



## **Programme Specific Outcomes (PSOs)**

Geography mainly concerns changes in spatial attributes in a temporal perspective. The Honours programme in geography is tailored to meet the students' specific educational and professional goals in mind. It focuses on spatial studies, qualitative as well as quantitative, and emphasises on human-environment relationship. During the first year of the programme, the students are trained on advanced concepts of physical and human geography. The third year allows them to concentrate on specific areas of the subject, on which they complete their field reports. After completing the course, the students will be amply prepared for professional careers in geography and allied disciplines like GIS and Remote Sensing. They will also be able to pursue M.A. /M.Sc. Course in Geography.

- **PSO1.Acquiring Knowledge of Physical Geography:** Student will gain the knowledge of physical geography. Student will have a general understanding about the geomorphological and geotechnical process and formation. They will be able to correlate the knowledge of physical geography with the human geography.
- **PSO2.Acquiring Knowledge of Human Geography:** They will be able to acquire the knowledge of Human Geography and will correlate it with their practical life.
- **PSO3. Ability of Problem Analysis:** Student will be able to analyse the problems of physical as well as cultural environments of both rural and urban areas. Moreover they will try to find out the possible measures to solve those problems.
- **PSO4.Conduct Social Survey Project:** They will be eligible for conducting social survey project which is needed for measuring the status of development of a particular group or section of the society.
- **PSO5. Application of modern instruments:** Students will be able to learn the application of various modern instruments and by these they will be able to collect primary data. PSO6. Application of GIS and modern Geographical Map Making Techniques: They will learn how to prepare map based on GIS by using the modern geographical map making techniques.
- **PSO7. Development of Observation Power:** As a student of Geography Honours Course they will be capable to develop their observation power through field experience and in future they will be able to identify the socioenvironmental problems of a locality.
- **PSO8. Development of Communication Skill and Interaction Power:** After the completion of the project they will be efficient in their communication skill as well as power of social interaction. Some of the students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.



- **PSO9. Enhancement of the ability of Management:** Demonstrate knowledge and understanding of the management principles and apply these to their own work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PSO10. Understand Environmental Ethics and Sustainability:** Understand the impact of the acquired knowledge in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development

### **Program Outcomes (POs)**

- Demonstration of exhaustive understanding of the basic concepts of Geography and an awareness of the emerging areas of the field.
- Acquisition of in-depth understanding of the applied aspects of Geography as well as interdisciplinary subjects in everyday life.
- Improvement of critical thinking and skills facilitating.
- The application of knowledge gained in the field of Geography in the classroom to the practical solving of societal problems.
- Development of intellectual capabilities to get into further research in the discipline.
- Acquisition of practical laboratory skills, systematic research design and collection of experimental data.
- Exhibition of ability to quantitatively analyse the experimental data and writing project reports.
- Development of strong oral and written communication skills promoting the ability to present ideas and also team work spirits.

### **PROGRAMME DURATION**

The BA/B.Sc. (Honours) programme will be of three years duration. Each year will be called an academic year and will be divided into two semesters. Thus there will be a total of six semesters. Each semester will consist of sixteen weeks.

### **PROGRAMME DESIGN**

The programme includes Core Courses (CC) and Elective Courses (EC). The core courses are all compulsory courses. There are three kinds of elective courses that include Discipline-Specific Elective (DSE), Generic Elective (GE) and Skill Enhancement Course (SEC). In addition there are compulsory Ability Enhancement Courses (AEC).

To acquire a degree in Geography a student must study fourteen Core Courses, four Discipline Specific Electives, four Generic Electives, two Skill Enhancement Courses and two compulsory Ability Enhancement Courses. The Core Courses, Discipline-Specific Electives and Generic Electives are six-credit courses. The Skill Enhancement Courses are four-credit courses while the Ability Enhancement Courses are two credit-courses. **A student has to earn a minimum of 148 credits to get a degree in B.Sc. (H) Geography.**



## **TEACHING-LEARNING PROCESS**

- Classroom discussions and interactive learning.
- Audio visual presentation/ teaching methods.
- Presentation by students.
- Individuals/group training to work with software.
- Developing research skills through assignments/projects.
- Conduct theme based group activities.
- Developing Effective communication skills through group discussion.
- Beyond classroom teaching/learning through field excursions.
- Writing of reports/project.

