



Rayat Shikshan Sanstha's
Chhatrapati Shivaji College, Satara
(Autonomous)

Choice Based Credit System
Department of Geography

B. A. II Syllabus (From 2020-21) / SEM-III Paper-III –
SOIL GEOGRAPHY (GEOO3) (04) (60)

Preamble

Soil Geography is the most important and comparatively neglected branch of Physical Geography that has been introduced to B.A. Part II. In this course, the fundamental as well basic concepts and knowledge of Soil Geography have been included. The present syllabus of this course includes nature, scope, significance of Soil Geography and its relevance to pedology; factors of soil formation, soil formation process, soil erosion, soil degradation and conservation of soil; physical and chemical properties of soils, classification of soils and soil management.

Course Outcomes:

- CO-1. Explain the basic concept in Soil Geography
- CO-2. Categorize soils in different regions
- CO-3. Distinguish the soils on various basis
- CO-4. Formulate the soil map of India
- CO-5. Justify the need of soil management,
- CO-6. Experiment with soil testing process

Expected Skills impartation (Through theory and practical's)

- 1. Reading Comprehension
- 2. Complex Problem Solving
- 3. Judgment and Decision Making
- 4. Quality Control Analysis
- 5. Social Perceptiveness
- 6. Thinking ability

Module I: Introduction To Soil Geography 1.1 Meaning and definition, 1.2 Nature and Scope of Soil Geography 1.2 Relationship of Soil Geography with Pedology. 1.4 Significance of Soil Geography.	15
Module II Formation And Properties of Soils 2.1 Jenny's Factorial Model of Soil Formation: Parent Material, Biotic, Climatic, Relief and Time factor. 2.2 Soil Profile 2.3 Physical Properties of Soils: Morphology, Texture, Structure, Water, Air, Temperature. 2.4 Chemical Properties of Soils : pH, Organic Matter, NPK (Nitrogen, Phosphorous and Potassium)	15
Module III Classification and Distribution of Soils 3.1 Genetic Classification of Soils 3.2 Characteristics and Distribution of Soils in India 3.3 Soil Erosion: Concept, Causes and affecting factors 3.4 Concept of Soil Conservation and Management	15
Module IV: Practical (Theory Only) 4.1 Soil Sampling 4.2 Introduction to Soil testing Laboratory Soil Analysis: Saline and Alkaline 4.3 Sample of soil testing report 4.4 Vermicompost Process	15



Practical work: Case Study / Field Survey / Field Visits / Project

1. Visit to Soil testing lab.
2. Collect information of vermicompost project.
3. Field study: identify different types of soil erosion
4. Information of soil profile in your area

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B. A. II Syllabus (From 2020-21) / SEM-III Paper-IV –
RESOURCE GEOGRAPHY (GEOO4) (04) (60)

PREAMBLE:-

Resource Geography is a major and developing branch of Economic Geography. The world countries are trying to make overall development with blindly utilizing different resources. The growing population exerts its pressure on present resources, which generates various problems in front of countryside. The syllabus of this paper includes Definition, Scope, concept, classification and significance of Resource Geography. It also includes major resources such as water, forest, energy and human resources with its distribution, utilization and problems. Newly evolved concept, sustainable development is studied with said resources. This paper (Resource Geography) will be helpful to the students of B. A. Part-II to think over resources for their and next generations features.

Course Outcomes:

- CO-1. Demonstrate their knowledge of resources
- CO-2. Understand the dynamic interactive relationship between man and resources.
- CO-3. Understanding the distribution, utilization and problems of major resources
- CO-4. Familiarize concept of sustainable resource development
- CO-5. Make assessment related to resources.
- CO-6. Familiarize the students with cartographic techniques.

Expected Skills impartation (Through theory and practical's)

1. Acquiring geographic information
2. Classify resources
3. Organizing geographic information
4. Analyzing resources information

Module I: Introduction to Resource Geography 1.1 Definition and Meaning of Resource Geography 1.2 Nature and scope of Resource Geography 1.3 Approaches to study the Resource Geography 1.4 Importance of Resource Geography	15
Module II: Major Resources 2.1 Resource: Concept and Classification 2.2 Water Resources: Distribution, Utilization and Problems 2.3 Forest Resources: Distribution, Utilization and Problems 2.4 Human Resources: Distribution, Utilization and Problems	15
Module III: Sustainable Resource Development 3.1 Concept of Sustainable Resource Development 3.2 Sustainable Water Resource Development 3.3 Sustainable Forest Resource Development 3.4 Sustainable Human Resource Development	15
Module IV: Practical (Theory Only) 4.1 Divided Circle 4.2 Choropleth Map 4.3 Dot Map 4.4 Water Quality Index	15



Practical work: Case Study / Field Survey / Field Visits / Project

1. Collect the information about natural resources around you
2. Problem and utilization of resources in your area
3. Visit any industry to study the management of human resource
4. Water management: Paani Foundation

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B. A. II Syllabus (From 2020-21) / SEM-III Paper- I –
CARTOGRAPHY (CAR1) (04) (60)

Preamble

Cartography is the most important part of Geography. The present syllabus of this paper includes nature, scope, historical development and importance of cartography, study of maps and their types, map projections, surveying, In the process of development of science and technology, the changing nature of subject will make aware to the students about the modern technologies used in cartography. This will further help to improve the use of cartographic techniques and methods in teaching-learning and research work.

