



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.A. and B.Sc. Degree Program in Geography**  
**(Faculty of Science & Technology)**

**T.Y.B.A. (Geography)**

## Choice Based Credit System Syllabus

### To be implemented from Academic Year 2021-2022

T.Y.B.A. (Geography) Choice Based Credit System Syllabus

To be implemented from Academic Year 2021-2022

#### Course Structure

#### F. Y. B. A. GEOGRAPHY

Sr. No.	Semester	Course No	Name of the Course	Category
1	Semester I	Gg.110 (A)	Physical Geography	CC – 1 A
2	Semester II	Gg.110 (B)	Human Geography	CC – 1 B

#### S. Y. B. A. GEOGRAPHY

Paper Code	Semester	Paper	Subject
Gg: 210(A)	III	G2 CC1C	Environmental Geography I OR Economic Geography -I
Gg: 220(A)	III	S1 DSE 1 A	Geography of Maharashtra - I OR Population Geography – I
Gg: 201(A)	III	S2 DSE 2 A	Practical Geography – I (Scale and Map Projections)
(Value/skill based course)	III	SEC 2 A	Applied Course of Disaster Management
Gg: 210(B)	IV	G2 CC1D	Environmental Geography- II OR Economic Geography -II
Gg: 220(B) DSE 1 B	IV	S1 DSE 1 B	Geography of Maharashtra – II OR Population Geography – II
Gg: 201(B) DSE 2 B	IV	DSE 2 B	Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)
(Value/skill based course)	IV	SEC 2 B	Applied Course of Travel and Tourism Geography

**T.Y.B.A. Geography**

Paper Code	Semester	Paper	Subject
Gg: 310(A)	V	CC1E	Geography of Disaster Management-I OR Geography of Tourism- I
Gg: 320(A)	V	DSE 1 C	Geography of India –I OR Geography of rural development -I
Gg: 301(A)	V	DSE 2 C	Practical Geography – I (Techniques of Spatial Analysis)
(Value/skill based course)		SEC 2C	Remaining
Gg: 310(B)	VI	CC1F	Geography of Disaster Management-II OR Geography of Tourism -II
Gg: 320(B)	VI	DSE 1D	Geography of India -II OR Geography of rural development -II
Gg: 301(B)	VI	DSE 2D	Practical Geography – II (Techniques of Spatial Analysis, Surveying and Excursion / Village / Project Report
(Value/skill based course)		SEC 2 D	Remaining

**Equivalence of Previous syllabus along with new syllabus:**

Pager	Old Course	New Course
G3	Gg-310 Regional Geography of India OR Gg-310 Human Geography	Geography of Disaster Management-I OR Geography of Tourism- I
G3		Geography of Disaster Management-II OR Geography of Tourism- II
S3	Gg-320 Agricultural Geography OR Gg-320 Population and Settlement Geography	Geography of India –I OR Geography of rural development -I
S3		Geography of India –II OR Geography of rural development -II
S4	Gg-301 Techniques of Spatial Analysis	Practical Geography – I (Techniques of Spatial Analysis)
S4		Practical Geography – II (Techniques of Spatial Analysis, Surveying and Excursion / Village / Project Report

## Semester V

### Geography of Disaster Management- I CC1E (No. of Credits: 03)

**Objectives:**

- 1) To introduce students the concept of disaster & its relation with Geography.
- 2) To acquaint the students with the utility & application of hazards in different areas & its management.
- 3) To make the students aware of the need of protection & disaster management.

Sr. No.	Topic	Learning Points	Periods
1	Concepts in disaster management.	a) Concept of management b) Aims and objectives c) Pre-disaster management d) Post – disaster management	12
2	Introduction to hazards, disasters	a) Definition Hazards And Disasters b) Meaning and definition of Disasters c) Geographical conditions and disasters	
3	Disaster management and measures	a) Structure of disaster management - Preparedness, Response, Recovery, Mitigation, Rehabilitation b) Standard operating procedure of management on government level c) Role of media	12
4	Climatic disasters and their management	a) Classification of disasters a) Cyclones and Storms as a disaster b) Droughts and Floods as disasters	12