## **ASSESSMENT METHODS**

Different methods will be applied to assess the students over the duration of the programme. These include written assignments and oral examinations, group discussions and presentations, problem-solving exercises, field study, experimental design planning, seminars, preparation and presentation of reports and practical record book.

All papers carry 100 marks. Each theory paper is divided into two parts: main examination and internal assessment of 75 and 25 marks respectively. For practical papers, 50 marks ( 25 marks for internal assessment and 25 marks for practical record file) is assessed through continuous evaluation to be done at college level and 50 marks end semester examination to be conducted by the internal and external examiner.



## Course outcomes (Cos)

### SEMESTER – I

#### **Paper: Geo-tectonics and Geomorphology**

#### **Paper Code: CC-1**

#### **Course Objectives:**

1. To understand the associations between geomorphologic landforms, concepts and processes.
2. To critically evaluate and connect information about geomorphic processes.
3. To provide a theoretical and empirical framework for understanding landscape evolution and the characteristics of individual types of geomorphic landscapes

#### **Learning Outcomes:**

After completion of this course, students will be able to

1. understand the functioning of Earth systems in real time and analyze how the natural and anthropogenic operating factors affects the development of landforms
2. distinguish between the mechanisms that control these processes
3. assess the roles of structure, stage and time in shaping the landforms, interpret geomorphological maps and apply the knowledge in geographical research.

#### **Assessment Methods:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1	Geomorphology: Nature, Scope and Approaches; Earth: Interior Structure and Isostasy.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates classroom test.
2	Earth Movements: Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/ Debates, classroom test.
3	Geomorphic Processes: Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck).	Classroom Lectures, Tutorials, PPT	Assignments, Discussion/Debates , classroom test.
4	Evolution of Landforms (Erosional and Depositional): Fluvial, Karst, Aeolian, Glacial, and Coastal.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates , classroom test.



5	Applied Geomorphology	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debate s classroom test.
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**Keywords:** Geomorphology, Earth, Isostasy, Movements, Processes, Erosion, Landform

**Paper: CARTOGRAPHIC TECHNIQUES AND GEOLOGICAL MAP STUDY**

**Paper Code: CC-2**

**Course Objectives:**

1. Create professional and aesthetically pleasing maps through thoughtful application of cartographic conventions;
2. Develop an understanding of the concepts regarding scale, map projections to suit map purposes;
3. Better understand the techniques of interpretation of topographical and weather maps

**Learning Outcome:**

This is a practical, hands-on course; when you have completed it, you will be able to:

1. Explain how maps work, conceptually and technically and will be able to understand science and art of cartography
2. Recognize the benefits and limitations of some common map projections and their use.
3. Understand and perform interpretation of topographical maps and Geological maps.

**Practical Record:**

A Project File in pencil comprising one exercise *each*, on scale, map projection, profile, slope, interpretation of topographic sheet, and weather maps.



**Assessment Methods:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1	Nature and Scope, Concept and application, Graphical Construction	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test.
2	Map Projections – Classification, Properties and Uses; Merits and Demerits	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test.
3	Profiles-Introduction to Cross and Longitudinal Profiles.	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, midterm examination.
4	Topographical Maps- Interpretation and Slope Analysis	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test.
5	Interpretation of Weather Map	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test, end semester examination.

**Keywords:** Cartography, Map Projections, Profiles, Topographical Maps

## Semester II

### Paper: Human Geography

#### Paper Code: CC-3

#### Course Objectives:

1. Various dimensions of human geography and cultural landscape.
2. Detailed analysis of population growth and distribution.
3. Understanding of the relationship between population and resource.

#### Learning Outcomes:

1. Detailed exposure of contemporary relevance of cultural landscape.
2. In-depth knowledge of space and society of cultural regions.
3. Understanding the settlement pattern and population resource relationship.



**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Introduction to the basic concepts of Human geography	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
II	Detailed discussion of different theories related to human development	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
III	Deep understanding of cultural regions; race; tribes, religion and language	Classroom Lectures, PPTs, documentaries, discussions, fieldworks and tutorials.	Assignments, presentations, discussions.
IV	Detailed analysis of different types of settlement in rural as well as urban areas	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
V	Understanding the regional resource development of India	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.

