# Lal Bahadur Shastri College of Arts, Science and Commerce, Satara

## Department of Geography

## B.A. Geography

## COURSE OUTCOMES (COs)

As per new NEP Syllabus (Since 2022)

**Title: Physical Geography  Code: DSC B10**

1. Students will be able to understand the basic concepts in Physical Geography.
2. Students understand basic terms used to describe physical processes and landscape forms.
3. Students understand the atmosphere.
4. Students understand the concept of maps and globe.

**Title: Human Geography  Code: DSC B24**

1. Students will be able to understand the basic concepts in Human Geography.
2. Students understand basic terms used to describe population, settlements and agriculture.
3. Students understand the concept of Google Earth and Google Map.

**TITLE: SOIL GEOGRAPHY Code: DSC D19**

**CO1: Relating to Knowledge**

I. By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Soil Geography, as well as its history and pedology.

II. Students will be able to explain the significance of Soil Geography in various fields, including agriculture, ecology, land use planning, and environmental management.

III. Students will have a thorough understanding of the factors that influence soil formation and the physical and chemical properties of soils.

**CO2: Understanding and application**

I. Students will be able to comprehend the Jenny's Factorial Model of Soil Formation and the process of soil formation.

II. Students will be able to apply the knowledge of physical and chemical properties of soils in real-world scenarios, such as soil management and conservation.

III. Students will be able to identify and classify soils based on their genetic characteristics and distribution.

**CO3: Students Skills**

I. By the end of the course, students will have developed practical skills related to soil profile and soil sample tools.

II. Students will have gained practical knowledge of pH and NPK soil analysis.

III. Students will be able to use GIS for studying soil ecology and planning.

IV. Student will start up soil test laboratory.

**CO4: Students Evaluation**

I. Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Soil Geography.

II. Students will be evaluated based on their ability to apply their knowledge of soil properties, classifications, and degradation in practical scenarios.

III. Students will be evaluated on their practical skills related to soil profile, soil sample tools, soil analysis.

## TITLE: RESOURCE GEOGRAPHY Code: DSE 20

**CO1: Relating to Knowledge**

I. By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Resource Geography.

II. Students will be able to explain the significance of Resource Geography in various fields, including agriculture, industry, transportation, and environmental management.

III. Students will have a thorough understanding about the distribution, utilization and problems of worldwide major resources.

**CO2: Understanding and application**

I. Students will be able to comprehend the sustainable resource development

II. Students will be able to apply the knowledge of resource geography in real-world scenarios, such as management and conservation of resources.

III. Students will be able to the classify of resources based on their characteristics and their worldwide distribution.

IV. By the end of the course, Students will have gained knowledge of worldwide resource availability, its problems like scarcity, pollution etc. and will be able to imply measures to overcome these problems.

**CO3: Students Skills**

I. Students will be able to understand for the need of sustainable resource development and skills of resource management.

II. Student will be able to develop the cartographic skills.

**CO4: Students Evaluation**

I. Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Resource Geography.

II. Students will be evaluated based on their ability to apply their knowledge of problems of resource availability, its management and sustainable resource development in practical scenarios.

III. Students will be evaluated on their practical skills related to cartographic skills.

## TITLE: Subject – OCEANOGRAPHY Code: DSE 47

**CO1. Relating to Knowledge:**

I. Students will define the nature and scope of oceanography and its connection to physical sciences.

II. Students will identify branches of oceanography and their areas of focus.

III. Students will describe the factors affecting oceanic temperature, salinity, and distribution.

IV. Students will recognize the types of oceanic currents and their origins in different oceans.

V. Students will understand the sources, classification, and significance of oceanic deposits.

VI. Students will explain the role of the ocean as a source of food and potential future resources.

**CO2. Understanding and Application:**

I. Students will apply knowledge of oceanographic principles to illustrate the maps of ocean and NOAA CDR/ NESDIS sea surface temperature, Annual mean of the sea surface salinity distribution.

II. Students will apply knowledge of causes, effects of ocean pollution and propose solutions.

III. Students will utilize scientific reasoning to understand the relationships between ocean water properties and climate change.