## Semester VI

### Geography of Disaster Management-II CC1F (No. of Credits: 03)

Sr. No.	Topic	Learning Points	Periods
1	Geological and Geomorphic disasters and their management	a) Earthquakes as disasters b) Landslides as disasters c) Tsunami as disasters	12
2	Anthropogenic disasters and their management	a) Deforestation b) Forest fire as disasters c) Soil degradation	12
3	Global issues and movements	a) Global warming b) Ozone depletion c) Acid rain	12
4	Case Studies of disaster	a) Tsunami in Indian ocean -2004 b) Kedarnath Cloud Burst -2013 c) Fukushima Nuclear disaster -2011	12

**Reference books:**

- Alexander, D. (1993): Natural Disasters. UCL Press Ltd., London
- Bloom, A.L., 1998. Geomorphology. A Systematic Analysis of Late Cenozoic Landforms. Pearson Education (Singapore) Pte. Ltd.
- Chandna, R. C., 2000. A Geography of Population, Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
- Copola P Damon, 2007, Introduction to International Disaster Management
- Cuny, F. 1983, Development and Disaster, Oxford University Press.
- Govt. of India, 2005, Disaster Management Act Government of India, New Delhi.
- Hamblin, W.K., 1989. The Earth's Dynamic Systems, Macmillan Publishing Company, New York.
- Huggett, D.A., 2004. Fundamentals of Biogeography, Routledge.
- Kale, V.S. and Gupta, A., 2001. Introduction to Geomorphology, Orient Longman, Calcutta.
- Knox, P. and Agnew J., 1998. The Geography of the World Economy, Arnold, London.
- Lutgens, F.K. and Tarbuck, E.J., 2007. The Atmosphere. Prentice Hall, Englewood Cliffs, New Jersey, USA.
- Ross, D. A., 1988. Introduction to Oceanography. Prentice Hall, New Jersey.
- Saptarshi P. G., More J. C., Ugale V. R. and Arjun Musmade (2009), "Geography and Natural Hazard" Diamond, Pune.
- Savindra Singh, (2000): Environmental Geography. PrayagPustakBhavan, Allahabad
- Singh, S., 1998. Geomorphology, PrayagPustakBhavan, Allahabad.
- Strahler, A.A. and Strahler, A. N., 2002. Physical Geography: Science and Systems of the Human Environment, John Wiley and Sons, INC.
- A.H.Choudhar ,P.N.Salve, S.M.Kadam.R.H.Choudhar,V.C.Ithape (2010), "Contemporary Issues and Geography",Atharva ,Pune.
- Musmade Arjun. H., More J. C., 2014, Geography of Disaster Management, Diamond, Pune.

**Semester V**  
**Geography of Tourism- I CC1E (No. of Credits: 03)**

**Objectives:**

- 1) To understand the history of Tourism
- 2) To introduce the students to the basic concepts in Tourism Geography.
- 3) To understand the types of Tourism
- 4) To gain knowledge different aspects of Tourism Geography.

Sr. No.	Topic	Sub Topic & Learning Point	Hours
1	Introduction	a) Definition and Nature <ol style="list-style-type: none"> <li>i. Definition of Tourists and Tourism.</li> <li>ii. Nature of Tourism</li> <li>iii. Importance of Tourism..</li> </ol> b) Scope and Extent <ol style="list-style-type: none"> <li>i. Tourism and Travel as basic needs of mankind.</li> <li>ii. Tourism and Development.</li> <li>iii. Tourism as product</li> </ol> c) Role of Geography in Tourism	12
2	Factors affecting Tourism Development	a) Physical <ol style="list-style-type: none"> <li>i. Relief</li> <li>ii. Climate</li> <li>iii. Forest</li> </ol> b) Socio-Cultural <ol style="list-style-type: none"> <li>i. Religious</li> <li>ii. Historical</li> <li>iii. Sports</li> </ol> c) Political --i) Polices ii) Safety of Tourists iii) Accessibility	12
3	Concept and Classification of Tourism	a) Classification of tourism based on <ol style="list-style-type: none"> <li>i. Nationality</li> <li>ii. Travel Time</li> <li>iii. Purpose</li> </ol> b) Concept of Tourism - I <ol style="list-style-type: none"> <li>i. Agro-Tourism</li> <li>ii. Eco- Tourism</li> <li>iii. Wildlife Tourism</li> </ol> c) Concept of Tourism - II <ol style="list-style-type: none"> <li>i) Wellness Tourism</li> <li>ii) Health/medical Tourism</li> <li>iii) Sports Tourism</li> </ol>	12
4	Role of Transportation and communication in Tourism Development	a) Mode of Transportation <ol style="list-style-type: none"> <li>i) Road and Rail ii) Water. iii) Air</li> </ol> b) Communication <ol style="list-style-type: none"> <li>i. Role of Guide in tourism development</li> <li>ii. Internet/Telephone/Mobile/TV</li> <li>iii. Electronic and Printing Media</li> </ol> c) Travel and Tourism Agencies	12

