project?
9. Did a project reach a stage of completion where meaningful results were obtained and definite conclusions could be drawn?

(ii) The Project Report:

1. How well did the report set out the background?
2. How well did the report describe the underlying them?
3. Was the report a reasonable length?
4. How well was the report structured?
5. How understandable was the written content?
6. How well did the report describe the execution of the project?
7. Did the report have an adequate summary or conclusions?

(iii) Oral Examination:

1. Did the student adequately describe what he/she had done in their project?
2. Did the student have a clear interpretation of his/her results?
3. What was the clarity and overall standard of the presentation?
4. How well was the talk/presentation structured?
5. Did the student cover all the relevant material in a reasonable time?

The project is allotted during the third semester. The students will get an opportunity to become a part of ongoing research activities in the respective supervisor's laboratory. The students will acquire skill to write, compile and analyze data if any, and present the detailed technical/scientific report. At the end of successful project semester training, potentially the students become employable in the industries/organizations.

It is expected that the students will design experiments and collect experimental data. At the end, they will submit a detailed thesis for evaluation. The students should be introduced to research methodology in the beginning through few lectures.

The systematic approach towards the execution of project should be as follows:

1. Selection of topic relevant to priority areas of Physics.
2. Collection of literature on the topic of research from libraries, internet, online journals, Planning of research experiments.
3. Performing the experiments with scientific and statistical acceptability.
4. Presentation of observations and results.
5. Interpretation of results and drawing important conclusions.
6. Discussion of obtained results with respect to literature reports.
7. Writing monthly progress report

8. Preparation of report (Dissertation) containing introduction, materials and methods, results and discussion, conclusions, bibliography and submission of at least 3 copies (1 copy retained in the department and after examination submitted to Library, 1 copy submitted to the guide and 1 copy kept with the candidate).
9. Presentation of research data during university examination and submission of project dissertation in bound form.
1. Internal examination (40 marks): Components of continuous internal assessment: Submission of progress report (8 marks), Literature collected, experiment planning and design (10 marks), Experiments conducted (10 marks), outcome of the experiments and viva (8 marks) and regular attendance (4 marks) recorded: Research Supervisors
2. External examination, [PHY-305(60 Marks) + PHY-405 (60 marks)] and Components of external assessment: Subject matter (5+5 marks), Review of literature (10+10 marks), Writing of dissertation submitted in bound form at the time of examination (Title page, Certificate, Main content: Abstract, Introduction, Literature, Materials and methods, results and discussion and conclusion with relevant references) (15+15 marks), Presentation structure (PPT format) (10+10 marks), Overall presentation reflecting contribution of work (5+5 marks), Response to questions (15+15 marks).
Suggested readings: Refer the topic in research papers, review articles published in peer reviewed and SCI indexed journals, reference books, abstracts, etc. related to topic of project dissertation

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
C405.1	Conceive a problem based on published research and carry out comprehensive survey of literature	4
C405.2	Plan and carry out task in given framework of dissertation and present the work in written and viva	6
C405.3	Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues.	6
C405.4	Learn handling of instruments, use of chemicals and how to conduct the experiments	3
C405.5	Learn how to present the project in power point and answer the queries to examiners as well as science of writing	6

M.Sc. Part II Semester IV (Physics): Audit Courses

AC-401(A): Human Rights (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional:)		
	Course Objectives (COs): • To make students aware about human rights and human values.	
Unit 1	Introduction to Human Rights 1.1 Concept of Human Rights 1.2 Nature and Scope of Human Rights 1.3 Fundamental Rights and Fundamental Duties 1.4 Interrelation of Rights and Duties	6 H
Unit 2	Human Rights in India 2.1 Meaning and Significance of : 1) Right to Equality 2) Right to Freedom, 3) Right against Exploitation, 4) Right to Freedom of Religion, 5) Cultural and Educational Rights, and 6) Right to Constitutional Remedies.	8 H