IV. Students will be able to distinguish the various marine movements.

V. Students will apply theoretical knowledge to practical exercises, such as interpreting hypsographic curves, wind roses, isohalines, and isotherms.

**CO3. Student Skills:**

I. Develop critical thinking skills through the analysis and evaluation of oceanographic concepts.

II. Enhance problem-solving abilities by applying oceanographic principles to real-world situations and to demonstrate the ocean currents.

III. Develop effective communication skills through oral and written presentations of oceanographic topics.

**CO4. Student Evaluation:**

I. Assess student knowledge and understanding through quizzes, exams, and assignments.

II. Assess the development of critical thinking and problem-solving skills through case studies.

III. Evaluate the effectiveness of student communication skills through oral examination.

## TITLE: AGRICULTURE GEOGRAPHY Code: DSC D48

**PO1: Relating to Knowledge**

I. By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Agriculture Geography, as well as evolution of agriculture over different periods in history and its impact on society.

II. Students will be able to explain the significance of Agricultural Geography in various fields, including agriculture, ecology, land use planning, and environmental management.

IV. Students will have a thorough understanding of the factors that influence soil formation and the physical and chemical properties of soils.

**PO2: Understanding and application**

I. Students will be able to comprehend the Jenny's Factorial Model of Soil Formation and the process of soil formation.

II. Students will be able to apply the knowledge of physical and chemical properties of soils in real-world scenarios, such as soil management and conservation.

III. Students will be able to identify and classify soils based on their genetic characteristics and distribution.

**PO3: Students Skills**

I. By the end of the course, students will have developed practical skills related to soil profile and soil sample tools.

II. Students will have gained practical knowledge of pH and NPK soil analysis.

III. Students will be able to use GIS for studying soil ecology and planning.

IV. Student will start up soil test laboratory.

**PO4: Students Evaluation**

I. Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Soil Geography.

II. Students will be evaluated based on their ability to apply their knowledge of soil properties, classifications, and degradation in practical scenarios.

III. Students will be evaluated on their practical skills related to soil profile, soil sample tools, soil analysis.

## TITLE: Tourism Geography Code: GE I and GE II

**PO1: Relating to Knowledge:**

I. Students will be demonstrated a comprehensive understanding of the definition of tourism and tourist and knowledge of the nature and scope of tourism geography.

II. Students will be recognized the significance of studying tourism geography in tourism planning, development, and management. Students will be able to identify and describe the components of tourism and their interrelationships.

III. Students will classify tourism based on various criteria and analyze recent trends in the industry.

IV. Understand tourism's historical development, from ancient to contemporary periods.

V. Identify tourism's role in the national economy and the process of planning in India.

VI. Recognized different types of tourism centers in India and Maharashtra.

VII. Summarize the key components of travel documentation.

***PO2:*** **Relating to Understanding and Application:**

I. Students will apply their understanding of tourism geography concepts to analyze the impacts of tourism on economic, socio-cultural, and environmental aspects.

II. Students will comprehend the principles of sustainable development in tourism and apply them to address the challenges and opportunities in the industry.

III. Students will demonstrate an understanding of the use of computer technologies in various aspects of tourism geography, such as e-ticket booking, destination search, promotion, mapping, and distance calculations.

IV. Students will be able to interpret and analyze data collected through field surveys, interviews, questionnaires, and sampling techniques in tourism geography research.

V. The students will be able to evaluate tourism's impact on the economy and apply planning principles.

VI. Analyze characteristics of tourism centers and assess sustainable practices.

***PO3:*** **Relating to Students' Skills:**

I. Students will develop critical thinking skills to evaluate and assess the economic, socio-cultural, and environmental impacts of tourism.

II. Students will enhance their technological skills in using computer applications for various tasks related to tourism geography.

III. Students will develop practical skills in conducting field surveys, interviews, questionnaires, and sampling techniques for data collection in tourism geography research.

IV. Students will improve their communication skills by effectively presenting and conveying

Information related to tourism geography.

