



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

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

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

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2020-2021**

## Choice Based Credit System Syllabus

To be implemented from Academic Year 2020-2021

## S. Y. B. A. GEOGRAPHY

Paper Code	Semester	Paper	Subject
Gg: 210(A)	III	G2	Environmental Geography I OR Economic Geography -I
Gg: 220(A)	III	S1	Geography of Maharashtra - I OR Population Geography – I
Gg: 201(A)	III	S2	Practical Geography – I (Scale and Map Projections)
Gg: 210(B)	IV	G2	Environmental Geography II OR Economic Geography -II
Gg: 220(B)	IV	S1	Geography of Maharashtra – II OR Population Geography – II
Gg: 201(B)	IV	S2	Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)

## Equivalence of Previous syllabus along with new syllabus:

Paper	Old Course (2013 Annual Pattern)	New Course (2019 Semester Pattern)
G2	Gg-210 Elements of Climatology and Oceanography OR Gg-210 Geography of Disaster Management	Gg: 210(A)Environmental Geography I OR Gg: 210(A)Economic Geography -I
G2		Gg: 210(B)Environmental Geography II OR Gg: 210(B)Economic Geography -II
S1	Gg-220 Economic Geography OR Gg-220 Tourism Geography	Gg: 220(A)Geography of Maharashtra - I OR Gg: 220(A) Population Geography – I
S1		Gg: 220(B) Geography of Maharashtra – II OR Gg: 220(B) Population Geography – II
S2	Gg-201 Fundamentals of Geographical Analysis	Gg: 201(A)Practical Geography – I (Scale and Map Projections)
S2		Gg: 201(B)Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)

**S.Y.B.A. Geography (G2) Syllabus for Semester III****Name of Subject: Environmental Geography- I, Subject Code: Gg.210 (A)****Objectives:**

1. To create the awareness about dynamic environment among the student.
2. To acquaint the students with fundamental concepts of environment geography for development in different areas.
3. The students should be able to integrate various factors of economic development and dynamic aspect of economic geography.
4. To make aware the students about the problems of environment, their utilization and conservation in the view of sustainable development

<b>Sr. No.</b>	<b>Topic</b>	<b>Sub Topics</b>	<b>Teaching Hours</b>	<b>Total Credits</b>
1	Introduction to Environmental Geography	<ol style="list-style-type: none"> <li>1. Definition, Nature and scope of Environmental Geography.</li> <li>2. Approaches of environmental Geography</li> <li>3. Importance of Environmental Geography</li> <li>4. Types of Environment</li> </ol>	12	03
2	Ecosystem	<ol style="list-style-type: none"> <li>1. Meaning, concept and definition of ecosystem.</li> <li>2. Structure ( Biotic and Abiotic factors)and food chain, Tropic Level, food web, energy flow</li> <li>3. Types of ecosystem               <ol style="list-style-type: none"> <li>a) Equatorial Forest and</li> <li>b) Pond Ecosystem</li> </ol> </li> </ol>	12	
3	Biodiversity and its conservation	<ol style="list-style-type: none"> <li>1. Concept of biodiversity</li> <li>2. Economic potential of biodiversity</li> <li>3. Loss of biodiversity and hotspots in India</li> <li>4. Conservation of biodiversity</li> </ol>	12	
4	Environmental Pollution	<ol style="list-style-type: none"> <li>1. Concept of Pollution</li> <li>2. Air pollution-Causes, effects and control measures</li> <li>3. Water pollution-Causes, effects and control measures</li> <li>4. Soil pollution-Causes, effects and control measures</li> </ol>	12	

**Reference Book:**

1. Saxena, 2007, Environmental Geography, Rawat Publications, Jaipur
2. Miller G.T., 2004, Environmental Science Working with the Earth, Thomson Books Cole, Singapore
3. Saxena H.M., 2004, Environmental Geography, Rawat Publications, Jaipur
4. Odum E.P. et al. 2005, Fundamentals of Ecology, Cengage Learning, India
5. Sharma P.D. 2015, Ecology and Environment, Rastogi Publications, Meerut
6. Kormondy, Edward J, 2012, Concept of Ecology, PHI Learning Pvt.Ltd, New Delhi
7. Singh R.B.(Eds) 2009, Biogeography and Biodiversity, Rawat Publications, Jaipur
8. Singh S, Prayag, 1997, Environment Geography, Pustak Bhawan, Allahabad
9. Chandana R.C. 2002, Environmental Geography, Kalyani Publication, Ludhiana
10. Goudie A, 2001, The Nature of The Environment, Blackwell, Oxford
11. Gholap T. N., 2000, Environment Science, Nishikant Publications, Pune. (Marathi)
12. Choudhar A.H., & et. al., 2014, Disaster Management, Atharv Publication, Pune. (Marathi)
13. Musmade A. H., More J. C. 2014, Geography of Disaster Management, Diamond Publication, Pune. (Marathi)
14. Saptarshi P. G., More J. C., Ugale V. R., 2009, Geography and Natural Hazards, Diamond Publishing, Pune. (Marathi)