**Keywords:** Human Geography, Cultural Regions, Space and Society, Settlement Patterns

**Paper: CARTOGRAMS, SURVEY AND THEMATIC MAPPING**

**Paper Code: CC-4**

**Course Objectives:**

1. Create thematic maps through thoughtful application of Cartographic conventions;
2. Enhance understanding of the concepts regarding thematic mapping techniques
3. Better understand preparation and interpretation of thematic maps



**Learning Outcome:**

This is a practical, hands-on course; when you have completed it, you will be able to:

- Explain how maps work, conceptually and technically and will be able to understand science and art of cartography
- Recognize the benefits and limitations of Diagrammatic Data Presentation.
- Understand and perform interpretation of thematic maps.

**Practical Record:** A Thematic Atlas should be prepared on a specific theme with five plates of any state in India.

**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Maps – Classification and Types; Principles of Map Design.	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
II	Diagrammatic Data Presentation – Line, Bar and Circle.	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
III	Thematic Mapping Techniques	Classroom Lectures, PPTs, documentaries, discussions, fieldworks and tutorials.	Assignments, presentations, discussions.
IV	Cartographic Overlays – Point, Line and Areal Data	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
V	Thematic maps preparation and interpretation	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.

**Keywords:** Maps, Thematic Mapping, Cartographic Overlays





**Semester- III**

**Paper: Climatology**

**Paper Code: CC-5**

**Course Objectives:**

1. Various dimensions of climatology like structure and composition.
2. Detailed analysis of global atmospheric pressure and wind system.
3. Understanding of the concept of oceanic topography.

**Learning Outcomes:**

1. Detailed exposure of climatology and oceanic relief features.
2. In-depth knowledge of upper atmospheric conditions and cyclonic features.
3. Understanding the characteristics of climatic regions.

**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Introduction to the basic concepts of climatology and oceanography	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
II	Detailed discussion of global wind pattern and atmospheric conditions	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
III	Deep understanding of cyclonic storms of different regions	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
IV	Atmospheric Moisture and Cyclones	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
V	Climatic Regions	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.

**Key words:** Climatology, Oceanography, Cyclone, Wave, Salinity.



## **Paper: Statistical Methods in Geography**

### **Paper Code: CC-6**

#### **Course Objectives**

1. The concept of quantitative information in general and Geographical data in particular. The importance of data analytics. The ways data is collected or data is taken from different sources. The sampling methods' application for data collection purposes.
2. The ways to handle the collected data through classification, tabulation and stigmatization. The data presentation using graphical and diagrammatic ways.
3. To calculate different averages on data and to identify the variations in data.
4. To compute relations and impacts among the data series.
5. The concept of probability particularly normal curve.

#### **Learning Outcomes:**

##### **The following will be the outcomes of this course, student shall be able:**

1. To differentiate between qualitative and quantitative information.
2. To know the nature of various data, different sources and methods of data collection.
3. To apply sampling methods for data collection.
4. To classify, summarize and produce various types of data tabulations.
5. To present data through graphical and diagrammatic formats.
6. To apply different forms of averages, their relevance on descriptive data and geographical descriptive data as well.
7. To analyze the variations in spatial and non-spatial data.
8. To study the associations and cause/effect or impact from the data series
9. To use the concept of probability mainly the normal distribution.

##### **Practical Record File: Each student will submit a record containing five exercises:**

1. Construct a data matrix of about (100 x 10) with each row representing an areal unit (districts or villages or towns) and about 10 columns of relevant attributes of the areal units.
2. Based on the above table, a frequency table, measures of central tendency and dispersion would be computed and interpreted for any two attributes, Plot mean centre for population and standard distance deviation on the selected map for the spatial units.
3. Histograms and frequency curve would be prepared on the entire data set and attempt to fit a normal curve and interpreted for one or two variables.
4. From the data matrix a sample set (20 Percent) would be drawn using, random - systematic and stratified methods of sampling and locate the samples on a map with a short note on methods used.
5. Based on of the sample set and using two relevant attributes, a scatter and regression line would be plotted and residual from regression would be mapped with a short interpretation.