V. Develop critical thinking and research skills for analyzing tourism strategies.

VI. Enhance communication and teamwork skills through presentations and group activities.

VII. Improve time management and organizational skills.

***PO4:*** **Relating to Students' Evaluation:**

I. Students will be able to critically evaluate the classification of tourism based on different criteria and analyze the recent trends in the tourism industry.

II. Students will demonstrate their ability to assess the economic, socio-cultural, and environmental impacts of tourism using appropriate evaluation methods.

III. Students will develop the skills to evaluate the effectiveness of computer applications in tourism geography and their contribution to sustainable tourism practices.

IV. Students will apply their knowledge and skills in data collection techniques to evaluate the

Reliability and validity of primary data in tourism geography research.

V. Demonstrate knowledge through assessments.

VI. Apply theoretical knowledge to real-world scenarios and case studies.

VII. Active participation in discussions and presentations.

## As Per old Syllabus

| Class and Duration | Course | Course Outcomes | |
|---|---|---|---|
| B. A. I (Old) (2017-2021) | Paper-I Physical Geography (DSE-I) | CO-1 | Acquaint with physical geography with reference to nature, importance and role climate of earth. |
| | | CO-2 | Acquire geographical values through interior of the earth, atmosphere in human beings life. |
| | | CO-3 | Apply geographical competence in practical usage. |
| | Paper - II Human Geography (DSE-II) | CO-1 | Acquaint with different terms and definitions used in Human Geography. |
| | | CO-2 | Acquire the skill of maintaining environmental balance with reference to Human Geography. |
| | | CO-3 | Apply various issues related to population, agriculture and settlement. |

| | | | |
|---|---|---|---|
| B. A. II (2019-2020 Onward) | Paper III - Soil Geography (DSE- III) | CO-1 | Familiarize with the basic and fundamental concept of Soil geography. |
| | | CO-2 | Understand soil is key resource for the development of any country. |
| | | CO-3 | Aware about process of soil formation and development as well as soil properties. |
| | | CO-4 | Know classification, characteristics and distribution of soil with reference to Maharashtra. |
| | | CO-5 | Acquaint with the concept, need and methods of soil profile, soil analysis and soil management. |
| | Paper IV: Resource Geography (DSE-IV) | CO-1 | Understand the concept and classification of resources. |
| | | CO-2 | Examine the major resources (Water, Forest, Energy and Human) with their distribution, utilization and problems. |

| | | | |
|---|---|---|---|
| | | CO-3 | Study the sustainable resource development. |
| | | CO-4 | Become aware the importance of natural resources and its preservation in the change of climate. |
| | | CO-5 | Apply theoretical knowledge and its use in practical work. |
| | Paper V: Oceanography (DSE- V) | CO-1 | Understand oceanography as the fundamental branch of physical Geography. |
| | | CO-2 | Acquaint the term marine as the key resource for the development of any country. |
| | | CO-3 | Acquire the knowledge about physical and chemical properties of oceans. |
| | | CO-4 | Become familiar with types of ocean currents and currents of Atlantic, Pacific & Indian Ocean. |
| | | CO-5 | Apply Hypsographic Curve, Wind Rose, Isotherm & Isohaline in practical work. |
| | Paper VI: Agriculture Geography (DSE-VI) | CO-1 | Understand the concept and development of |
| | | CO-2 | Examine the role of agricultural determinants towards the changing cropping pattern. |
| | | CO-3 | Study the green revolution. |
| | | CO-4 | Become familiar with the agricultural concepts. |
| | | CO-5 | Apply modern technologies in crop diversity, crop combination, and crop management. |
| B.A. Part-II (2019-2020 Onward) | Concepts In Tourism Geography Generic Elective (IDS) Sem. – III, Course - I | CO-1 | To familiarize the students with aspects of tourism which have a relation with the subject matter of Geography. |
| | | CO-2 | To orient the students to the logistics of tourism industry and the role of tourism in regional development. |
| | | CO-3 | To understand the impact of tourism on physical and human environments. |
| | | CO-4 | To familiarize the students with local, regional and national tourism. |
| | Development And Planning Of Tourism Generic Elective (IDS) Sem. – IV, Course - II Tourism Geography (GE) | CO-1 | To familiarize the students with aspects of tourism which have a relation with the subject matter of Geography |
| | | CO-2 | To orient the students to the logistics of tourism industry and the role of tourism |
| | | CO-3 | To understand the impact of tourism on physical and human environments. |