**Reference Books**

1. Geography of Tourism: Robinson H. (1996)
2. Tourism Development, Principles and Practices: Bhatia A.K., Sterling Publisher Ltd., New Delhi
3. Geography of Tourism and Recreation: S. N. Singh (1985)
4. Tourism Today: A Geographical Analysis: Douglas Pearce (1987)
5. Tourism: Economic Physical and Social Impact: Mathieson A. and Wall C, Logman, U.K.
6. India: A Tourist Paradise: Manoj Das.
7. Tourism Today: An Indian Perspectives: Maneet Kumar
8. Geography of Travel and Tourism: Hudman L.E.
9. Successful Tourism Management: Seth P.N. (1985) Sterling Publisher Ltd., New Delhi.
10. Tourism Analysis: Smith S.L.J.
11. Tourism in India: Gupta V.K.
12. Dynamics of Tourism: Kaul R. N., Sterline Publisher Ltd.
13. Geography of Tourism: S.B. Shinde, Phadke Prakashan, Kolhapur 2

**Semester VI**  
**Geography of Tourism- II CC1F (No. of Credits: 03)**

**Objectives:**

1. To understand the history of Tourism
2. To introduce the students to the basic concepts in Tourism Geography.
3. To understand the types of Tourism
4. To gain knowledge different aspects of Tourism Geography.

Sr. No.	Topic	Sub Topic & Learning Point	Hours
1.	Role of Accommodation in Tourism	a) Accommodation Types <ol style="list-style-type: none"> <li>i. Hotels, Motels, inn, Dharmashalas.</li> <li>ii. Govt. Accommodation, Tourist homes.</li> <li>iii. Private accommodations and unrecognized accommodations.</li> </ol> b) Factors affecting choice of Accommodation c) Role of Accommodation in Tourism Development.	12
2.	Impact of Tourism	a) Economic impact <ol style="list-style-type: none"> <li>i. Effect on foreign exchange.</li> <li>ii. Employment generation.</li> <li>iii. Infrastructure development.</li> </ol> b) Physical and Environmental impacts <ol style="list-style-type: none"> <li>i. Land Degradation.</li> <li>ii. Loss plants and animals life.</li> <li>iii. Air and water pollution.</li> </ol> c) Social cultural impacts <ol style="list-style-type: none"> <li>i. Crime and Gambling activities.</li> <li>ii. Language.</li> <li>iii. Traditional arts</li> </ol>	12
3.	Planning and Policies of tourism development	a) World Tourism Organization (WTO) b) India Tourism Development Corporation (ITDC) c) Maharashtra Tourism Development Corporation (MTDC)	12
4.	Case studies of Major Tourist Centers in India	a) Hill Station- Manali and Mahabaleshwar b) Historical- Tajmahal and Raigadh fort c) National Parks- Kaziranga, Melghat	12

**Reference Book**

1. A Geography of Tourism: Robinson H. (1996)
2. Tourism Development, Principles and Practices: Bhatia A.K., Sterling Publisher Ltd., New Delhi
3. Geography of Tourism and Recreation: S. N. Singh (1985)
4. Tourism Today: A Geographical Analysis: Douglas Pearce (1987)
5. Tourism: Economic Physical and Social Impact: Mathieson A. and Wall C, Logman, U.K.
6. India: A Tourist Paradise: Manoj Das.