**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Use of Data in Geography	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
II	Tabulation and Descriptive Statistics	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
III	Sampling: Purposive, Random, Systematic and Stratified	Classroom Lectures, PPTs, documentaries, discussions, fieldworks and tutorials.	Assignments, presentations, discussions.
IV	Theoretical Distribution: Concept of Probability Distribution (theory only), Normal Distribution	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
V	Correlation: Rank Correlation and Product Moment Correlation, Simple Regression and Mapping of Residuals from Regression	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.

**Keywords:** Statistical Methods, Tabulation, Descriptive Statistics, Sampling, Theoretical Distribution, Correlation



**Paper: Geography of India  
Paper Code: CC-7**

**Course Objectives:**

1. Various dimensions of the geographical features of India and West Bengal and their spatial distribution.
2. Detailed analysis of economic resources of India
3. Understanding of regional divisions of India.

**Learning Outcome:**

**CO1. They can know about their own countries land formation, climate and natural vegetation.**

**CO2. They understand the economic resources of India.**

**CO3. They understand the social distribution of population of their country.**

**CO4. Develop an idea about regionalisation of India.**

**Assessment Method:**

<b>Unit No.</b>	<b>Course Learning Outcomes</b>	<b>Teaching and Learning Activity</b>	<b>Assessment Tasks</b>
I	Physical Setting – Location, Structure and Relief, Drainage, Climate	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
II	Population – Size and Growth since 1901, Population Distribution, Literacy, Sex Ratio.	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
III	Settlement System - Rural Settlement Types and Patterns, Urban Patterns	Classroom Lectures, PPTs, documentaries, discussions, fieldworks and tutorials.	Assignments, presentations, discussions.
IV	Resource Base – Livestock, Power, Minerals	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.



V	Economy – Agriculture, Industries, Transportation Modes	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
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**Keywords:** Human geography, Demography, Resources, Society, Region

### Semester IV

#### **Paper: Regional Planning and Development**

#### **Paper Code: CC-8**

##### **Course Objectives:**

1. To understand the concept of Region and Regional Planning.
2. To familiarize the students with Theories and Models for Regional Planning.
3. To develop understanding about concept of Development, Sustainable Development and different programmes and policies.

##### **Learning Outcome:**

After studying, students will be able to:

1. Conceptualize the Regional Planning and its theories.
2. Get the overview of Sustainable Regional Development.
3. Have sound knowledge to Sustainable Development Policies and Programmes.

##### **Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Definition of Region, Evolution and Types of Regional planning	Classroom Lectures, PPTs, discussions and tutorials.	Assignments, presentations, discussions.
II	Regionalization of India for Planning	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.



III	Theories and Models for Regional Planning	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
IV	Sustainable Development	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
V	Sustainable Development Policies and Programmes	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.

**Keywords:** Region, Planning, development, growth

**Paper: Economic Geography**

**Paper Code: CC-9**

**Course Objectives:**

1. To understand the concept and spatial distribution of economic activities in the world.
2. To analyse the factors affecting the economics activity focusing on Von Thunen and Weber theory.
3. To describe in the details the regionalization of different economic activities.

**Learning Outcome:**

After learning, students should be able to:

1. Distinguish to different types of economic activities and their utilities.
2. Appreciate the factors responsible for the location and distribution of activities.

Examine the significance and relevance of theories in relation to the location of different economic activities



**Assessment Method**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1	Introduction to Global Economic System: Concept and classification of economic activities.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates classroom test.
2	Theories: Agriculture (Von Thunen); Industry (Weber's theory).	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/ Debates, classroom test.
3	Primary Activities: Agriculture, Precision agriculture, Forestry, Fishing and Mining.	Classroom Lectures, Tutorials, PPT	Assignments, Discussion/Debates, classroom test.
4	Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates, classroom test.
5	Tertiary Activities: Transport, Trade and Services.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates classroom test.

**Keywords:** Global, Economic, Activities, Theory, Primary, Secondary, Tertiary



**Paper: Environmental Geography**  
**Paper Code: CC-10**

**Course Objectives:**

1. Various dimensions of environment and natural resource management.
2. Detailed analysis of concept, structure and functions.
3. Understanding of the concept of appraisal and conservation of Environment and Natural Resources.

**Learning Outcome:**

1. Detailed exposure of human – environment relationship.
2. In-depth knowledge of environmental issues in tropical, temperate and polar ecosystems.
3. Understanding the environmental programmes and policies at local as well as global level.