**S.Y.B.A. Geography (G2) Syllabus for Semester IV****Name of Subject: Environmental Geography- II, Subject Code: Gg.210 (B)****Objectives:**

1. To create awareness about dynamic environment among the students.
2. To acquaint students with the fundamental concepts of Environmental Geography.
3. To acquaint students about the past, presents and future utility and potentials of natural resources.
4. To make aware students about the problems of environment, its utilization and conservation in the view of sustainable development.

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Environmental Disaster	1. Meaning and concepts of environmental disaster 2. Classification of Disaster 3. Natural Disaster a) Earthquake b) Flood 4. Biological Disaster a) Swine flu b) Novel Corona (COVID-19)	12	03
2	Environmental Problems	1. Global Warming and climate change 2. Ozone Depletion 3. Acid rain 4. Over use of chemical fertilizers, pesticides and insecticides	12	
3	Environmental Planning and Management	1. Need of Planning and Management 2. Micro, macro and meso level Planning and Management with reference to India 3. Environmental impact assessment	12	
4	Environmental Policies	1. Introduction of environmental policies 2. Environmental education in India 3. Kyoto Protocol	12	

**Reference Book:**

1. Saxena, 2007, Environmental Geography, Rawat Publications, Jaipur
2. Miller G.T., 2004, Environmental Science Working with the Earth, Thomson Books Cole, Singapore
3. Saxena H.M., 2004, Environmental Geography, Rawat Publications, Jaipur
4. Odum E.P. et al. 2005, Fundamentals of Ecology, Cengage Learning, India
5. Sharma P.D. 2015, Ecology and Environment, Rastogi Publications, Meerut
6. Kormondy, Edward J, 2012, Concept of Ecology, PHI Learning Pvt. Ltd, New Delhi
7. Singh R.B.(Eds) 2009, Biogeography and Biodiversity, Rawat Publications, Jaipur
8. Singh S, Prayag, 1997, Environment Geography, Pustak Bhawan, Allahabad
9. Chandana R.C. 2002, Environmental Geography, Kalyani Publication, Ludhiana
10. Goudie A, 2001, The Nature of The Environment, Blackwell ,Oxford
11. Gholap T. N., 2000, Environment Science, Nishikant Publications, Pune. (Marathi)
12. Choudhar A.H., & et. al., 2014, Disaster Management, Atharv Publication, Pune. (Marathi)
13. Musmade A. H., More J. C. 2014, Geography of Disaster Management, Diamond Publication, Pune. (Marathi)
14. Saptarshi P. G., More J. C., Ugale V. R., 2009, Geography and Natural Hazards, Diamond Publishing, Pune. (Marathi)

**S.Y.B.A. Geography (G2) Syllabus for Semester III****Name of Subject: Economic Geography- I, Subject Code: Gg.210 (A)****Objectives:**

1. To introduce students to the basic principles and concepts of economic geography
2. To acquaint students with the applications to economic geography for development in different areas
3. The students should be able to integrate various factors of economic development and dynamic aspect of economic geography.