7. Tourism Today: An Indian Perspectives: Maneet Kumar
8. Geography of Travel and Tourism: Hudman L.E.
9. Successful Tourism Management: Seth P.N. (1985) Sterling Publisher Ltd., New Delhi.
10. Tourism Analysis: Smith S.L.J.
11. Tourism in India: Gupta V.K.
12. Dynamics of Tourism: Kaul R. N., Sterline Publisher Ltd.
13. Geography of Tourism: S.B. Shinde, Phadke Prakashan, Kolhapur 2

**Semester V**  
**Geography of India -I DSE 1 C (No. of Credits: 03)**

**Objective:**

1. To acquaint the students with geography of our Nation.
2. To make the student aware of the magnitude of problems and Prospects at National level.
3. To help the students to understand the inter relationship between the subject and the society.
4. To help the students to understand the recent trends in regional studied

Sr. No	Unit	Subunit	Periods
1	Introduction	a) Location and Extent b) Historical Background c) International boundary of India and related issues d) States and Union territories	12
2	Physiography	a) The Northern Mountains b) The North Indian Plains c) The Peninsular Plateau d) The Costal low lands and The Islands	12
3	Drainage	a) Himalayan Rivers: The Indus , The Ganga , The Brahmaputra b) East Flowing Rivers- Mahanadi, Godavari, Krishna, Kaveri. c) West Flowing Rivers- Narmada, Tapi, Mahi d) West Flowing Rivers in western ghat	12
4	Climate Soils and Natural Vegetation	a) Various Seasons and Weather Associated with them b) Types of Soils and its Distribution c) Soil Degradation and Conservation d) Types of Natural Vegetation and its Distribution	12

**Semester V**  
**Geography of India -II DSE1 D (No. of Credits: 03)**

**Objective:**

1. To acquaint the students with geography of our Nation.
2. To make the student aware of the magnitude of problems and Prospects at National level.
3. To help the students to understand the inter relationship between the subject and the society.
4. To help the students to understand the recent trends in regional studied

Sr. No	Unit	Subunit	Periods
1	Cultural Setting	a) Religion of India b) Languages of India c) Major tribes, tribal areas and their problems	12
2	Transport	a) Role of Transportation in regional development of India: b) Land ways, Airways and Waterways c) Developments in communication technology	12
3	Resources	a) Iron ore, Manganese b) Coal, Petroleum, c) Hydro, Thermal	12
4	Agriculture	a) Significance of agriculture in Indian Economy. b) Agro Based Industry c) Agriculture Revolution in India	12

**Reference Books**

1. Aher A.B , Chaodhari A. P & Chaodhari Archana. Regional Geography of India Prashant Publication Jalgaon 2015
2. Deshpande C.D: India-A Regional Interpretation Northern Book Centre, New Delhi.1992.
3. Farmer, B.H.: An Introduction to South Asia. Methuen, London, 1983.
4. Govt. of India: India - Reference Annual, 2001 Pub. Div, New Delhi, 2001.
5. Govt. of India: National Atlas of India, NATMO Publication, Calcutta..
6. Govt. of India: The Gazetteer of India. Vol I & III Publication Division, New Delhi, 1965.
7. Learmonth, A.T.A. et.al(ed.) : Man and Land of South Asia Concept, New Delhi.
8. Mitra, A.: Levels of Regional Development India Census of India, Vol I, Part I-A (i) and (ii) New Delhi, 1967.
9. Routray, J.K.: Geography of Regional Disparity Asian Institute of Technology, Bangkok, 1993.
10. Shafi, M: Geography of South Asia, McMillan & Co., Calcutta, 2000.

11. Singh, R.L.(ed.): India: A Regional Geography. National Geogphical Society. India, Varanasi, 1971.
12. Spate, O.H.K. and Learmonth, A.T.A.; India and Pakistan - Land, People and Economy Methuen & Co., London, 1967.
13. P. G. Saptarshi, J. C. More, V. R. Ugale & A. H. Musmade :A Geographical Region of India : Diamond Publication (2009) (Marathi)
14. Patil S. G., Suryawanshi R. S., Pacharne S., Choudhar A. H. : Economic Geography, Atharav Prakashan, Pune. (2014) (Marathi).
15. Musmade Arjun. H., More J. C., 2015, Geography of India , Diamond, Pune.