**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Introduction to the basic concepts of environment and NRM	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
II	Detailed discussion of conceptual framework of different ecosystems	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
III	Deep understanding of environmental issues of different regions	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions.
IV	Detailed analysis of different issues related to environmental conservation	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.
V	Understanding the different policies related to conservation of environment at local as well as global level	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates.

**Keywords:** Natural resource management, Ecosystem, Environment, Biosphere





## **Semester V**

### **Paper: Research Methodology and Field work**

#### **Paper Code: CC-11**

##### **Course Objectives:**

1. Various dimensions of field work and its role in geographical studies..
2. Detailed analysis of different field techniques.
3. Understanding of the report writing and field tools.

##### **Learning Outcome:**

1. Detailed exposure of new geographical landscape as study area.
2. In-depth knowledge of different field techniques.
3. Understanding the field ethics and different tools of field study.

##### **Practical Record:**

1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The duration of the field work should not exceed 10 days.
3. The word count of the report should be about 8000 to 12,000 excluding figures, tables, photographs, maps, references and appendices.
4. One copy of the report on A 4 size paper should be submitted in soft binding.



**Assessment Method:**

<b>Unit No.</b>	<b>Course Learning Outcomes</b>	<b>Teaching and Learning Activity</b>	<b>Assessment Tasks</b>
I	Introduction to the role and value of field study	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions. Fieldwork
II	Detailed discussion on selection of field area and its exposure	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions. Fieldwork
III	Deep understanding of field techniques and statistical methods	Classroom Lectures, PPTs, documentaries, discussions, fieldworks and tutorials.	Assignments, presentations, discussions. fieldwork
IV	Detailed analysis of primary survey and field ethics	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates. fieldwork
V	Understanding the different parameters of field report	Classroom Lectures, PPTs, documentaries, discussions and tutorials.	Assignments, presentations, discussions and debates, fieldwork

**Keywords:** Field study, Technique, Methods, Survey, Ethics



## **Paper: Remote Sensing and GIS**

### **Paper Code: CC-12**

#### **Course Objectives:**

1. The course aim is to give basic technical knowledge and practical experience in digital remote sensing.
2. Knowledge and practical experience in handling satellite images focusing on hands-on experience of image pre-processing, enhancement and classification;
3. Better understand the techniques for the study of land use land cover and urban study.

#### **Learning Outcome:**

This is a practical, hands-on course; when you have completed it, you will be able to:

1. Explain principles of remote sensing, different satellite systems and sensors;
2. Perform image pre-processing, enhancement and classification and interpretation of satellite images;
3. Apply Image preprocessing for land use land cover and urban studies;

**Practical Record:** A project file consisting of 5 exercises using open source software on above topic.

#### **Assessment Methods:**

<b>Unit No.</b>	<b>Course Learning Outcomes</b>	<b>Teaching and Learning Activity</b>	<b>Assessment Tasks</b>
<b>1</b>	Definition and Components	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test.
<b>2</b>	Aerial Photography and Satellite Remote Sensing	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test.
<b>3</b>	GIS Data Structures.	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, midterm examination.
<b>4</b>	Image Processing (Digital and Manual) and Data Analysis	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test.
<b>5</b>	Interpretation and Application of Remote Sensing and GIS	Classroom Lectures, Practical demonstration	Assignments, Hans-on exercise, classroom test, end semester examination.

**Keywords:** Satellite Remote Sensing, GIS, Land Use Land Cover, Urban Studies.



**Semester - VI**

**Paper: Evolution of Geographical Thought**

**Paper Code: CC-13**

**Course Objectives:**

1. Understanding historical evolution of geographic thought
2. Detailed analysis of different paradigms in geography
3. Evaluating the contemporary trends in geographical studies

**Learning Outcomes:**

1. In depth understanding about the evolution of geographical thought
2. Detailed knowledge about the paradigms and debates in the geographical studies.
3. Understanding of recent traditions in geography