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Introduction to Economic Geography	<ol style="list-style-type: none"> <li>1. Definition, nature and scope of economic geography.</li> <li>2. Approaches of the study of economic geography</li> <li>3. Need and significance of economic geography</li> <li>4. Economic geography and its relation with social sciences</li> </ol>	12	03
2	Economic Activity	<ol style="list-style-type: none"> <li>1. Introduction and concept of economic activity</li> <li>2. Primary activity</li> <li>3. Secondary activity</li> <li>4. Tertiary activity</li> </ol>	12	
3	Concept and classification of resources	<ol style="list-style-type: none"> <li>1. Concept of resources</li> <li>2. Renewable Resources               <ol style="list-style-type: none"> <li>i. Hydro electricity</li> <li>ii. Solar energy</li> <li>iii. Wind energy</li> </ol> </li> <li>3. Non-renewable Resources               <ol style="list-style-type: none"> <li>i. Coal,</li> <li>ii. Iron ore</li> <li>iii. Mineral oil</li> </ol> </li> <li>4. Conservation of resources</li> </ol>	12	
4	Agriculture	<ol style="list-style-type: none"> <li>1. Role of Agriculture in Indian economy</li> <li>2. Factors influencing agriculture in India               <ol style="list-style-type: none"> <li>a) Physical</li> <li>b) Socio-economic</li> <li>c) Political and cultural</li> </ol> </li> <li>3. Agro-based industries in India               <ol style="list-style-type: none"> <li>a) Cotton industry</li> <li>b) Sugar industry</li> </ol> </li> <li>4. Agro –Tourism</li> </ol>	12	

**Reference Books :**

1. Gautam A., 2010, Advance Economic Geography, Sharda Pustak Bhavan, Allahabad
2. Chauhan R. N., 2007, Basic Principles of Economic Geography, ABD Publishers, Jaipur
3. Padey P. N., Economic Geography, Nirali Publication ,Pune
4. Sadhukhan S. K., 1994, Economic Geography An Appraisal of Resources, S Chand & Campany Ltd ,New Delhi
5. Roy P., Mukherjee S., 1993, Economic Geography: Resource Appraisal of resources- New Central Book Agency, Calcutta
6. Mannur H. G., 2008, International Economics, Vikas Publishing House PvtLtd,Noida
7. Siddharth K., 2003, Economic Geography, Theories, Processes &Patterns, Kisalaya Publications Pvt, Ltd, Noida
8. Husain M., 2008, Geography of India, Tata McGraw Hill, New Delhi
9. Bhat L. S., 1973, Regional Planning in India, Statistical Publishing Society, Kolkata
10. Desai V,1991, Fundamentals of Rural Development, Rawat Publications, NewDelhi
11. Paranje, Hupte, Karmarkar, 1974, Economic & Commercial Geography, Nirali Publication, Pune.
12. More J. C., 2014, Geography & Agriculture For MPSC Examination, Atharv Publication, Pune
13. Pagar S.D., Thorat A. M., More J. C., 2015, Agriculture Geography, Atharav Publication, Pune.



**S.Y.B.A. Geography (G2) Syllabus for Semester IV****Name of Subject: Economic Geography- II, Subject Code: Gg.210 (B)****Objectives:**

1. To acquaint students with the basic principles and concepts of economic geography
2. To acquaint the students with the applications to economic geography for development in different areas.
3. The main aims are to integrate the various factors of economic development and to acquaint the students with this dynamic aspect of economic geography.

Sr.No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Trade and Transport	1. Modes of Transportation and their cost effectiveness Significance of a) Road b) Rail c) Air d) Water e) Pipeline 2. Importance of transportation for economic development 3. Types of Trade a) National b) International 4. International trades in India	12	03
2	Industries	1. Factors influencing of industries. 2. Weber's theory of industrial location 3. Major industrial regions in India 4. a) Iron and steel industry in India b) Sugar Industry in Maharashtra	12	
3	Regional Development	1. Concept of regional planning and their importance 2. Objectives of regional planning 3. Regional and sectoral imbalance in India	12	
4	Rural Development in India	1. Concept of rural development 2. Index of rural development 3. Various schemes of government for rural development a) IRD Programme b) DPAD Programme	12	

**Reference Books :**

1. Gautam A., 2010, Advance Economic Geography, Sharda Pustak Bhavan, Allahabad
2. Chauhan R. N., 2007, Basic Principles of Economic Geography, ABD Publishers, Jaipur
3. Padey P. N., Economic Geography, Nirali Publication ,Pune
4. Sadhukhan S. K., 1994, Economic Geography An Appraisal of Resources, S Chand &Company Ltd ,New Delhi
5. Roy P., Mukherjee S., 1993, Economic Geography: Resource Appraisal of resources- New Central Book Agency, Calcutta
6. Mannur H. G., 2008, International Economics, Vikas Publishing House Pvt Ltd, Noida
7. Siddharth K., 2003, Economic Geography, Theories, Processes & Patterns, Kisalaya Publications Pvt, Ltd, Noida
8. Husain M., 2008, Geography of India, Tata McGraw Hill, New Delhi
9. Bhat L. S., 1973, Regional Planning in India, Statistical Publishing Society, Kolkata
10. Desai V,1991, Fundamentals of Rural Development, Rawat Publications, New Delhi
11. Paranje, Hupte, Karmarkar, 1974, Economic & Commercial Geography, Nirali Publication, Pune.
12. More J. C., 2014, Geography & Agriculture For MPSC Examination, Atharv Publication, Pune
13. Pagar S.D., Thorat A. M., More J. C., 2015, Agriculture Geography, Atharav Publication, Pune.