**Semester V**  
**Geography of Rural Development -I DSE 1 C (No. of Credits: 03)**

**Objectives:**

1. To understand the concept, nature and scope of rural development in India.
2. To overview various approaches to rural development.
3. To discuss some important issues related to rural development.
4. To study various schemes and policies for rural health in India.

Sr. No.	Topic	Sub Topic	Learning Points	Periods
1	Introduction	Nature and Scope	a) Concept of Rural Development b) Definition and meaning of rural development c) Causes of Rural Backwardness d) Nature and Scope of Rural Development in India	12
2	Approaches to Rural Development in India:	Approach	a) Gandhian Approach b) Decentralized Planning Approach c) Sectoral Approach d) Participatory Approach	12
3	Issues of Rural Development-	Issues	a) Lack of safe drinking water b) Rural Sanitation Problems and Programs c) Green revolution and its benefits to Urban and Rural Sectors d) Urban-Rural Divide	12
4	Rural Health	Health Care and Services	a) Health Care Services in Rural Areas b) Maternal and Child Health c) National Health Policy of India d) National Rural Health Mission	12

**Reference Books**

1. Vasant Desai: Rural Development in India, Himalaya Publishing House, Mumbai, 2012.
2. Singh, R.B. (1985): *Geography of Rural Development*. New Delhi, India: Inter India.
3. Mukherjee, Neela. (1993). *Participatory Rural Appraisal: Methodology and Application*. Delhi, India: Concept Pubs. Co.
4. Rural Development Satya Sundaram, Himalaya publication House Mumbai
5. Indian economy R. D. Sudharam Chand and co. Ramnagar New Delhi.
6. Commercial Geography Dr. B.S.Nagi. Kedarnath Ramnath publications Meerut,
7. Human Resource Development T.Y. Rao SAGE Publication New Delhi.
8. Katar Singh -Rural Development –Principles, Policies and Management.
9. Agricultural Geography (second edition) Jasbir singh and S.S. Dhillon Tata mc crow publication
10. Interation Technology and Globalization S.K. Bansal APII Publishing Corp. Ansari Rd. Dayraganj Delhi.
11. Economic Geography. Sadha –Khan 8. Ruural Energy criai S. Giriappa Himalaya Publishing House Mumbai

12. Anand, Subhash. (2013). *Dynamics of Rural Development*. Delhi, India: Research India Press.
13. Mukundan, N. - Rural Development and Poverty eradication in India.
14. Krishnamurthy, J. (2000). *Rural Development - Problems and Prospects*. Jaipur, India: Rawat Publs.
15. Ramachandran, H., and Guimaraes, J.P.C. (1991). *Integrated Rural Development in Asia—Learning from Recent Experience*. New Delhi, India: Concept Publishing.
16. Palione, M. (1984). *Rural Geography*. London, UK: Harper and Row.
17. Dutt and Sundaram- Indian Economy, S.Chand Publications, New Delhi, 2013-07-02.
18. Mishra, S.K. and Puri V.K. - Economics of Development and Planning, Himalaya Publishing House, Mumbai, 2012.
19. K Vijayakumar Empowerment of weaker section future planning and strategies for Rural Development in India.
20. Shankar Chatterjee- Implementation of Rural Development.
21. Gilg A. W., 1985: An Introduction to Rural Geography, Edwin Arnold, London.
22. Misra R. P. and Sundaram, K. V. (eds.), 1979: Rural Area Development: Perspectives

**Semester VI****Geography of rural development -I DSE 1 D (No. of Credits: 03)****Objectives-**

1. To study the problems and policies related to education in rural areas.
2. To create awareness among the students about various area development programmes and Target Group Programmes implemented in India.
3. To create a positive approach for rural development among the students through the examples of successful case studies.

