

SARAT CENTENARY COLLEGE

Department of Geography

Course Outcomes (CBCS)

Geography Honours

SEM-I

CC1- Geotectonics and Geomorphology

1. This course is framed to identify the age and source of crustal rocks. It also includes the study of major tectonic events of the Earth's crust, deformation, kinematics, and stability. This helps the students to recognize the historical development of ideas and scientific breakthrough associated with formulation of the Plate Tectonic Theory.
2. Further, emphasis is placed on the mechanism of geomorphic processes and on the relationship between properties of earth materials and the forces applied to them by gravity, wind, ice water, waves, and humans.
3. Various landform features formed by the agents of geomorphic process has helped the students to identify the landforms and the processes and factors that work behind the formation of various landforms. Further student may gather knowledge about
 - The relationship between geological structure and river network and landforms.
 - How landscape evolution and slope development has been occurred.
 - Earth's interior with the help of seismology
 - The concept of isostasy, different types of rocks, different geomorphological processes, and resultant landforms, etc.

CC2 - Cartographic Techniques and Geological map study (Theory & Practical)

Theory:

1. Students learn the classification and various types of maps such as Cadastral maps, Topographical maps, Thematic maps, Geological map, map projection, etc. It is helpful to students as they can interpret the maps and understand the settlement pattern, drainage pattern, different scales Patterns, vegetation, transport and communication network of any region or area.
2. Types and characteristics of selected rocks and minerals are taught so that they can develop the skill of identifying the rocks and minerals. Some of the techniques of identification are colour, structure, texture etc.

Practical:

1. Cartographic techniques are the method of preparing maps based on calculation and geological maps study details with the identification of geological features.
2. These also helps to learn some concept about different types of scale like Linear, Diagonal and Vernier.
3. Furthermore, it may gather some knowledge about how to Interpreting, reading, analysing and identifying features from geological and topographical maps.
4. Geography, being a practical based subject, students learn the actual procedure and technique of drawing and interpreting maps and constructing projections. Also, they understand its relevance advantages and disadvantages.

SEM-II

CC3- Human Geography

Human Geography is a field of study that examines the relationships between people and their environments, focusing on spatial and temporal aspects of human existence. By the end of a course in Human Geography, students should be able to achieve several key outcomes:

1. Understanding of Key Concepts: Students will understand fundamental concepts such as place, space, scale, landscape, region, and globalization.
2. Thematic Knowledge: Students will gain knowledge in key thematic areas of human geography, including population, culture, economy, urbanization, and political organization.
3. Spatial Awareness: Students will develop an understanding of spatial patterns and processes that shape human activities on Earth.

4. **Critical Thinking:** Students will enhance their ability to critically analyse social, economic, and environmental issues from a spatial perspective.
5. **Data Interpretation:** Students will learn to interpret and analyse various types of geographic data, including maps, spatial statistics, and Geographic Information Systems (GIS).
6. **Research Skills:** Students will be able to conduct geographic research, utilizing both qualitative and quantitative methods.
7. **Collaborative Skills:** Students will improve their ability to work collaboratively on projects, reflecting the interdisciplinary nature of human geography.
8. **Ethical Awareness:** Students will understand the ethical implications of geographic research and practice, including issues of equity, justice, and sustainability.
9. **Global Perspective:** Students will appreciate the global interconnectedness of human societies and the importance of a global perspective in understanding local and regional issues.
10. **Continued Interest and Engagement:** Students will be motivated to continue learning about human geography and stay informed about current geographic issues and developments.

CC4: Cartograms, Survey and Thematic Mapping

Theory:

1. Concept of Cartograms and Thematic Maps, Concept and utility of Isopleths, Choropleth, Climatographic, Hythergraph and Ergo graph are the important topics covered under this unit.
2. The techniques of preparing and interpreting demographic charts and maps are also taught.
3. The measurement of height, distance and level of the ground are calculated with the help of survey equipment such as Dumpy Level, Transit Theodolite and Prismatic Compass.

Practical:

1. Diagrammatic representation of data (Star diagram, Age-Sex pyramid, Pie diagram, Circles, Dots and Sphere Isoclines and Choropleth methods) helps in the interpretation and reflects a clear picture of a place based on any given data.
2. Countering by Dumpy Level and Prismatic Compass along with determination of height of objects using Transit Theodolite (accessible and inaccessible base) students can calculate the distance between two given points and can see how smooth or undulating the surface is. This method is generally used before laying railway tracks, making roadways and bridges.