| | | | |
|---|---|---|---|
| | | CO-4 | To familiarize the students with local, regional and national tourism. |
| B. A. Part – III, (CBCS) (2020-2021 Onward) | Paper No. VII, Evolution of Geographical Thought (DSE-E106) | CO-1 | Student should be able to understand in-depth about the Evolution of Geographical Thought. |
| | | CO-2 | Students should be able to analyse the recent trends in geography. |
| | | CO-3 | Student should be able to make use of various models of paradigms and debates in the geographical studies. |
| | | CO-4 | Understanding of recent trends in geography. |
| | Paper No. VIII, Geography of India.( DSE- E107) | CO-1 | In depth understanding the dimensions and physiography of India. |
| | | CO-2 | The students are fully aware about the climatic seasons in India. |
| | | CO-3 | Detailed knowledge about soils, vegetations, drainage systems in India. |
| | | CO-4 | Understanding an importance of agriculture and industry in Indian |
| | | CO-5 | Detailed knowledge about the economic setup of the India. |
| | Paper No. IX, POPULATION GEOGRAPHY (DSE - E108) | CO-1 | This paper would bring an understanding of population geography along with relevance of demographic data. |
| | | CO-2 | The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population concepts. |
| | | CO-3 | The students would get an understanding of the dynamics of population. |
| | | CO-4 | An understanding of the implications of population composition in different regions of the world. |
| | | CO-5 | An appreciation of the contemporary issues in the field of population studies |
| | Economic | CO-1 | In depth understanding about the economic geography. |

| | | | |
|---|---|---|---|
| | Geography (DSE-E231)Paper No. X, | CO-2 | Detailed knowledge about locational factors of economic activities with |
| | | CO-3 | Detailed understanding of the basics concepts related to manufacturing and major manufacturing industries |
| | | CO-4 | Understanding of the transport and trade. |
| | Urban Geography (DSE- E232) Paper No. XI, | CO-1 | The students were known the importance of urban settlements through urban geography. |
| | | CO-2 | The students understood the types of Urban Settlements, Site and Situations. |
| | | CO-3 | The students were familiar with an idea of relationship between human activities and urban development. |
| | | CO-4 | Detail understanding of students regarding present urban problems and students are capable to handling of present problematic situations in urban areas. |
| | | CO-5 | The students are developed as a good urban planner and environmental conservator. |
| | POLITICAL GEOGRAPHY (DSE – E 233) Paper, No. XII, | CO-1 | The students are fully aware about the Political geography as a fundamental branch of Human Geography. |
| | | CO-2 | The students are familiarized with the basics and fundamental concepts and theories of Political |
| | | CO-3 | The students are aware about resource conflicts and politics of displacement. |
| | Paper No. XIII,<br><br>or Practical Paper - I) Fundamentals of Map Making and Map Interpretation (DSE-E234) | CO-1 | In depth understanding the map, concept of scale and projection. |
| | | CO-2 | Detailed knowledge about the analysis of landforms and its identification. |
| | | CO-3 | The students are deeply aware about basic information to the students about S.O.I. topomaps and I.M.D. weather maps and obtained the skills about map interpretation. |

| | | | |
|---|---|---|---|
| | | CO-4 | The students are deeply familiar with different cartographic techniques and methods used for representation of demographic and physio- socio- economic database. |
| | Paper No. XIV,<br><br>or (Practical Paper - II), Advanced Tools, Techniques & Field Work in Geography (DSE-E235) | CO-1 | In depth understanding the importance of field work and advanced Techniques in Geography. |
| | | CO-2 | The students are trained to implement modern tool and techniques in Geography. |
| | | CO-3 | Detailed knowledge about the use of computer for analysis of Geographical data. |
| | | CO-4 | The students are deeply aware about the basics and trained in instrumental survey. |
| | | CO-5 | The students are deeply familiar with computer, GIS, GPS and Remote Sensing. |