Sr. No.	Topic	Sub Topic	Learning Points	Periods
1	Education in Rural Areas –	Problems	a) Problems in School Education b) School Dropouts c) Girl Child Education d) Sarva Siksha Abhiyan – National Literacy Mission	12
2	Area Development Programmes:	Programmes:	a) Drought Prone Area Programme – b) Command Area Development c) Programme Desert Development Programme d) Hill Area Development Programme –	
3	Target Group Programmes	Programmes	a) Swarnajayanti Gram Swarajgar Yojana . b) National Rural Livelihoods Mission c) Micro Finance d) Self-help Groups for Women Empowerment:	12
4	Case Studies:	Case Studies:	a) Study of a successful case: Hivare Bazar, b) Study of successful case: Mendhalekha, c) study of people's movement: Farmers' agitation against New laws, Chipco movement, d) Study of your own village, to highlight issues and remedial measures of Rural area development.	12

**Reference Books**

1. Vasant Desai: Rural Development in India, Himalaya Publishing House, Mumbai, 2012.
2. Singh, R.B. (1985): *Geography of Rural Development*. New Delhi, India: Inter India.
3. Mukherjee, Neela. (1993). *Participatory Rural Appraisal: Methodology and Application*. Delhi, India: Concept Pubs. Co.
4. Rural Development Satya Sundaram , Himalaya publication House Mumbai
5. Indian economy R. D. Sudharam Chand and co. Ramnagar New Delhi.
6. Commercial Geography Dr. B.S.Nagi. Kedarnath Ramnath publications Meerut,

7. Human Resource Development T.Y. Rao SAGE Publication New Delhi.
8. Katar Singh -Rural Development –Principles, Policies and Management.
9. Agricultural Geography (second edition) Jasbir singh and S.S. Dhillon Tata mc crow publication
10. Interation Technology and Globalization S.K. Bansal APII Publishing Corp. Ansari Rd. Dayraganj Delhi.
11. Economic Geography. Sadha –Khan 8. Ruural Energy criai S. Giriappa Himalaya Publishing House Mumbai
12. Anand, Subhash. (2013). *Dynamics of Rural Development*. Delhi, India: Research India Press.
13. Mukundan,N.-Rural Development and Poverty eradication in India.
14. Krishnamurthy, J. (2000). *Rural Development - Problems and Prospects*. Jaipur, India: Rawat Publs.
15. Ramachandran, H., and Guimaraes, J.P.C. (1991). *Integrated Rural Development in Asia–Leaning fromRecent Experience*. New Delhi, India: Concept Publishing.
16. Palione, M. (1984). *Rural Geography*. London, UK: Harper and Row.
17. Dutt and Sundaram- Indian Economy, S.Chand Publications, New Delhi, 2013-07-02.
18. Mishra,S.K. and PuriV.K. - Economics of Development and Planning, Himalaya Publishing House, Mumbai, 2012.
19. K Vijayakumar Empowerment of weaker section future planning and strategies for Rural Development in India.
20. Shankar Chatterjee- Implementation of Rural Development.
21. Gilg A. W., 1985: An Introduction to Rural Geography, Edwin Arnold, London.
22. Misra R. P. and Sundaram, K. V. (eds.), 1979: Rural Area Development: Perspectives

## Semester V

### Practical Geography- I (Techniques of Spatial Analysis) DSE- 2 C (No. of Credits: 04)

**Workload: Six Periods per week per batch consisting of 12 Students; however the last batch needs to have more than six students.**

**(Examination for the course will be conducted at the end of the semester)**

#### Objective:

1. To introduce the basic concepts and techniques of Geographical Analysis.
2. To introduce the students with SOI Toposheets and acquire the Knowledge of Toposheet interpretation.
3. To introduce the students with Weather Maps and acquire the Knowledge of its interpretation.
4. To introduce the students with Aerial Photographs and Satellite Images and acquire knowledge to interpret it .
5. To acquaint students with the spatial and structural characteristics of Practical Geography.
6. To explain the elementary and essential principles on field of practical work.



**Note:**

1. Students must check the practicals regularly and journal should be certified by practical in-charge and Head of the Department before examination.
2. Use of Map stencils, Log tables, Calculator, Computer, Statistical Tables is allowed at the time of examination.
3. Students without a certified journal should not be allowed for the practical examination.
4. Each of the practical batches needs a separate question paper.
5. Internal and External examiner should set jointly the question paper for each batch.