SEM-III

CC5- Climatology:

1. Students learn about all the elements which form the atmosphere. Also they learn about the Ozone layer which protects the earth from the ultra violet rays.
2. The effects of Green House and the gasses which are released in the atmosphere are one of the causes for the depletion of the protective Ozone layer. Therefore, awareness among every individual is necessary.
3. Based on different theories and atmospheric phenomena students learn the evidences and causes of climatic change.
4. The reasons for stability and instability in weather and rise in temperature every year are matters of concern, as it directly or indirectly affects the living being on the planet. Therefore, it is important to build awareness and concern among students.

CC6: Statistical Methods in Geography:

This course is designed to provide students with a comprehensive understanding of statistical techniques and their applications in geographic research. By the end of the course, students should be able to achieve several specific outcomes:

1. Learn the significance of statistics in geography.
2. Understand the importance of use of data in geography.
3. Gain knowledge about different scales of measurement.
4. Know about different types of sampling.
5. Develop an idea about theoretical distribution.
6. Acquire knowledge about central tendency, dispersion, correlation, linear regression, and time series analysis.
7. Ability to construct data matrix.
8. Using statistical techniques to summarize, represent, analyse and interpret the data matrix.

CC7- Geography of India:

1. Along with knowing the physiography of the country, students acquire deeper knowledge of India and the infinite variety of caste, and creed, language, and tribes.
2. Over the year's efforts and policies have been laid down by the government for the development in the agricultural sector as well as industrial development. Based on the current scenario students can make a comparative study of the rate of development in the country in various sectors.

3. This unit particularly deals with the state of West Bengal. Its content is about the physiographic divisions and forest and water resource. Students learn the importance of water resource and how it is being contaminated, government's role in dealing with such problems.
4. Mining, setting up of new industries and depletion of forest cover to accommodate the growing population has been a major point of concern. This has imposed a negative impact on the biodiversity of West Bengal.

SEC1- Computer Basics and Computer Applications:

1. Understanding of Numbering Systems.
2. Acquiring practical skills of application of different statistical techniques and preparation of annotated diagrams with the help of computer.
3. Develop an idea about internet surfing.

SEM-IV

CC8- Regional Planning and Development:

1. Regional Planning deals with the efficient placement of land use activities, infrastructure, and settlement growth across a larger area of land. It also includes formulating of laws that will guide the efficient planning and management of such said region.
2. Regional Planning also helps in reducing the conflicts and competition for resources between cities and region.
3. Students develop specialized knowledge in Regional Planning which provide a range of professional skills such as designing the layout of a region and laying development plans.
4. The study on Regional Development focuses on the socio- economic and Environmental Development of regions with a view to train students to take qualified, professional, expert, and managerial positions in the sphere of complex socio- economic and environmental regional development.
5. Students acquire the knowledge and understand the reasons which are the cause of regional imbalance in India. They learn to give logical suggestion for a region's development.

CC9- Economic Geography

1. Economic geography is the study of interdependence of production and development of a region.

2. Students understand the reasons why certain regions are outstanding in the production and exportation of various articles and why others are significant in the importation and utilization of these things.
3. Students learn the importance of Economic activities in Primary, Secondary and Tertiary level which leads to economic growth of a country.

CC10 - Environmental Geography:

This topic focuses on the interactions between human societies and natural environments, emphasizing the spatial aspects of environmental issues and solutions. By the end of the course, students should be able to achieve several key outcomes:

1. Students acquire the knowledge on the inter-dependent relation between man and environment.
2. This spreads awareness on the effects that are caused due to Environmental Degradation and Pollution.
3. Students also learn Urban Environment issues which are related to Waste Management.
4. A field survey is conducted based on a questionnaire. Students collect primary data and extract the environmental problems of the selected area.
5. Develop skills regarding preparation of questionnaire for perception survey on environmental problems.
6. Assess environmental impact through Leopold Matrix.
7. Acquire practical knowledge regarding quality assessment of soil using field kit.
8. Understanding of interpretation of air quality using central and state pollution control board data.