# Lal Bahadur Shastri College of Arts, Science and Commerce, Satara

## Department of Geography

2023-24

## M. A./M.Sc. I Geography

### Course Outcomes(COs)

| Course Name | Course Outcomes |
|---|---|
| MT-101: Geomorphology | 1. Understand the nature and scope of geomorphology and establish the relationship between the tectonism and geomorphology with the knowledge of interior of the Earth.<br>2. Look into the evolution of continents and ocean basins with continental drift theory.<br>3. Know the endogenetic and exogenetic forces controlling landform development with special reference to the denudation processes.<br>4. Verify the impact of dynamic agencies on denudation and their work.<br>5. Understand the cycle of erosion with different views with special reference to hill slope development.<br>6. See the application of geomorphology in the view of anthropogenic and environmental geomorphology. |
| MT-102: Principles of Climatology | 1. Distinguish the weather and climate with an understanding of structure and composition of Atmosphere;<br>2. Understand the variations of weather systems in terms of Stability and Instability of atmosphere;<br>3. Enable the students to understand the vertical and horizontal distribution of atmospheric air;<br>4. Get complete information about Atmospheric Disturbances in terms of cyclones and anti-cyclones;<br>5. Understand the regional and seasonal variations of weather systems in India;<br>6. Know the significance of synoptic Climatology in pollution studies and navigation |

| | |
|---|---|
| MT-103: Economic Geography | 1. Understand the concepts and basis of economic processes<br>2. Get acquainted with theories and models in economic geography<br>3. Get comprehensive knowledge of World energy resources, situation and distribution<br>4. Know about the Nature, scope and Principles of Industrial Geography<br>5. Understand transport and Trade policies of country<br>6. Get detail knowledge of economic power determinants of country and able to analyse the economic development of country. |
| ET-102: Settlement Geography | 1. Know the fundamentals of settlement geography<br>2. Understand the approaches to rural settlement geography; rural services; hierarchy; morphology etc.<br>3. Know the concept and processes of urban settlement studies; urban problem & their planning; concept smart cities, urban agriculture, etc.<br>4. Understand the theories and models of settlement geography to understand the structure of settlements. |
| MP-101: Research Methodology in Geography | 1. Identify the objectives and significance of research in geography;<br>2. Prepare schedule and questionnaire in geography;<br>3. Collect data of physical and human elements;<br>4. Tabulate data, formulate research design and represent data by using most appropriate methods;<br>5. Effective writing, maintaining research ethics and academic integrity;<br>6. Write abstracts, thesis, project report and research papers |
| MP-102: Computer Applications in Geography | 1. Learn the representation of geographic data using various computational methods;<br>2. Develop writing, editing, and presentation skill for representation of geographical information;<br>3. Compute statistical parameters with the help of computer;<br>4. Prepare and design maps and graphs with the help of computer software;<br>5. Apply computational techniques relevant in the discipline of Geography;<br>6. Know about sources and uses of online educational resources and e-learning methods |

| | |
|---|---|
| MT-201: Advanced Cartography and Surveying | 1. Understand basic principles of cartography and surveying<br>2. Gain understandings of various cartographic methods and techniques<br>3. Acquaint with the skills of digital cartography<br>4. Identify sources and types of errors occurs during surveying<br>5. Get familiar with the basic aspects of linear, vertical and angular measurements of surveying. |
| MT-202: Climate Change and Disaster Management | 1. Recognize the importance of climate on human life;<br>2. Identify and categorize climate types and climatic regions of the world;<br>3. Get comprehensive knowledge about causes and impacts of atmospheric pollution, GHGs emission, ozone layer depletion, acid rain and el-nino;<br>4. Know about the history, recent trends, impacts and dynamics of climate change on earth;<br>5. Assess future risks of climate change and the adaptation and mitigation options;<br>6. Understand causes, consequences and vulnerabilities of various natural and man-made disasters;<br>7. Plan for prevention, preparation and mitigation of disasters |
| ET-201: Fundamentals and Applications of GIS and GPS | 1. Understand the basic concepts of Geographical Information System and GPS.<br>2. Know various applications of GIS and GPS in various fields.<br>3. Familiar with modern techniques of geography.<br>4. Apply these skills in professional careers. |
| EP-201: Introduction to GIS Software and GPS | 1. Familiarize with QGIS software and tools.<br>2. Apply Comprehensive knowledge of GIS software and GPS for analysis of geographical data and to solve real world problems<br>3. Understand the role of GIS as decision support system and to develop various model for GIS spatial analysis.<br>4. Examine the various functions of GPS for surveying and mapping.<br>5. Develop practical skills in spatial data acquisition, management, and analysis.<br>6. Learn to create and visualize maps using GIS techniques. |