Sr. No.	Topic	Sub Topic & learning Points	No. of Lectures
1.	Introduction of S.O.I. Toposheet & Relief Representation	a. Introduction of Survey of India Toposheets: Marginal Information, Conventional signs and symbols and Colours in S.O.I. Toposheets. b. Types of toposheets / Indexing of toposheets c. Methods of Relief Representation i) Qualitative:- Hachures, Hill shading, Layer Tint. ii) Quantitative:- Contours, Form lines, Bench Marks, Spot Heights, Triangulation Mark, Relative Height (r)	15
2.	Interpretation of S.O.I. Toposheets and Data generation	a. Reading of SOI toposheets from Plain, plateau and Mountainous region. (Minimum one Toposheet per region) b. One day field Excursion for orientation of toposheets, observation and Identification of Geographical Features and Preparation of a Brief Report	15
3.	Introduction & Interpretation Weather Maps	a. Introduction to Weather Maps b. Symbols in Daily Weather Report used by Indian Meteorological Department (IMD) c. Isobaric Pattern d. Reading of Weather Map from i) Summer ii) Monsoon iii) Winter Season (Minimum one weather map from each season)	15
4.	Introduction & Application of GIS & Remote Sensing Techniques	a. Definition and Components of GIS b. GIS Data Types (spatial and non-spatial), Raster and Vector data. c. Introduction of Aerial Photographs & Satellite Images. d. Use of Computer open source Software for GIS & RS techniques in Geography.	15

**Reference Books:**

1. Ahirrao, D. Y. and Karanjkehe, E.K., 2002. Pratyakshik Bhugol, Sudarshan Publication, Nashik.
2. Buoygoot, J. 1964., An Introduction to Map work and Practical Geography, University Tutorial, London.
3. Burrough, P. A., and McDonnell, R. A., 2000. Principles of Geographical Information System, Oxford University Press.
4. Curran, P. 1989., Principles of Remote Sensing, Logman, London.
5. Dickinson, G. C., 1979, Maps and Air Photographs, Arnold Publisher, New Delhi.
6. Dr. P. G. Saptrashi and Dr. S. R. Jog., 1991, Statistical Methods (Marathi)
7. Ebdon, D., 1977. Statistics in Geography: A Practical Approach, Basil Blackwell, Oxford.
8. Kumbhar, A., 2000. Pratyakshik Bhugol, Sumeru Publications, Mumbai.
9. Lillesand, T. M. and Kiefer, R. W., 2002. Remote Sensing and Image Interpretation, John Wiley and Sons, New Delhi.
10. Lutgens, F. K. and Tarbuck, E.J., 2007. The Atmosphere. Prentice hall, Englewood Cliffs, New Jersey, USA.
11. Monkhouse, F. J. and Wilkinson, H. R. 1971. Maps and Diagrams. Methuen and Co. Ltd. London, UK.
12. Ramamurthy, K., 2006. Map Interpretation, Rex Printers, Madras.
13. Siddhartha, K., 2006. Geography Through Maps, Kisalaya Publication, Pvt. Ltd, New Delhi.
14. Singh L. R. and Singh R., 1973. Map Work and Practical Geography, Central Book Depot, Allahabad.
15. Singh R. L. and Dutt, P.K., 1968. Elements of Practical Geography, Students Friends, Allahabad.
16. Singh R. L., 2005. Elements of Practical Geography. Kalyani Publishers, New Delhi.
17. Singh, G., 2005. Map Work and Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi.
18. Strahler, A. A. and Strahler, A. N., 2002. Physical Geography. Science and Systems of the Human Environment, John Wiley & Sons, INC.