	2.2 Constitutional Provisions for Human Rights 2.3 Declaration of Human Rights 2.4: National Human Rights Commission	
Unit 3	Human Values 3.1: Meaning and Definitions of Values 3.2: Importance of values in the life of Individual 3.3: Types of Values 3.4: Programmes for conservation of Values	8 H
Unit 4	Status of Social and Economically Disadvantaged people and their rights 4.1: Rights of women and children in the context of Social status 4.2: The Minorities and Human Rights 4.3: Status of SC/ST and other Indigenous People in the Indian Scenario 4.4: Human rights of economically disadvantaged Society	8 H
Suggested readings: 1. Human rights education – YCMOU, Nasik 2. Value education – SCERT, Pune 3. Human rights reference handbook – Lucille whare		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401A.1	Practice the learned issues under human rights and human values in real life.	3
AC401A.2	Provide social justices to people around them and provide guidance about human rights to their friends, parents and relatives.	5

AC-401(B): Current Affairs (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional:)			
Course Objectives (COs): • To make students updated about current affairs of India and world.			
	Title	Content	Hours
Unit 1	Politics & Economy	• National & International Political Activity, Organization. • Economy & Business, Corporate world	08
Unit 2	Awards and recognitions	• National & International Awards and recognitions • Books and authors	07
Unit 3	Science & Technology	• Software, Automobile, Space Research • New inventions and discoveries	07
Unit 4	Environment & Sports	• Summit & conference, Ecology & Climate, Organization. • National & International Games, Olympics, commonwealth etc.	08
Suggested readings (Use recent years' data and current literature): 1. India 2019, by Publications Division Government of India. 2. Manorama Year Book by Philip Mathew. 3. India 2019, Rajiv Maharshi. 4. Quick General Knowledge 2018 with Current Affairs Update, Disha Experts. 5. General Knowledge 2018: Latest Who's Who & Current Affairs by RPH Editorial Board.			

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401B.1	Identify important issues currently/ recently happening in India or world.	5
AC401B.2	Summarize current affairs regularly.	6

AC-401(C): Seminar + Review Writing

(Technology + Value added Audit course; Optional: Program-level; Practical; 2 Credits)

Course Objectives (CObs):

- To motivate students to develop skills to search, retrieve, interpret, organize, and present relevant biological information.

Writing a Scientific Literature Review:

- Choosing a topic, Deciding the scope of topic, Significance and impact of scientific problem being addressed, Relevance to subject, current issues and social relevance, Strengths and limitations of the study, Enticing broad audience.
- Literature Survey and Information to consider in the review:
 - Literature search using authentic library resources (print and non-print, digital and virtual) for Almanacs, Encyclopaedia, Dissertations, Theses, Research papers, Review articles, Reference/ Textbooks, and Popular articles (INFLIBNET, Google Scholar, PubMed, Highwire, Google patents, Indian patent database, etc.)
 - Analyzing the literature quality (indexing, peer review, citations, journal impact factor, etc.)
- Deciding a writing approach (theoretical, experimental, interpretive, clinical, etc.), prepare the highlights and drawing important conclusion from literature
- Sections to include and tips for writing them: Abstract, Introduction, Body, Discussion, Conclusion, References
- Reference styles (MLA, APA, etc.), Use of bibliography/ reference/ citation managers and generators (Reference Manager, End Note, Ref Works, Mendeley, Zotero, Qiqqa, etc.)
- Ethics of publication: Approval and consent, Data ethics (accuracy, falsification, fabrication, and confidentiality), Plagiarism and self-plagiarism, collaborative authorship, conflict of interest, legal consequences
- Content similarity detection, Use of anti-plagiarism services (Urkund, iThenticate, Turnitin, Copyscape, Grammarly, etc.)