**S.Y.B.A. Geography (S1) Syllabus for Semester III****Name of Subject: Population Geography, Subject Code: Gg.220 (A)****Objectives:**

1. To understand the history of population.
2. To introduce the basic concepts in Population Geography.
3. To understand the types of Population data.

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Introduction	1. Definition, Nature and Scope, 2. Contextual significance of Population Geography, 3. Relation between Population Geography and other social Sciences.	12	03
2	Population Data & Presentation	1. Census of India 2. National Sample Survey, Sample Registration Survey, NFHS, DLHS, 3. Presentation of Population Data – Maps, Graphical Presentation, Computer Application	12	
3	Population Growth and Demographic Attributes	1. Factors affecting Growth of Population 2. Fertility, Mortality - (Concept, Measurement) 3. Migration - Concept, Causes, Types	12	
4	Composition of Population	1. Age-Sex pyramid, Age Structure 2. Occupational Structure, Dependency Ratio 3. Longevity, Life Expectancy. (with Reference to India)	12	

**Reference Books:**

1. Barrett H. R., 1995, Population Geography, Oliver and Boyd Publication,
2. Bhende A. and Kanitkar T., 2000, Principles of Population Studies, Himalaya Publishing House.
3. Chandna R. C. and Sidhu M. S., 1980, An Introduction to Population Geography, Kalyani Publishers.
4. Clarke J. I., 1965, Population Geography, Pergamon Press, Oxford.
5. Jones, H. R., 2000, Population Geography, 3rd ed., Paul Chapman, London.
6. Lutz W., Warren C. S. and Scherbov S., 2004, The End of the World Population Growth in the 21st Century, Earth scan
7. Newbold K. B., 2009, Population Geography Tools and Issues, Rowman and Littlefield Publishers.
8. Pacione M., 1986, Population Geography-Progress and Prospect, Taylor and Francis.
9. Wilson M. G. A., 1968, Population Geography, Nelson Publishers.
10. Panda B P , 1988, Population Geography, GranthAcademy, Bhopal (Hindi)
11. Maurya S D, 2009, Population Geography, ShardaPutakBhawan, Allahabad (Hindi)
12. Chandna, R C, 2006, Population Geography, Kalyani Publishers, Delhi. (Hindi)
13. Sawant, Athavale, Musmade, Population Geography, Mehta Publication, Pune. (Marathi)
14. More J. C., 2014, Geography & Agriculture For MPSC Examination, Atharv Publication, Pune (Marathi)
15. Musmade A.H., Sonawane A.E., More J.C., 2015, Population & Settlement Geography, Diamond Publication Pune. (Marathi)

**S.Y.B.A. Geography (S1), Syllabus for Semester IV****Name of Subject: Population Geography, Subject Code: Gg.220 (B)****Objectives:**

1. To introduce students to the Population Policy of India and China.
2. To understand the Health indicator in India.
3. To acquaint students with the concept of urbanization in population geography.
4. To understand population theories.

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Concept and theories of Population	1. Population and space: over Population, Optimum Population, UnderPopulation 2. Malthusian Theory 3. Marxian Theory	12	03
2	Problems of Population and Population Polices	1. Population Problems in India. 2. Population Problems in developed countries 3. Population Policies in India and China	12	
3	Population as a Resources Contemporary Issues	1. Health Indicator in India 2. Population as Social Capital 3. Human Development Index.	12	
4	Urbanization	1. Concept of urbanization 2. History of urbanization in India, Trends of World urbanization. 3. Problems of Urbanization in India	12	

**Reference Books:**

1. Barrett H. R., 1995, Population Geography, Oliver and Boyd Publication,
2. Bhende A. and Kanitkar T., 2000, Principles of Population Studies, Himalaya Publishing House.