**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Understanding the paradigms in geography	Classroom Lectures, PPTs, discussions, and debates	Assignments, Tests, Presentations
II	Detailed discussion on the Classical and Medieval Geographic traditions	Classroom Lectures, PPTs, discussions, and debates	Assignments, Tests, Presentations
III	Evaluating the contribution of modern schools in geography	Classroom Lectures, PPTs, discussions, and debates	Assignments, Tests, Presentations
IV	In-depth discussions about the debates in geography	Classroom Lectures, PPTs, discussions, and debates	Assignments, Tests, Presentations
V	Understanding the post-modern trends in geography	Classroom Lectures, PPTs, discussions, and debates	Assignments, Tests, Presentations

**Keywords:** Paradigm, Tradition, Schools, Debate, Postmodernism



**Paper: Disaster Management  
Paper Code: CC-14**

**Course Objectives:**

1. Understanding the basic concepts of disaster management
2. Detailed analysis about the different types of disasters in India
3. Evaluating the various dimensions of disaster management through field works

**Learning Outcomes:**

1. In depth understanding about the various disasters in the country
2. It will provide thorough understanding about the human responses to the disasters
3. It will give an in-depth knowledge about the disasters through fieldworks

**(Practical Record:** Project work to be based on any two of the above topics of their choice. First should be field-based case study and second should be local / college-based. )

**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Introduction to the basic concepts in disaster management	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
II	Detailed discussion on the natural disasters in India	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
III	Understanding the implications of natural disasters in India	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
IV	In-depth assessment of the causes and impacts of manmade disasters	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
V	In-depth observation on the management strategies for disasters from micro to macro levels	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report

**Keywords:** Disaster, Management, India, Impacts, Strategies



**COURSE OUTCOMES [DISCIPLINE SPECIFIC ELECTIVES]**

**Semester -V**

**Urban Geography**

**DSE 1**

**Course Objectives:**

1. To introduce the students with concepts and approach to studying the urbangeography.
2. To study with patterns and functional attributes of urban places.
3. To analyze the urban contemporary issues focusing on Indian mega cities

**Learning Outcomes:**

- Analyze the theories of urban evolution and growth, Hierarchy of urban settlements
- Understand the various aspects of urban place: location, site and situation; Rank-size rule and Law of primate city
- Understand the concept of urban hierarchies
- Understand the patterns of urbanization in developed and developing countries
- Understand the ecological processes of urban growth; urban fringe; city-region
- Analyze the models on city structure
- Identify and analyze the problems of housing, slums and civic amenities
- Understand the patterns and trends of urbanization in India
- Assess the policies on urbanization in post-liberalized India
- Learn the technique to plot Rank-Size Rule and establish a hierarchy of urban settlements
- Assess state-wise variation and trends of urbanization



**Assessment Methods:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1	Urban geography: Introduction, nature, scope and approaches.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates classroom test.
2	Patterns of Urbanisation in developed and developing countries	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/ Debates, classroom test.
3	Functional classification of cities: Quantitative and Qualitative Methods	Classroom Lectures, Tutorials, PPT	Assignments, Discussion/Debates, classroom test.
4	Cities and central place theory: Christaller and Losch	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates, classroom test.
5	Urban Issues: problems of housing, slums, civic amenities (water and transport); Case studies of Delhi, Mumbai, Kolkata, Chennai.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates classroom test.

**Keywords:** Urban geography, Urbanisation, central place theory, Urban Issues

**DSE 2**

**POPULATION GEOGRAPHY**

**Course Objectives:**

1. It introduces the basic concepts of population Geography to the students.
2. An understanding of the importance and need of Demographic data.
3. Spatial understanding of population dynamics.

**Learning Outcomes:**

1. This paper would bring an understanding of Population Geography along with relevance of Demographic data.
2. The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population theories.
3. The students would get an understanding of the dynamics of population.
4. An understanding of the implications of population composition in different regions of the world.
5. An appreciation of the contemporary issues in the field of population studies



**Assessment Method:**

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Nature and scope of Population Geography and its relation to Demography	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
II	Population distribution	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
III	Population Composition: Age-Sex composition; Rural and Urban composition: literacy	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
IV	Population Dynamics: Fertility, Mortality and Migration-Measures, determinants and implications.	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
V	Contemporary Issues: Ageing of Population, Declining Sex Ratio; Demographic Dividend.	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report

**Keywords:** Population, Demography, Fertility, Projection, Migration, etc.





## DSE 2 SOCIAL GEOGRAPHY

### Course Objectives:

1. To familiarise the student with the theoretical foundations and conceptual grounding of unique geography of social well-being.
2. To appreciate the roles of geographic factors in socio-cultural diversity and well-being.
3. To analyse in details the social wellbeing, problems and welfare programmes and policies.

