

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

<b>S.Y.B.Sc Geography (Old Courses)</b>	<b>New Syllabus of S.Y.B.Sc. Geography W.E.F. June 2019</b>
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.

<b>Unit No.</b>	<b>Topic</b>	<b>Sub-topics</b>	<b>Hours</b>
<b>I</b>	<b>Introduction to Environmental Geography</b>	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	<b>8</b>

<b>II</b>	<b>Man and Environment Relationship</b>	<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 style="padding-left: 20px;">-Mountainous Region</p> <p style="padding-left: 20px;">-Desert Region</p> <p style="padding-left: 20px;">- Coastal Region</p>	6
<b>III</b>	<b>Environmental Problems And Management</b>	<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 style="padding-left: 20px;">a)Genetic Diversity</p> <p style="padding-left: 20px;">b) Species Diversity</p> <p style="padding-left: 20px;">c) Ecosystem Diversity</p> <p>C) Threats To Biodiversity</p> <p style="padding-left: 20px;">I) Pouching Of Wildlife</p> <p style="padding-left: 20px;">II)Man-Wildlife Conflicts</p> <p>D) Environmental Management-</p> <p style="padding-left: 20px;">A)Priority Sectors</p> <p style="padding-left: 40px;">i)Pollution control</p> <p style="padding-left: 40px;">ii) Power and mineral resources</p> <p style="padding-left: 40px;">iii) Environmental education</p>	8
<b>IV</b>	<b>National Environmental Policy And Movement</b>	<p>A) National Environmental Policy (NEP)- Introduction, Objective, And Principal</p> <p>B) Initiatives or actions regarding</p> <p style="padding-left: 20px;">i) Land Degradation</p> <p style="padding-left: 20px;">ii) Forest And Wildlife Conservation</p> <p style="padding-left: 20px;">iii) Fresh Water</p> <p style="padding-left: 20px;">Iv) Climate Change.</p> <p>C) Major environmental movements</p> <p style="padding-left: 20px;">i) The Chipko Andolan</p> <p style="padding-left: 20px;">ii) Tehri-High Dam Project</p> <p style="padding-left: 20px;">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,  
Jalgaon**

**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**

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

<b>Sr. No.</b>	<b>Unit No.</b>	<b>Weightage of Marks</b>
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**

**Under faculty of Science and Technology**

**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	<b>Topographical Maps</b>	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)	<b>30</b>
2	<b>Weather Maps and Weather Data Analysis</b>	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	<b>30</b>

		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			<b>60</b>

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

**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. 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	<b>Introduction</b>	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	<b>Choice of Region</b>	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	<b>Theories and Models for Regional Planning</b>	1. Rostows Model of Economic Development 2. Growth Pole Theory in Indian Context.	05

<b>IV</b>	<b>Measuring of development</b>	<b>A) Economic Planning: Introduction to 12<sup>th</sup> five year plan, Role NITI Aayog in development, Damodhar Valley Corporation- the success story</b> <b>B) Backward regions and regional planning</b> <b>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</b>	<b>10</b>
Total			<b>30</b>

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,  
Jalgaon**

**Under faculty of Science and Technology**

**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	<b>Introduction to Human geography</b>	A) A Definition, Nature and Scope B) Branches of Human Geography C) Relationship between Man and Environment D) Approaches of Human Geography	5
2	<b>Human Races and Religion</b>	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	<b>Population</b>	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	<b>Settlements</b>	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
<b>Total</b>			<b>30</b>

<b>Sr. No.</b>	<b>Unit No.</b>	<b>Weightage of Marks</b>
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	<b>1.1</b> Introduction and Population Growth in Maharashtra <b>1.2</b> Population distribution in Maharashtra a) High population density regions b) Medium population density regions c) Low population density regions <b>1.3</b> Factors affecting on distribution of population in Maharashtra. a) Physical b) Economic c) Social Factors <b>1.4</b> Demographic features in Maharashtra (Sex Ratio)	6
II	Agriculture	<b>2.1</b> Introduction to Agriculture of Maharashtra. <b>2.2</b> Role of agriculture in the Economy of Maharashtra <b>2.3</b> Agro – climatic zones in Maharashtra <b>2.4</b> Types of agriculture in Maharashtra (Plantation agriculture, Dairy farming, Horticulture, Subsistence Farming, Organic Farming.) <b>2.5</b> Recent trends in agriculture – Introduction to Polyhouse and Shade net house <b>2.6</b> Problems of agriculture and its remedial measures	6
III	Minerals, Energy Resources and Industries	<b>3.1 Major minerals</b> and their production and distribution a) Iron ore b) Bauxite <b>3.2 Energy resources:</b> production and distribution a) Nuclear Power Station b) Thermal power projects c) Hydel power projects <b>3.3 Industries:</b> 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	<b>Trade and Transport</b>	<b>A) Trade:</b> i) Introduction and types of trades a) International      b) National ii) Factors affecting on trade in Maharashtra <b>B) Transportation:</b> 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

<b>Sr. No.</b>	<b>Unit No.</b>	<b>Weightage of Marks</b>
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, Shivalal 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	<b>Surveying</b>	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	<b>Plane Table Survey</b>	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	<b>GPS Survey</b>	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	<b>Excursion or Village Survey</b>	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	<b>Introduction to Field Study Report</b>	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	<b>Concepts in Field Work</b>	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	<b>Data Collection and Analysis</b>	A. Types of Hypothesis - Null Hypothesis - H <sub>1</sub> and H <sub>0</sub> 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	
<b>04</b>	<b>Report Writing</b>	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

<b>Sr. No.</b>	<b>Unit No.</b>	<b>Weightage of Marks</b>
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.