3. Chandna R. C. and Sidhu M. S., 1980, An Introduction to Population Geography, Kalyani Publishers.
4. Clarke J. I., 1965, Population Geography, Pergamon Press, Oxford.
5. Jones, H. R., 2000, Population Geography, 3rd ed., Paul Chapman, London.
6. Lutz W., Warren C. S. and Scherbov S., 2004, The End of the World Population Growth in the 21st Century, Earth scan
7. New bold K. B., 2009, Population Geography Tools and Issues, Rowman and Littlefield Publishers.
8. Pacione M., 1986, Population Geography-Progress and Prospect, Taylor and Francis.
9. Wilson M. G. A., 1968, Population Geography, Nelson Publishers.
10. Panda B P , 1988, Population Geography, Granth Academy, Bhopal (Hindi)
11. Maurya S D, 2009, Population Geography, Sharda Putak Bhawan, Allahabad (Hindi)
12. Chandna, R C, 2006, Population Geography, Kalyani Publishers, Delhi. (Hindi)
13. Sawant, Athavale, Musmade, Population Geography, Mehta Pubication, Pune. (Marathi)
14. More J. C., 2014, Geography & Agriculture For MPSC Examination, Atharv Publication, Pune (Marathi)
15. Musmade A.H., Sonawane A.E., More J.C., 2015, Population & Settlement Geography, Diamond Publication Pune. (Marathi)

**S.Y.B.A. Geography (S1), Syllabus for Semester III****Name of Subject: Geography of Maharashtra, Subject Code: Gg.220 (A)****Objectives:**

1. To acquaint students with Geography of our State.
2. To make students aware of the magnitude of problems and prospectus at state level.
3. To help students understand the inter relationship between the subject and the society.
4. To help students understand the recent trends in regional studies

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Administrative Set up of Maharashtra	<ol style="list-style-type: none"> <li>1. Historical and Political Background of the state</li> <li>2. Geographical location of State</li> <li>3. Adjoining States</li> <li>4. Administrative Divisions</li> </ol>	12	03
2	Physical settings	<ol style="list-style-type: none"> <li>1. Geological Structure of Maharashtra.</li> <li>2. Physical Structure (Mountain, plateau, Plains)</li> <li>3. Drainage Pattern (East and West flowing rivers)</li> <li>4. Major Soil types and Distribution.</li> </ol>	12	
3	Climate	<ol style="list-style-type: none"> <li>1. Climatic Regions of Maharashtra</li> <li>2. Distribution of Rainfall</li> <li>3. Draught prone areas- Problems and Management</li> <li>4. Flood areas - Problems and Management</li> </ol>	12	
4	Recourses	<ol style="list-style-type: none"> <li>1. Water</li> <li>2. Forest</li> <li>3. Mineral Power Resources (hydro, Thermal, Atomic)</li> </ol>	12	

**Reference Book:**

1. Dikshit K.R ., Maharashtra in Maps,
2. Deshpande C. D. , Maharashtra
3. Sadhu Arun, Maharashtra, National Book Trust
4. Savadi A. B., Geography of Maharashtra: NiraliPrakashan, Pune.
5. Dastane S., Maharashtra, Ramchandra and company, Pune
6. Sawadi A. B., The Mega State Series : Nirali Publication, Pune.
7. Maharashtra state Agricultural Atlas
8. Karve I., Maharashtra its Land and people,
9. More J. C., 2014, Geography & Agriculture For MPSC Examination, Atharv Publication, Pune (Marathi)



**S.Y.B.A. Geography (S1), Syllabus for Semester IV****Name of Subject: Geography of Maharashtra, Subject Code: Gg.220****(B)Objective :**

1. To make students aware about the Agriculture problems and prospects of Maharashtra.
2. To understand the population distribution and settlement pattern in Maharashtra.
3. To understand the concept of rural development.
4. To understand the prospectus in Tourism activity in Maharashtra and the role of MTDC in industrial development in rural area of Maharashtra