### Learning Outcomes:

After studying, students will be able to:

1. Get Knowledge of the geography of social well-being and social diversity.
2. Appraise the key concepts of social geography in regional context; geographic factors underlying patterns of social well-being and inclusive development.
3. Explain the social problems and the welfare programs and policies.

### Assessment Methods:

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1	Geography of Social Wellbeing: Concept, Origin, Nature and Scope.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debat es, classroom test.
2	Social Diversity: Caste, Class, Religion, Race and Gender and their Spatial distribution	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/ Debates, classroom test.
3	Social Wellbeing and Inclusive Development: Concept and Components – Healthcare, Housing and Education.	Classroom Lectures, Tutorials, PPT	Assignments, Discussion/De bates, classroom test.
4	Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debat es, classroom test.
5	Social welfare program and policies.	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/D ebates, classroom test.

**Keywords:** Wellbeing, Diversity, Inclusion, Exclusion, Development, Welfare



### DSE 3 FLUVIAL GEOMORPHOLOGY

#### Course Objectives

1. To understand the basics of hydrological regime
2. to explain the integrated concept of water resource management
3. to describe the basic characteristics of river basin and channel properties

#### Learning Outcomes

After studying this course, students will be able to:

1. Understand the basic components of hydrological cycle and learn best practices of integrated watershed management,
2. Explain various components of water balance and management of river basins,

#### Assessment Method:

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Hydrological Cycle	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
II	Water Balance of River Basins	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
III	Water Resource Management	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
IV	Soil Resource	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
V	River basin Mangement	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report

**Keywords:** Hydrological Cycle, Water Balance, Soil Resource , Resource Management.



## DSE 4

### Soil and Bio Geography

#### Course Objectives:

1. Various dimensions of biogeography and biodiversity.
2. Detailed analysis of energy cycles and their function.
3. Understanding of the concept of ecological succession and floral faunal biodiversity.

#### Learning Outcome:

1. Detailed exposure of biogeography and biodiversity.
2. In-depth knowledge of circulation of atmospheric cycles.
3. Identify different types of soil, distribution and management of soil resources.

#### Assessment Method:

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Hydrological Cycle	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
II	Water Balance of River Basins	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
III	Water Resource Management	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
IV	Soil Resource	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report
V	Soil Resource Management	Classroom Lectures, PPTs, discussions, and Fieldwork	Assignments, Tests, Presentations, Project Report

**Keywords:** Hydrological Cycle, Water Balance, Soil Resource , Resource Management



## DSE 4

### Agricultural Geography

#### Course Objectives:

1. To understand the concept of land use/land cover classification and determinants of agriculture.
2. To familiarize the students with agriculture regions of India and various types of agriculture system in India.
3. To analyze the food security along with various agricultural revolutions and government policies in India.

#### Learning Outcome:

After studying, students will be able to:

1. Conceptualize the agriculture and its determinants.
2. Get the overview of Indian and World agriculture regions and systems.
3. Have sound knowledge of agriculture revolutions and food security

#### Assessment Methods:

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1	Defining the Field: Introduction, nature and scope; Land use/ land cover definition and classification	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates classroom test.
2	Determinants of Agriculture: Physical, Technological and Institutional	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/ Debates, classroom test.
3	Agricultural Regions of India: Agro-climatic, Agro-ecological & Crop Combination Regions.	Classroom Lectures, Tutorials, PPT	Assignments, Discussion/Debates, classroom test.



4	Agricultural Systems of the World (Whittlesey's classification) and Agricultural Land use model (Von Thunen, modification and relevance).	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debates, classroomtest.
5	Food Security: Concept, approaches, pattern, Indian revolution and government policies	Classroom Lectures, Tutorials, PPT	Assignments, Discussions/Debate s classroomtest.

**Keywords:** Agriculture, Agricultural Regions, Agricultural Systems, Food Security

**DEPARTMENT OF  
GEOGRAPHY**



**ST. XAVIER'S COLLEGE BURDWAN**

St. Xavier's Road,  
P.O. Sripalli  
Burdwan – 713103,  
West Bengal, India

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