Course Outcomes:

- CO-1. Identify information of earth's surface
- CO-2. Interpret S.O.I. topo maps and I.M.D. weather maps
- CO-3. Familiarize with the concept of surveying and different cartographic techniques
- CO-4. Handle the modern technology like computer, GIS, GPS etc.
- CO-5. Classify map, concept of projection and concept of scale

Expected Skills impartation (Through theory and practical's)

1. Map reading skills
2. Problem-solving skill
3. Statistical Skill
4. Analytical ability skills
5. IT literacy.
6. Graphical Skill

Module – I: Introduction to Cartography 1.1 Definition and meaning of Cartography 1.2 Nature and scope of Cartography 1.3 Branches of Cartography 1.4 Significance of Cartography	15
Module – II: Representation of Earth's surface 2.1 The shape and size of the Earth 2.2 Globe and Coordinates system 2.3 The Worlds continents and Oceans – Location and size 2.4 The World time zones and the International date line	15
Module –III: Maps 3.1 Concept and elements of Maps 3.2 Map scale 3.3 Types of Maps 3.4 Use of maps	15
Module – IV Map Projections 4.1 Definition and necessity of Map Projection 4.2 Classification of Map Projection 4.3 Choice of Map Projection 4.4 Properties and uses of Mercator's and Zenithal Polar Equal Area Projection	15



Practical work: Case Study / Field Survey / Field Visits / Project

1. Identifies oceans and continents in the World map
2. Use of Google Earth / Map to find location
3. Find out latitude longitude of your home / farm
4. Collect information about time zone

References:

1. Cromley, R.G.(1992): Digital Cartography, Prentice-Hall, New York.
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B. A. II Syllabus (From 2020-21) / SEM-IV, Paper-V –
OCEANOGRAPHY (GEOO5) (04) (60)

Preamble

Oceanography is the most important and comparatively neglected branch of Physical Geography that has been introduced to B.A. Part II. In this course, the fundamental as well basic concepts and knowledge of oceanography have been included. The present syllabus of this course includes definition nature, scope, history and significance of Oceanography and its relevance to the earth and atmospheric sciences; properties and dynamics of oceanic water, Oceanic currents and their influence and applied oceanography.

Course Outcomes:

- CO-1. Explain the basic concept of oceanography
- CO-2. Illustrate the maps of sea and ocean
- CO-3. Distinguish the various marine movements
- CO-4. Formulate various diagrams related to oceanography
- CO-5. Demonstrate the ocean currents
- CO-6. Write the influencing factors in oceanography

Expected Skills impartation (Through theory and practical's)

1. Map Reading skills
2. Interpersonal communication
3. Critical Thinking ability
4. Problem solving

Module I: Introduction to Oceanography 1.1 Definition, Nature and Scope of Oceanography 1.2 History of Oceanography. 1.3 Relationship of Oceanography with other branches of Earth Sciences 1.4 Significance of Oceanography.	15
Module II: Ocean Bottom Relief and Properties 2.1 Ocean bottom relief 2.2 Oceanic Temperature: Daily and Annual Range 2.3 Factors Affecting on Oceanic Temperature and its distribution 2.4 Salinity of Oceans and Seas.: Meaning and Concept, Affecting Factors ,Salinity of Inland, Seas and Lakes	15
Module III: Ocean water movements 3.1 Ocean water movements 3.2 Tides 3.3 Factors Responsible for Origin of Currents. 3.4 Oceanic Currents: Currents of the Atlantic, Pacific and Indian Oceans.	15
Module IV: Practical Oceanography (Theory Only) 4.1 Hypsographic Curve 4.2 Nautical Chart Symbols and Abbreviations 4.3 Isohalines 4.4 Isotherms	15

Practical work: Case Study / Field Survey / Field Visits / Project



1. Locate coral reefs using Google Earth /Map
2. Prepare map of oceanic currents
3. Prepare diagram / model of ocean bottom relief
4. Prepare salinity map of ocean and sea

REFERENCES

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**B. A. II Syllabus (From 2020-21) / SEM-IV, Paper-VI –
AGRICULTURAL GEOGRAPHY (GEO06) (04) (60)**

PREAMBLE:

Agriculture Geography is a major and developing branch of Economic Geography. The world countries are trying to make overall development with blindly utilizing different resources. The growing population exerts its pressure on agriculture, which generates various problems in front of countryside. The present syllabus of this paper includes definition, Scope, concept, classification and significance of Agriculture Geography, determinants of agriculture, recent trends, land use theories and modern agriculture, agriculture regionalization and problems. It also covers field visits in agriculture.