Sr. No.	Topic	Sub Topic & Learning Point	Hours	Credits
1	Agriculture	<ol style="list-style-type: none"> <li>1. Importance of Agriculture in Economy of Maharashtra</li> <li>2. Major Crops - Wheat, Rice, Jawar, Bajra.</li> <li>3. Cash Crops and Horticulture - Cotton, Sugarcane, Pomegranate, Grapes.</li> <li>4. Problems of agriculture in Maharashtra.</li> </ol>	12	03
2	Population and Settlement	<ol style="list-style-type: none"> <li>1. Population distribution of Maharashtra</li> <li>2. Population composition - Sex Ratio, Literacy, Occupational structure, Migration</li> <li>3. Rural,Urban Settlement</li> <li>4. Potential of Major Cities in Maharashtra – Mumbai, Pune, Nagpur</li> </ol>	12	
3	Rural Development of Maharashtra	<ol style="list-style-type: none"> <li>1. Concept of Rural Development</li> <li>2. Parameters of Rural Development</li> <li>3. Schemes For Rural Development</li> <li>4. Case Studies – Hivare Bazar and Ralegan Siddhi (Ahmednagar), Patoda (Aurangabad)</li> </ol>	12	
4	Tourism	<ol style="list-style-type: none"> <li>1. Tourism Potential of Maharashtra</li> <li>2. Growth and development of tourism in Maharashtra</li> <li>3. MTDC</li> <li>4. Agro-Tourism</li> </ol>	12	

**Reference Book:**

1. Dikshit K.R ., Maharashtra in Maps,
2. Deshpande C. D. , Maharashtra
3. Sadhu Arun, Maharashtra, National Book Trust
4. Savadi A. B., Geography of Maharashtra: NiraliPrakashan, Pune.
5. Dastane S., Maharashtra, Ramchandra and company, Pune
6. Sawadi A. B., The Mega State Series : Nirali Publication, Pune.
7. Maharashtra state Agricultural Atlas
8. Karve I., Maharashtra its Land and people,
9. More J. C., 2014, Geography & Agriculture For MPSC Examination, Atharv Publication, Pune (Marathi)

**S.Y.B.A. Geography (S2), Syllabus for Semester III****Name of the Subject: Scale and Map Projection, subject Code: Gg. 201 (A)****Practical Geography-I No. of Credits: 04**

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**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)**

**Objectives of Course:**

1. To introduce the basic concepts in Practical Geography
2. To enable students to use various Scales and Projection Techniques in Geography.
3. To acquaint students with the utility of various Projections in Geographical knowledge.
4. To explain the elementary and essential principles of practical work in Geography.

**Course Outcome:**

After the successful completion of the course, the students will be able to:

1. Develop practical skill and use of map scale and projection.
2. To make students aware of the new techniques, accuracy and skills of map making.

**Note:**

1. Use of Map stencils, Log tables, Calculator, computer, Statistical Tables is allowed at the time of Examination.
2. Students must check the practical's regularly and Journal should be certified by practical in-charge and Head of the Department before the 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.

Sr. No.	Topic	Sub Topic & Learning Point	Hours	Credits
1.	<b>Introduction of Maps</b>	1. Definition of Map 2. Elements of Map 3. Classification of Map: a. On the basis of scale: i) Small scale ii) Large Scale b. On the basis of function: i) Physical ii) Cultural 4. Use of map	<b>03</b>	<b>03</b>
2.	<b>Map Scale</b>	1. Definition of Map Scale. 2. Types of Map Scale a. Verbal Scale b. Numerical Scale c. Graphical Scale 3. Conversion Scale (British and Metric System) a. Verbal scale to Representative fraction b. Representative fraction into Verbal scale 4. Construction of Simple Graphical scale (At least two examples from each)	<b>06</b>	
3.	<b>Basic of map projection</b>	1. Definition and types of map projection 2. Basic Concepts of Projection: Latitude, Longitude, Parallel of latitude, Meridian of longitude, Prime meridian, Equator, Direction 3. Calculation of time basis on meridian and GMT (Calculation of minimum two examples )	<b>04</b>	
4.	<b>Construction, properties and use of map projections</b>	1. Zenithal Projection a. Zenithal Polar Gnomonic Projection 2. Conical Projection a. Conical projection with one standard parallel/Simple conical projection 3. Cylindrical Projection a. Cylindrical equal area projection 4. Mercator projection (At least two examples from each projection)	<b>07</b>	