Seminar Activity:

- Students are encouraged to deliver seminars on the topics of research, preferably published research paper in a reputed and indexed journal to develop presentation skills and enable to build confidence which will lead them to read different themes and enhance their scientific approach and knowledge assimilation abilities.
- Presentations must be created and presented by students using digital platform using a suitable software in the presence of student audience and faculty for evaluation

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401C.1	Retrieve, analyse, comprehend the scientific information on a given topic and derive logical inferences.	4
AC401C.2	Compile the scientific information on a topic, verify for similarity index or plagiarism.	2
AC401C.3	Deliver the interactive presentation of scientific data before audience and participate in open discussion with confidence.	2

AC-401(D): Intellectual Property Rights (IPR) (Professional and Social + Value Added Audit course; Practical; 2 Credits) (Optional: Program-level)		
	Course Objectives (COBs): <ul style="list-style-type: none"> To provide basic knowledge on intellectual property rights and their implications. To understand ethical issues relevant to biology from the perspective of national and international law. 	
Unit 1	History and Introduction to Intellectual Property Rights: Evolution of patent Laws, History of Indian Patent System, Concept of IPR, Designs, Trademarks TM, Trade Secret (TS), Domain Names, Geographical Indications, Copyright	6 H
Unit 2	Classification of patents and ownership: Classification of patents in India, Classification of patents by WIPO, Categories of Patent, Special Patents Ownership of patent, Rights of patent holder and co-owners, Duties of patent holder and co-owners, Transfer of patent Rights, Limitations of patent Rights, Restoration of Patents, Infringement of patent Rights and Offences, Actions against Infringement and Remedies and Relief	6 H
Unit 3	Protection of biological materials and Biodiversity Methods of protection of plant and plant products, Essentialities of plant protection, Plant variety protection and Farmers' Right Act, UPOV convention (plant Varieties) 1961, National Biodiversity Act- 2002, Protection of environment and biodiversity	6 H.
Unit 4	Biosafety and good laboratory practices Overview of biosafety, Risk assessment, Cartagena protocol on Biosafety, Biosafety Levels, GMOs and LMOs, Gene flow and environmental impact, opportunities and challenges Roles of Institutional Biosafety Committee, RCGM, GEAC in food and agriculture Risk analysis, assessment and management, International regulatory bodies Importance of good laboratory practices, General good laboratory practices	6 H
Unit 5	Bioethics Introduction, ethical conflicts in biological sciences - interference with nature, bioethics in health care - patient confidentiality, informed consent, euthanasia, artificial reproductive technologies etc Bioethics in research – cloning and stem cell research in human, animal rights/welfare in experimentation Agricultural biotechnology - Genetically engineered food, environmental risk, labeling and public opinion. Sharing benefits and protecting future generations, biopiracy	6 H
Suggested readings:		
<ol style="list-style-type: none"> Complete Reference to Intellectual Property Rights Laws. (2007). Snow White Publication Oct. Deepa Goel, Shomini Parashar (2013) IPR, Biosafety and Bioethics Always learning, Pearson Education India, ISBN 9332514240, 9789332514249. Department of Biotechnology http://dbtindia.gov.in/guidelines-biosafety. Ganguli, P. (2001). Intellectual property rights: Unleashing the knowledge economy. New Delhi: Tata McGraw-Hill Pub. International Union for the Protection of New Varieties of Plants. http://www.upov.int. Kuhse, H. (2010). Bioethics: An anthology. Malden, MA: Blackwell. National Biodiversity Authority. http://www.nbaindia.org. National Portal of India. http://www.archive.india.gov.in. Office of the Controller General of Patents, Design & Trademarks; Government of India. http://www.ipindia.nic.in/. Wolt, J. D., Keese, P., Raybould, A., Fitzpatrick, J. W., Burachik, M., Gray, A., Wu, F. (2009). Problem formulation in the environmental risk assessment for genetically modified plants. Transgenic Research, 19(3), 425-436. doi: 10.1007/s11248-009-9321-9. World Intellectual Property Organisation. http://www.wipo.int. World Trade Organisation. http://www.wto.org. 		