Course Outcomes:

- CO-1. Conceptualize the agriculture and its determinants
- CO-2. Understand land use theories
- CO-3. Application of modern agricultural systems
- CO-4. Identify agricultural regionalization and agricultural problems
- CO-5. Familiarize the students with field visit to agro-based industries, Dairy farming etc.

Expected Skills impartation (Through theory and practical's)

- 1. Acquiring geographic information
- 2. Evaluating theories
- 3. Adopting suitable techniques for agricultural regionalization

Module I: Introduction to Agricultural Geography 1.1 Definition and Meaning 1.2 Nature, Scope and Significance 1.3 Determinants of Agriculture: Physical and Human 1.4 Recent trends in Agricultural Geography	15
Module II: Land Use theory and Modern Agricultural Systems 2.1 Von Thunen's Theory 2.2 Floriculture 2.3 Horticulture 2.4 Dairy Farming	15
Module III: Agriculture Regionalization and Problems 3.1 Crop Combination 3.2 Crop Diversification 3.3 Agricultural Problems 3.4 Sustainable Agriculture	15
Module IV: Field Work in Agriculture 4.1 Importance of Field Work 4.2 Agro – based Industries 4.3 Dairy Farming 4.4 Poultry Farming	15

Practical work: Case Study / Field Survey / Field Visits / Project

- 1. List out agricultural problems in your area
- 2. Field visit : agro-based industry / dairy farming / poultry farming
- 3. Cropping pattern in your area



4. List of modern agricultural equipment / tools

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B. A. II Syllabus (From 2020-21) / SEM-IV Paper- II –
CARTOGRAPHY (CAR2) (04) (60)

Preamble

Cartography is the important part of Geography. The present syllabus of this paper includes Prismatic compass Survey, equipment's and Procedure, meaning, definition and Objectives of Survey. This will help to understand information about Survey, S.O.I. Topo maps, I.M.D. weather maps and introduction to modern techniques like computer, G.I.S., G.P.S. etc. Cartographic techniques of data representation and introduction to modern techniques like computer, G.I.S., G.P.S. etc. In the process of development of science and technology, the changing nature of subject will make aware to the students about the modern technologies used in cartography. This will further help to introduction to weather maps, Indian daily weather report – signs and symbols. This will further help to improve the use of cartographic techniques and geoinformatics.

Course Outcomes:

- CO-1. Prepare graphs and diagrams
- CO-2. Interpret S.O.I. topo maps and I.M.D. weather maps
- CO-3. Familiarize with the concept of surveying.
- CO-4. Handle the modern technology like computer, GIS, GPS etc.
- CO-5. Apply the knowledge for geoinformatics.

Expected Skills impartation (Through theory and practical's)

1. Map reading skills
2. Problem solving
3. Analytical skills
4. Comprehension skills
5. Surveying skill
6. Cartographic Skill

Module I – Cartographic techniques of data representation 1.1 Graphs – Simple and multiple line graphs and bar graph 1.2 Diagrams – Pie diagram, divided rectangle, star diagram 1.3 Maps – Dot maps, Choropleth maps 1.4 Traffic flow cartogram	15
Module II - Introduction to Topographical maps and Weather maps 2.1 SOI topographical map : features, Indexing, conventional signs and symbols, colours used 2.2 Representation of relief by contours 2.3 Introduction to weather maps 2.4 Indian daily weather report – signs and symbols	15
Module – III Geo-informatics 3.1 Introduction to geo-informatics 3.2 Use of Remote Sensing in cartography	15



3.3 Use of G.I.S. in Cartography	
3.4 Use of G.P.S. in Cartography	
Module – IV Surveying	15
4.1 Meaning, Definition and Objectives of Survey	
4.2 Types of Survey	
4.3 Plane Table Survey – Equipment’s and Procedure	
4.4 Prismatic compass Survey - Equipment’s and Procedure	

Practical work: Case Study / Field Survey / Field Visits / Project

1. Pie diagram for agriculture land use
2. Find SOI indexing number of your town / city / village
3. Conduct GPS survey within college campus
4. Prepare traffic flow diagram / choropleth map / dot map

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B. A. II Syllabus (From 2020-21)

Environmental Studies as a Compulsory Paper for all Undergraduate Courses

Preamble

The need for sustainable development is a key to the future of mankind. Continuing problems of pollution, loss of forest, solid waste disposal, degradation of environment, issues like economic productivity and national security, Global warming, the depletion of ozone layer and loss of biodiversity have made everyone aware of environmental issues. Recognizing this, the Hon'ble Supreme Court directed the UGC to introduce a basic course on environment at every level in college education. Accordingly, the matter was considered by UGC and it was decided that a six months compulsory core module course in environmental studies may be prepared and compulsorily implemented in all the University/Colleges of India.