SEC 2 - Advanced Spatial Statistical Techniques:

This course is designed to provide students with an in-depth understanding of statistical methods specifically tailored to analyse spatial data. By the end of the course, students should be able to achieve several key outcomes:

1. Gain knowledge about concept of probability and its geographical application.
2. Acquire practical knowledge about different statistical techniques like correlation, regression analysis, time series, t-test, and nearest neighbour analysis.

SEM-V

CC11 - Research Methodology and Field Work

Our aim of this course is to equip students with the essential skills and knowledge needed to design, conduct, and analyse geographic research effectively. By the end of the course, students should be able to achieve several key outcomes:

1. The techniques of writing scientific reports have been highlighted. From the initial stage to the final completion of a project or fieldwork has been explained in details.
2. The first unit is framed to understand the significance of literature review in research, followed by objectives, hypothesis, and problems of a research.
3. Techniques of preparing notes, references, bibliography, abstract and keywords.
4. Field work is an essential component in geography. This helps the students to develop subject knowledge and perspective.
5. Pre- field, field and post- field preparations has been included in this unit. The field work includes selection of a study area, field techniques and tools such as questionnaire, interview, photos, collection of samples and post - field tasks.
6. Based on the above-mentioned techniques, students prepare a field report of a selected area. The theoretical information along with the survey on ground provide exposure and also helps in developing skills

CC12 - Remote Sensing and GIS:

Our aim in this course is to provide students with comprehensive skills and knowledge related to the acquisition, analysis, and interpretation of spatial data. By the end of the course, students should be able to achieve several key outcomes:

1. Understanding Core Concepts: Students will understand the fundamental principles of remote sensing and GIS, including the electromagnetic spectrum, image acquisition, spatial data models, and georeferencing.
2. Thematic Knowledge: Students will gain knowledge in key thematic areas such as land use/land cover mapping, environmental monitoring, urban planning, and resource management.
3. Data Acquisition and Processing: Students will learn techniques for acquiring remote sensing data from various platforms (e.g., satellites, drones) and processing this data for analysis.
4. Image Interpretation and Analysis: Students will develop skills in interpreting and analysing remote sensing imagery using various techniques, such as classification, enhancement, and change detection.

5. Spatial Data Analysis: Students will gain proficiency in analysing spatial data using GIS tools, including spatial statistics, overlay analysis, and network analysis.
6. The unit lays special importance of the use of GIS techniques and its application used for flood management and urban sprawl.
7. Principals of GNSS positioning uses and waypoint collection method is equally an important topic.
8. Students are facilitated with computer labs. The software used is Q GIS. Geo-referencing of scanned maps, preparation of FCC using IRS LISS- 3 data and preparation of thematic maps etc. has helped in inculcating more interest in the subject.
9. Students will understand the ethical considerations related to the use of remote sensing and GIS data, including issues of privacy, accuracy, and data ownership.
10. Students will adhere to professional standards and best practices in the field of remote sensing and GIS, ensuring the integrity and quality of their work.

DSE1-Cultural and Settlement Geography

This course will help our student to learn about the matter of

- the scope, content and development of cultural geography.
- the concept of cultural hearth and realm, cultural landscape, cultural innovation and diffusion, cultural segregation, cultural diversity and acculturation.
- the various racial groups of the world.
- the scope and content of settlement geography.
- rural settlements-definition and characteristics, role of site and situation.
- the census definition and categories of urban settlement. Finally,
- Analyse the classical models of urban morphology. CO8- Develop knowledge about functional classification of cities.

DSE2- Population Geography

This course will help our student to acquire about the substance of

- the development of population geography and the relationship between population geography and demography.
- the determinants of population dynamics.
- Evaluate the theories of population growth and demographic transition model.
- Trace the trend and pattern of population growth of India since independence.
- the population composition of India.
- the causes and types of migration and analyse its theories.

- measuring human development indicators.
- Explore the population policies of Sweden and China.
- Studying health and unemployment as contemporary issue in population geography.