| | |
|---|---|
| MP-203: Advanced Surveying | 1. Familiar with various advance surveying methodologies<br>2. Develop practical skills as well as organisational and interpersonal abilities<br>3. Perform survey using advanced surveying instruments like theodolite, total station, DGPS and drone<br>4. Create a map based on a survey |
| FP-201: Field Project | 1. Carry out field project on their own;<br>2. Formulate project design and methodologies;<br>3. Organize and carry out field visits, collect field data and/or conduct review of literature;<br>4. Effective writing and dissemination of project output having scientific and/or social relevance. |

# Lal Bahadur Shastri College of Arts, Science and Commerce, Satara

## Department of Geography

2022-23

## M. A. Geography

### Course Outcomes (COs)

| Course Name | Course Outcomes |
|---|---|
| CC-101: Fundamentals of Geomorphology | ▪ To understand the development of geomorphic thought throughout the time with a review of fundamental concepts of geomorphology.<br>▪ To look into the evolution of continents and ocean basins with continental drift theory.<br>▪ To know the endogenetic and exogenetic forces controlling landform development with special reference to the denudational processes.<br>▪ To see the mountain building activities through different theories |
| CC-102: Principles of Climatology | ▪ To distinguish the weather and climate with an understanding of structure and composition of Atmosphere.<br>▪ To understand the variations of weather systems in terms of Stability and Instability of atmosphere.<br>▪ To enable the students to understand the vertical and horizontal distribution of atmospheric air.<br>▪ To get complete information about Atmospheric Disturbances in terms of cyclones and anti-cyclones.<br>▪ To know the significance of synoptic Climatology in pollution studies and navigation. |

| | |
|---|---|
| CC-103: Economic Geography | ▪ To understand the concepts and basis of economic processes.<br>▪ To get acquainted with theories and models in economic geography<br>▪ To get comprehensive knowledge of World energy resources, situation and distribution.<br>▪ To know about the Nature, scope and Principles of Industrial Geography<br>▪ To understand transport and Trade policies of country.<br>▪ To get detail knowledge of economic power determinants of country and able to analyze the economic development of country. |
| CC-104: Geography of Population and Human Resource Development | ▪ Infer factors influencing population distribution and density; Acquire skill to describe regional patterns of population composition; Compute and explore fertility, mortality and human development levels for micro, meso and macro regions.<br>▪ Analyse the population-resource regions and discover problems arising due to over and under population.<br>▪ Understand and create awareness about provincial aspects of gender equity, social well-being and quality of life. |
| CCPr-105.1: Practicals in Geomorphology and Surveying | ▪ To know the methods of representation of relief.<br>▪ Understanding the topographical maps.<br>▪ Identification and mapping of drainage patterns<br>▪ To look into the drainage basin morphometry.<br>▪ To understand the field surveying methods |
| CCPr-105.2: Analysis of Climatic Data | ▪ To identify various sources of climate data.<br>▪ To understand the formats of Indian daily weather report and reading of weather signs and symbols.<br>▪ To represent meteorological elements diagrammatically and interpretation of results.<br>▪ To know methods of measurement of meteorological elements<br>▪ To analyse interrelationship between various meteorological elements.<br>▪ To analyse present and future trends of meteorological |