Course Outcomes (COs):

On completion of this course, the student will be able to:

CO No.	CO	Cognitive level
AC401D.1	Understand to classify, identify advantages of intellectual property and IPR	3
AC401D.2	Understand the need to protect biological diversity and follow bioethical practices in research work, awareness to protect intellectual property relevant to biology	2

Equivalence Subject:

Old Course		New Course	
Course Number	Title of the Course	Course Number	Title of the Course
Sem. I		Sem. I	
PHY-101	Mathematical Methods for Physics	PHY-101	Mathematical Methods for Physics
PHY -102	Classical Mechanics	PHY -102	Classical Mechanics
PHY-103	Quantum Mechanics	PHY-103	Solid State Physics
PHY-104	Solid State Physics	PHY -104(A)	A): Physics of Semiconductor Devices Or
		PHY -104(B)	B): Electronic Instrumentation Or
		PHY -104(C)	C)Bio- Physics
PHY -105	Basic Physics Laboratory – I	PHY-105	Basic Physics Laboratory – I
Sem. II		Sem .II	
PHY-201	Statistical Mechanics	PHY-201	Statistical Mechanics
PHY -202	Classical Electrodynamics	PHY -202	Classical Electrodynamics
PHY -203	Material Science	PHY -203	Quantum Mechanics
PHY-204(A)	PHY 204 (A) : Physics of Semiconductor Devices	PHY-204	Material Science
PHY-204(B)	PHY 204 (B) : Electronic Instrumentation		
PHY-204(C)	PHY 204 (C) : Bio- Physics		
PHY-205	Basic Physics Laboratory – II	PHY-205	Basic Physics Laboratory – II
Sem. III		Sem. III	
PHY-301	Atomic and Molecular Physics	PHY-301	Atomic and Molecular Physics
PHY-302(A)	A)Materials Synthesis Methods	PHY-302(A)	A) Materials Synthesis and preliminary analysis
PHY-302(B)	B)Microprocessor and its Applications	PHY-302(B)	B) Computational Method sand Programming Using 'C' Language OR
PHY-302(C)	C)Communication Electronics	PHY-302(C)	C) Acoustics and Entertainment Physics
PHY-303	A)Systematic Materials Analysis	PHY-303(A)	A)Systematic Materials Analysis)OR
	B) Computational Methods and Programming Using 'C' Language	PHY-303(B)	B) Microprocessor and its Applications OR
	C) Acoustics and Entertainment Electronics	PHY-303(C)	C) Communication Electronics
PHY-304	Special Laboratory-I	PHY-304	Special Laboratory-I
PHY-305	Project Work-II (Literature Survey, Definition of Problem, Experimental work, Oral etc.)	PHY-305	Project Work-II (Literature Survey, Definition of Problem, Experimental work, Oral etc.)
Sem. IV		Sem. IV	
PHY-401	Nuclear Physics	PHY-401	Nuclear Physics
PHY -402(A)	A)Nanomaterials : Synthesis, Properties and Applications	PHY -402(A)	A)Nanomaterials: Synthesis, Properties and Applications OR

PHY -402(B)	B) LASER and it's Applications	PHY -402(B)	B) LASER and it's Applications OR
PHY -402(C)	C) Astrophysics	PHY -402(C)	C) Astrophysics
PHY-403(A)	A) Renewable Energy Sources	PHY-403(A)	A) Renewable Energy Sources OR
PHY-403(B)	B) Microwave: Applications	PHY-403(B)	B) Microwave: Applications OR
PHY-403(C)	C) Environmental Physics	PHY-403(C)	C) Environmental Physics
PHY -404	Special Laboratory-II	PHY -404	Special Laboratory-II
PHY -405	Project Work-II (Characterization, Analysis of Result, Conclusions, Project Report, Oral etc.)	PHY -405	Project Work-II (Characterization, Analysis of Result, Conclusions, Project Report, Oral etc.)