SEM-VI

CC13- Evolution of Geographical Thought

Our major aim of this course is exploring the historical development and theoretical underpinnings of geography as a discipline. By the end of the course, students should be able to achieve several key outcomes:

1. **Historical Understanding:** Students will gain an understanding of the historical evolution of geographical thought from ancient times to the present.
2. **Key Theories and Concepts:** Students will learn about major theories, concepts, and paradigms that have shaped the field of geography.
3. **Influential Geographers:** Students will become familiar with the contributions of key geographers and their impact on the development of geographical thought.
4. **Critical Analysis:** Students will develop the ability to critically analyse different schools of thought and theoretical approaches in geography.
5. **Comparative Evaluation:** Students will be able to compare and contrast various geographical theories and evaluate their relevance and application in contemporary contexts.
6. **Interdisciplinary Connections:** Students will understand the interdisciplinary nature of geography and its connections with other fields such as sociology, anthropology, and environmental science.
7. **Application of Theories:** Students will learn to apply geographical theories and concepts to analyse real-world issues and phenomena.
8. **Case Studies:** Students will engage with case studies that illustrate the application of geographical thought in various contexts, such as urban planning, environmental management, and spatial analysis.
9. **Ethical Considerations:** Students will understand the ethical implications of geographical research and practice, including issues of bias, representation, and the social responsibilities of geographers.
10. **Professional Development:** Students will adhere to professional standards and best practices in the field of geography, demonstrating integrity and academic rigor in their work.

11. Continued Engagement: Students will be motivated to continue learning about the evolution of geographical thought, staying informed about new developments and emerging trends in the field.
12. Adaptability: Students will develop the ability to adapt to new theoretical perspectives and approaches as they emerge, ensuring they remain proficient in contemporary geographical thought.
13. Societal Impact: Students will recognize the role of geographical thought in addressing societal challenges and contributing to policy-making and planning.

CC14 - Disaster Management

This course is designed to provide students with the knowledge and skills needed to effectively prepare for, respond to, recover from, and mitigate the impacts of disasters. By the end of the course, students should be able to achieve several key outcomes:

1. Understanding Disaster Concepts: Students will understand key concepts related to disasters, including types of disasters (natural, technological, and human-made), phases of disaster management, and the principles of disaster risk reduction.
2. Knowledge of Disaster Frameworks: Students will gain knowledge of international, national, and local disaster management frameworks, policies, and legislation.
3. Risk Assessment: Students will develop skills to conduct risk assessments, including hazard identification, vulnerability analysis, and risk evaluation.
4. Data Analysis: Students will learn to analyse disaster-related data using statistical and spatial analysis tools to inform decision-making and planning.
5. Critical Evaluation: Students will enhance their ability to critically evaluate disaster management strategies and practices, considering their effectiveness and efficiency.
6. Emergency Planning: Students will learn to develop and implement emergency plans, including evacuation plans, communication strategies, and resource allocation.
7. Mitigation Strategies: Students will be able to design and implement disaster mitigation strategies to reduce the impact of disasters on communities.
8. Response Coordination: Students will understand the principles of coordinating disaster response efforts among different agencies and organizations.
9. Recovery Planning: Students will learn to plan and manage recovery efforts, including rebuilding infrastructure, restoring services, and supporting affected populations.
10. Innovative Solutions: Students will explore and apply innovative technologies and methods in disaster management, such as remote sensing, GIS, and early warning systems.

11. Public Awareness: Students will learn to communicate disaster risk and preparedness information to the public, enhancing community awareness and resilience.
12. Ethical Considerations: Students will understand the ethical implications of disaster management, including issues related to equity, justice, and the protection of vulnerable populations.
13. Professional Standards: Students will adhere to professional standards and best practices in disaster management, ensuring the integrity and quality of their work.
14. Policy Development: Students will understand how to contribute to the development and implementation of disaster management policies at various levels of government.
15. Resource Management: Students will learn to manage resources effectively during disaster response and recovery, ensuring efficient and equitable distribution.

DSE3- Resource Geography

This course will help our student to know about the matter of

- The importance of resource geography and its relation with other sub disciplines.
- Develop knowledge about concept and classification of resources.
- The functional theory of resource.
- The problems of resource depletion and acquire knowledge about resource conservation.
- The concept of 'limits to growth'.
- The distribution, utilization, problems and management of mineral and energy resources in Indian context.
- The contemporary energy crisis and assess the future scenario. Co8- critical appraisal of sustainable resource development.

DSE4- Soil and Bio Geography

This course will help our student will learn about the matter of

- Definition and factors of soil formation.
- Physical and chemical properties of soil.
- Soil, principles of soil classification, soil degradation and management.
- The scope of bio geography.
- Introducing ecosystem and biosphere concepts.
- Analysing the role and importance of bio-geo chemical cycles.
- The factors of plant growth.
- Biomes and comprehend the causes and consequences of biodiversity loss.