**Reference Books:**

1. Sharma J. P., 2010, Prayogic Bhugol, Rastogi Publishers, Meerut.
2. Singh R. L. and Singh R. P. B., 1999, Elements of Practical Geography, Kalyani Publishers.
3. Slocum T. A., McMaster R. B. and Kessler F. C., 2008, Thematic Cartography and Geovisualization (3rd Edition), Prentice Hall.
4. Tyner J. A., 2010, Principles of Map Design, The Guilford Press.
5. Sarkar A., 2015, Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd., New Delhi
6. Singh R. L. and Duttta P. K., 2012, Prayogatama Bhugol, Central Book Depot, Allahabad
7. Ahirrao Y., Karanjkehele E. K., 2002, Practical Geography, Sudarshan Publication, Nashik
8. Saptarshi P. G., Jog S. R., Statistical Methods ,
9. Karlekar S. N., 2008, Statistical Methods, Diamond Publication, Pune
10. Kanetkar T. P., Kulkarni S. V., 1986, Surveying and Leveling, Pune Vidyarthi Griha Publication, Pune
11. Kumbhare A., Practical Geography,
12. Saha P., Basu P., 2007, Advanced Practical Geography, Books and Allied (P) Ltd, Kolkata

**S.Y.B.A. Geography (S2), Syllabus for Semester IV**

**Name of the Subject: Cartographic Techniques, Surveying and Excursion  
/ Village / Project Report subject Code: Gg. 201 (B)  
Practical Geography-II No. of Credits: 04**

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**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)**

**Objectives of Course:**

1. To introduce the students to the basic and contemporary concepts in Cartography.
2. To acquaint the students with the utility and applications of various Cartographic Techniques.
3. To introduce the latest concepts regarding the modern cartography in the field of Geography.
4. To explain the elementary and essential principles of practical work in Geography.

**Course Outcome:**

After the successful completion of the course, the students will be able to:

1. Develop practical knowledge and application of cartographical techniques.
2. To make students aware of the new techniques, accuracy and skills of Map Making.

**Note :**

1. Use of Map stencils, Log tables, Calculators, Statistical Tables is allowed at the time of Examination.
2. Journal completion by the students and the certified by practical in-charge and Head of the Department is compulsory.
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.

Sr. No.	Topic	Sub Topic & Learning Point	Hours	Credits
1.	<b>Introduction to Cartography</b>	1. Definition of Cartography 2. Development of cartography a. Traditional b. Modern 3. Use of Cartography	02	03
2.	<b>Cartographic techniques</b>	1. Techniques of representation of data (Use and limitations) a. Simple line graph b. Simple bar Graph c. Pie diagram d. Choropleth Map e. Isopleth Method (Isoheight or Isothermal) f. Flow diagram (At least 01 example of each manually and using computer)	06	
3.	<b>Surveying</b>	1. Definition of Surveying 2. Types of North Direction (True, Magnetic and Grid North) 3. Types of Survey (Any three) a. Plane Table Survey : (Radiation Method and Intersection Method) b. GPS Survey and plotting c. Dumpy level / Auto level survey i) Rise and Fall Method ii) Collimation Method d. Demonstration of Total Station 4. Measurement of land: i) Measurement of survey field ii) Example on measurement of area (Circle, Square, Rectangle, Triangle, Uneven shape) iii) Conversion of area (hector into Acer, Square km into square meter, Square meter to Square feet)	08	
4.	<b>Excursion / village/city survey and report writing</b>	Study tour to places of geographical interest anywhere in the country Or Socio- economic survey of village/city	04	

**Reference Books:**

1. Sharma J. P., 2010, Prayogic Bhugol, Rastogi Publishers, Meerut.
2. Singh R. L. and Singh R. P. B., 1999, Elements of Practical Geography, Kalyani Publishers.
3. Slocum T. A., McMaster R. B. and Kessler F. C., 2008, Thematic Cartography and Geovisualization (3rd Edition), Prentice Hall.
4. Tyner J. A., 2010, Principles of Map Design, The Guilford Press.
5. Sarkar A., 2015, Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd., New Delhi
6. Singh R. L. and Duttta P. K., 2012, Prayogatama Bhugol, Central Book Depot, Allahabad
7. Ahirrao Y., Karanjkehele E. K., 2002, Practical Geography, Sudarshan Publication, Nashik
8. Saptarshi P. G., Jog S. R., Statistical Methods ,
9. Karlekar S. N., 2008, Statistical Methods, Diamond Publication, Pune
10. Kanetkar T. P., Kulkarni S. V., 1986, Surveying and Leveling, Pune Vidyarthi Gruha Publication, Pune
11. Kumbhare A., Practical Geography,
12. Saha P., Basu P., 2007, Advanced Practical Geography, Books and Allied (P) Ltd, Kolkata
13. Advanced Practical Geography: 2007, Saha P., Basu P.,Books and Allied (P) Ltd, Kolkata