| | |
|---|---|
| CCPr-105.3: Analysis of Socio-Economic Data | ▪ To identify the importance of population studies regarding the fertility, mortality,<br>▪ To understand the socio-economic structure of population<br>▪ To study various statistical methods for analysis of Agricultural activities.<br>▪ To determine the agriculture productivity and analyze results.<br>▪ To get basic understanding of the economic data and its analysis. |
| CC-201: Applied Geomorphology | ▪ To establish the relationship between the tectonism and geomorphology with the knowledge of interior of the Earth.<br>▪ To verify the impact of dynamic agencies on denudation and their work.<br>▪ To understand the cycle of erosion with different views with special reference to hill slope development<br>▪ To see the application of geomorphology in the view of anthropogenic and environmental geomorphology |
| CC-202: Applied Climatology and Climate Change | ▪ To recognize the importance of climate on human life;<br>▪ To identify and categorize climate types and climatic regions of the world.<br>▪ To understand the regional and seasonal variations of weather systems in India.<br>▪ To get comprehensive knowledge about causes and impacts of atmospheric pollution, GHGs emission, ozone layer depletion, acid rain and el-nino.<br>▪ To know about the history, recent trends, impacts and dynamics of climate change on earth.<br>▪ To assess future risks of climate change and the adaptation and mitigation options; |

| | |
|---|---|
| CCS-203: Advanced Cartography and Surveying | ▪ To understand basic principles of cartography and surveying<br>▪ To explain various cartographic methods and techniques for preparation of maps and diagrams.<br>▪ To compare the difference between manual and digital cartography<br>▪ To acquaint with the skills regarding digital cartography.<br>▪ To identify sources and types of errors occurs during surveying.<br>▪ To get familiar with the basic aspects of linear, vertical and angular measurements of surveying. |
| CCS-204: Social and Cultural Geography | ▪ To study and identify the philosophical base, problems associated with society & its culture.<br>▪ To know about the culture, cultural regions, hearths and their diffusion, realms, and distribution of races.<br>▪ To study and knowing of socio-cultural diversity of India, and processes of social changes.<br>▪ To understand the social justice and well-being of society, to find out the level of well-being in India |
| CCPr-205.1: Computer Applications in Geography | ▪ To learn the representation of geographic data using various computational methods.<br>▪ To know about sources and uses of online educational resources and e-learning methods.<br>▪ To develop writing, editing, and presentation skill for representation of geographical information.<br>▪ To compute statistical parameters with the help of computer.<br>▪ To prepare and design maps and graphs with the help of computer software.<br>▪ To apply computational techniques relevant in the discipline of Geography |
| CCPr-205.2: Statistical Techniques in Geography | ▪ To understand the importance and use of statistical techniques in geography.<br>▪ To form frequency distributions tables and graphically interpret the results.<br>▪ To measure central tendency and dispersion of data.<br>▪ To examine relationship between two or more variables with correlation and regression analysis.<br>▪ To apply comprehensive knowledge of statistics for analysis of geographical data |

| | |
|---|---|
| CCPr-205.3: Quantitative Techniques in Geography | ▪ To understand correlation and regression among spatio-temporal data.<br>▪ To learn what is Spatial Analysis.<br>▪ For The Measurement Levels and Spatial Data<br>▪ To Measures probability<br>▪ To became expert in techniques for analysis of data in research For Exploratory Data Analysis |

# Lal Bahadur Shastri College of Arts, Science and Commerce, Satara

## Department of Geography

2023-24

## M. A./M.Sc II Geography

### Course Outcomes (COs)

| Course Name | Course Outcomes |
|---|---|
| CC-301: Applied Climatology and Climate Change | 1. Recognize the importance of climate on human life;<br>2. Identify and categorize climate types and climatic regions of the world;<br>3. Understand the regional and seasonal variations of weather systems in India;<br>4. Get comprehensive knowledge about causes and impacts of atmospheric pollution, GHGs emission, ozone layer depletion, acid rain and el-nino;<br>5. Know about the history, recent trends, impacts and dynamics of climate change on earth;<br>6. Assess future risks of climate change and the adaptation and mitigation options; |
| CCS-302: Fundamentals of Remote Sensing and DIP | 1. Understand the principles and concepts of remote sensing and its role in capturing and analyzing Earth's data.<br>2. Describe the different types of remote sensing platforms, sensors, and image acquisition systems used in the field.<br>3. Interpret and analyze aerial photographs and satellite images using visual interpretation techniques.<br>4. Apply digital image processing techniques for feature extraction, including texture, shape, and spectral indices.<br>5. Explore emerging trends and technologies in remote sensing and digital image processing. |
| DSE-303: Biogeography | 1. Understand the concepts and historical development of biogeography<br>2. Get comprehensive knowledge of different classification of animal and plants<br>3. Know about pattern of biogeography<br>4. Understand different processes in biogeography<br>5. Get detail knowledge about influencing factors on biogeography |