The United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 and world Summit on Sustainable Development at Johannesburg in 2002 have drawn the attention of people around the globe to the deteriorating condition of our environment. It is clear that no citizen of the earth can afford to be ignorant of environment issues. According to UNESCO, the guiding principles of environmental education should be compulsory, right from the primary up to the postgraduate stage. Environmental education should have an interdisciplinary approach by including physical, chemical, biological as well as socio-cultural aspects of the environment. It should build a bridge between biology and technology. Environmental education should emphasize the importance of sustainable development i.e., economic development without degrading the environment. Environmental education should lay more stress on practical activities and first hand experiences.

Course Outcomes:

- CO-1. Explain the basic concepts in Environmental Studies
- CO-2. Categorize Ecosystems in different regions
- CO-3. Examine Natural Resources and Associated Problems
- CO-4. Motivate people for the conservation of environment
- CO-5. Justify the need of sustainable development,
- CO-6. Field study to a local area to document environmental assets

Expected Skills impartation (Through theory and practical's)

1. Complex Problem Solving
2. Judgment and Decision Making
3. Quality Control Analysis
4. Social Perceptiveness
5. Field work
6. Document environmental assets



<p>Unit 1. Nature of Environmental Studies : (3 lectures) Definition, scope and importance. Multidisciplinary nature of environmental studies Need for public awareness. Concept of sustainability. Sustainable development and it's goals with Indian context.</p>	No Change
<p>Unit 2. Ecosystems : (9 lectures) Concept of an ecosystem. Structure and function of an ecosystem. Producers, consumers and decomposers. Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids. Introduction, types, characteristics features, structure and function of the following ecosystem :- a) Forest ecosystem, b) Grassland ecosystem, c) Desert ecosystem, d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) Degradation of the ecosystems and it's impacts.</p>	No Change
<p>Unit 3. Natural Resources and Associated Problems : (8 lectures) a) Forest resources: Use and over-exploitation, deforestation, dams and their effects on forests and tribal people. b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources: Usage and exploitation. Environmental effects of extracting and using mineral resources. d) Food resources: World food problem, changes caused by agriculture ,effect of modern agriculture, fertilizer-pesticide problems. e) Energy resources: Growing energy needs, renewable and non-renewable energy resources, use of alternate energy sources. Solar energy , Biomass energy, Nuclear energy, f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Consumerism ,ecological foot prints, carbon foot prints, carbon credits. Role of an individuals in conservation of natural resources. Equitable use of resources for sustainable lifestyles.</p>	No Change
<p>Unit 4. Biodiversity and its conservation : (8 lectures) Introduction- Definition: genetic, species and ecosystem diversity. Bio-geographical classification of India. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. India as a mega- diversity nation. Western Ghat as a biodiversity region. Hot-spots of biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man- wildlife conflicts, Endangered and endemic species of India, Conservation of biodiversity: In-situ and Ex- situ conservation of biodiversity. Convention on Biological Diversity.</p>	No Change
<p>Unit 5. Environmental Pollution: (8 lectures) Definition: Causes, effects and control measures of: Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards. Global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Solid waste management control rules. Role of an individual in prevention of pollution.</p>	No Change
<p>Unit 6. Social Issues and the Environment: (9 lectures) Human population growth, impact on environment. Human Health and welfare. Environmental ethics: Role of Indian religious traditions and culture in conservation of the environment. Environmental movements- Chipko Movement, Appiko Movement, Silent Valley. Resettlement and rehabilitation of people; its problems and concerns. Water conservation, rain water harvesting, watershed management. water conservation by Dr. Rajendra Singh, Anna Hazare etc. Disaster management: floods, earthquake, cyclone, tsunami and landslides. Wasteland reclamation. Environmental communication and public awareness, case studies.</p>	No Change



Unit 7. Environmental Protection- Policies and practises : (5 lectures) Environmental Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and control of Pollution) Act Wildlife Protection Act Forest Conservation Act National and International conventions and agreements on environment.	No Change
Unit 8. Field Work : (10 lectures) Visit to a local area to document environmental assets River/forest/grassland/hill/mountain. or Visit to a local polluted site – Urban/Rural/Industrial/Agricultural or Study of common plants, insects, birds. or Study of simple ecosystems - ponds, river, hill slopes, etc. (Field work is equal to 10 lecture hours)	No Change

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