19. Strahler, A. H. and Strahler, A. N., 1992. Modern Physical Geography. John. Wiley & Sons, INC.

## Semester VI

### Practical Geography- II (Techniques of Spatial Analysis, Surveying and Excursion /Village/ Project Report) DSE- 2 D

(No. of Credits: 04)

**Workload: Six Periods per week per batch consisting of 12 Students; however the last batch needs to have more than six students.**

(Examination for the course will be conducted at the end of the semester)

Sr. No.	Topic	Sub Topic & learning Points	No. of Lectures
1.	Geographical Data & its Basic Analysis	a. Introduction and Types of Geographical Data: i) Spatial and Temporal data ii) Discrete and Continuous series iii) Grouped and Ungrouped data b. Basic Analysis : i) Tally marks and frequency table ii) Frequency distribution (histogram & polygon) iii) Cumulative Frequency & Ogive curve	15
2.	Calculation of Central Tendency, & Dispersion	a. Meaning and description of central tendencies- Mean, Mode, Median b. Calculation of Mean, Mode, Median for ungrouped and grouped data (two examples each) c. Measures of Dispersion: Mean Deviation & Standard Deviation.	15
3.	Testing and Application of Hypothesis	a. Meaning, Definition of Hypothesis & Types of Hypothesis i) Null & Alternative hypothesis ii) Level of significance iii) Degree of freedom b. Concept of Correlation and regression c. Concept of bivariate correlation & Regression d. Meaning of coefficient of correlation e. Parametric & Non parametric tests: i) Chi-square test f. Calculation of Spearman Rank order (Min. two examples for each test)	15

4.	Field Excursion / Village Survey / Project Report	<p>a. One Short tour of two days duration and preparation of tour report <b>OR</b></p> <p>b. One long Tour of more than Five days duration anywhere in the country and preparation of tour report <b>OR</b></p> <p>c. Village / City / Area Survey and preparation of report. <b>OR</b></p> <p>d. Project Report based on Population Survey, Agricultural Survey, Settlement Survey, Resource Survey, Health Survey, Environmental Issues and Industrial Visit.</p> <p>(Project Report must be content of – Introduction – Aims and Objectives – Methodology - Review of Literature - Data collection –Data Analysis – Interpretation – Finding and Suggestions - Bibliography )</p>	15
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**Reference Books:**

1. Acevedo, M. F., 2012. Data Analysis and Statistics for Geography, Environmental Science and Engineering, CRC Press.
2. Ahirrao, D. Y. and Karanjkehele, E.K., 2002. Pratyakshik Bhugol, Sudarshan Publication, Nashik.
3. Creswell J., 1994. Research Design: Qualitative and Quantitative Approaches, Sage Publications.
4. Dikshit, R. D., 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
5. Hammond, R. and McCullagh, P. S., 1977. Quantitative Techniques in Geography: An Introduction, Clarendon Press, Oxford.
6. Harris, R., Jarvis, C. 2011. Statistics for Geography and Environmental Science, Prentice Hall.
7. Jog. S. R. and Saptarshi, P. G., 1980. Sankhikhi Bhugol, Narendra Publication, Pune.
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9. Kumbhar, A., 2000. Pratyakshik Bhugol, Sumeru Publications, Mumbai.
10. Mc Grew Jr., J. C., Lembo Jr., A. J., Monroe, C. B. 2014. An Introduction to Statistical Problem solving in Geography, 3<sup>rd</sup> ed, Waveland Press.

11. Pal. S. K., 1998. Statistical Methods for Geoscientists: Techniques and Applications, Concept Pub.co.
12. Robinson, A., 1998. "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A basic guide for students of the Social & Behavioral Sciences, eds. By F. Pryczak & R. Bruce Pryczak, Publishing, Los Angeles.
13. Rogerson, P. A., 2015. Statistical Methods for Geography: A Student's Guide, 4<sup>th</sup> ed, Sage.
14. Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3<sup>rd</sup> ed, Orient Blackswan.
15. Singh R. L. and Dutt, P.K., 1968. Elements of Practical Geography, Students Friends, Allahabad.
16. Singh R. L., 2005. Elements of Practical Geography. Kalyani Pubishers, New Delhi.
17. Stoddard, R. H., 1982. Field Techniques and Research Methods in Geography, Kendall/Hunt.
18. Wokcatt, H. 1995. The Art of Fieldwork, Alta Mira Press, Walnut Creek, CA.
19. डॉ. प्रवीण सप्तर्षी, सांख्यिकी भूगोल , नीराली प्रकाशन, पुणे.

### Semester V

(Value/skill based course)	V	SEC 2 C	Remaining

### Semester VI

(Value/skill based course)	VI	SEC 2 D	Remaining