| | |
|---|---|
| DSE-304: Geography of India | 1. Understand the main regions of the India in terms of both their uniqueness and similarities.<br>2. Identifying and explaining the Indian Geographical Environment, from global to local scales.<br>3. Generate an awareness and responsibility for the environment and India.<br>4. Know about the impacts of human activities on natural environments of India |
| CCPr-305.1 Research Methodology and Geographical Excursion | 1. Identify the objectives and significance of research in geography;<br>2. Prepare schedule and questionnaire in geography;<br>3. Collect data of physical and human elements;<br>4. Tabulate data, formulate research design and represent data by using most appropriate methods;<br>5. Effective writing, maintaining research ethics and academic integrity;<br>6. Organize and carry out geographical excursion and field visits; |
| 05.2 Dissertation/ Project | 1. Recognize the objectives and significance of research work;<br>2. Formulate research design and methods;<br>3. Organize and carry out field visits, collect field data and/or conduct review of literature;<br>4. Effective writing, maintaining research ethics and academic integrity;<br>5. Preparation and dissemination of research output having scientific and/or social relevance.elements. |
| CC-401: Applied Geomorphology | 1. Establish the relationship between the tectonism and geomorphology with the knowledge of interior of the Earth.<br>2. Assess the impact of tectonism and diastrophism on the earth crust.<br>3. Verify the impact of dynamic agencies on denudation and their work.<br>4. Understand the cycle of erosion with different views with special reference to hill slope development.<br>5. See about the application of geomorphology in the view of anthropogenic and environmental geomorphology. |

| | |
|---|---|
| CCS-402: Regional Planning and Development | 1. Understand the basic concepts in regional planning<br>2. Understand different methods in order to compute regional development<br>3. Get acquainted with theories and models for regional development<br>4. Get a specialized knowledge of policies and experiences of regional planning in India. |
| DSE-403: Fundamentals and Applications of GIS and GPS | 1. Understand the basic concepts of Geographical Information System and GPS.<br>2. Know various applications of GIS and GPS in various fields.<br>3. Familiar with modern techniques of geography.<br>4. Apply these skills in professional careers. |
| DSE-404: Agricultural Geography | 1. Know about nature, scope and significance of agricultural geography as an academic and professional discipline.<br>2. Understand the fundamental concept, crop combination, diversification, agricultural productivity and study the determinants of agricultural patterns.<br>3. Get knowledge about agricultural systems of the world.<br>4. Understand the agrarian revolution, socio-economic constraints, agricultural problems and policies |
| CCPr-405.1: Photogrammetry, Remote Sensing and DIP | 1. Understand the fundamental principles and concepts of photogrammetry, remote sensing, and digital image processing.<br>2. Describe the various sensors, platforms, and techniques used in photogrammetry and remote sensing.<br>3. Apply photogrammetric techniques to extract three-dimensional information from aerial photographs and digital images.<br>4. Apply digital image processing techniques for enhancing and analyzing remote sensing data. 5. To apply the knowledge of remote sensing and DIP in various thematic studies |
| CCPr-405.2: Introduction to GIS Software and GPS | 1. Familiarize with QGIS software and tools.<br>2. Apply Comprehensive knowledge of GIS software and GPS for analysis of geographical data and to solve real world problems<br>3. Understand the role of GIS as decision support system and to develop various model for GIS spatial analysis.<br>4. Examine the various functions of GPS for surveying and mapping.<br>5. Develop practical skills in spatial data acquisition, management, and analysis.<br>6. Learn to create and visualize maps using GIS techniques. |