# PROF. S. NURUL HASAN COLLEGE,FARAKKA

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**Under Choice Based Credit System (CBCS)**
**for**
**Undergraduate Programmes of Geography Honours**
**Academic Session 2018-2019 to 2022-2023**
**(With Effect from the 2018-19)**

| Sl No | Semester | Course Code | Course Title | Course Outcomes |
|---|---|---|---|---|
| 1 | Semester-I | GEO/H/CC/T/01 (THEORY) | GEOTECTONICS AND GEOMORPHOLOGY | 1. To understand the development of tectonic and structural Earth evolution and the geologic time scale.<br>2. Analyze the interior structure of Earth using seismological data.<br>3. Apply the principle of isostasy, focusing on theories given by both Airy and Pratt.<br>4. Explain plate tectonics, different types of folds, faults, earthquakes, and volcanic activities.<br>5. Look at geomorphological processes related to weathering, mass wasting, and models of landscape evolution with focus on erosional and depositional landforms. |
| 2 | | GEO/H/CC/T/02 (THEORY) | Cartographic Techniques and Geological Map Study | 1. Explain the nature, scope, and classification of maps and cartography.<br>2. Apply different types of map scale and coordinate systems.<br>3. Map projection and analysis, with emphasis on the UTM projection.<br>4. Identify and describe common rocks and minerals including their characteristics.<br>5. Interpret such geological terms as bedding planes, unconformity, and fault-related terms such as dip, throw and hade. |
| 3 | | GEO/H/CC/P/02 (Practical) | Cartographic Techniques and Geological Map Study | 1. Learn to make many types of scale and map projections.<br>2. Interpret and analyze relief profiles and maps including relative relief and slope maps.<br>3. Apply ordering techniques on streams and understand the characteristic of drainage basin. |

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| | | | | 4. Transect charts can be prepared by the analyst to analyze relationships between physical and cultural features.<br>5. Interpret geological maps and prepare geological sections for a variety of structures such as horizontal, uniclinal, folded, and faulted formations. |
| 4 | SEMESTER-II | GEO/H/CC/T/03 (Theory) | Human Geography | 1. Describe the scope and major themes of human geography including the topics of race and ethnicity, and cultural regions.<br>2. Present an analysis in regards to how human societies evolved from hunting and gathering societies to urban industrial ones.<br>3. Study population dynamics: growth and distribution, and the Demographic Transition Model.<br>4. It examines the relationships among population, resources, and the environment with respect to development-environment conflict.<br>5. Identify and describe settlement patterns of rural and urban, social morphology and present trends of urbanization across the world. |
| 5 | | GEO/H/CC/T/04 (Theory) | Cartograms, Survey and Thematic Mapping | 1. Learn the concepts and uses of cartograms and thematic maps.<br>2. Interpret and construct isopleth, choropleth maps, and different climatic graphs like climograph, hythergraph, and ergograph.<br>3. Graph and chart demographic data in a format such as the age-sex pyramid.<br>4. Apply basic surveying techniques using instruments like Abney's level, prismatic compass, and transit theodolite.<br>5. Interpret land use and land cover maps to conduct spatial analysis. |
| 6 | | GEO/H/CC/P/04 (Practical) | Cartograms, Survey and Thematic Mapping | 1. Develop the skills of diagrammatic representation of data in the form of star, age-sex pyramid and pie diagrams.<br>2. Visualize spatial data on maps using proportional circles, dots, spheres, isolines, and choropleth methods.<br>3. Do the surveying with prismatic compass and dumpy |

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| | | | | level-draw profile.<br>4. Measure height of objects with accessible bases using a transit theodolite. |
| 7 | SEMESTER-III | GEO/H/CC/T/05 (Theory) | Climatology | 1. Determine the nature, composition, and layering of the atmosphere, apart from insolation and distribution of temperature.<br>2. Study the different atmospheric processes of condensation, the mechanism of precipitation, and dynamics of air masses.<br>3. Observe the pattern of weather and general atmospheric circulation; monsoon systems, cyclones.<br>4. Apply the climatic classification systems Köppen and Thornthwaite.<br>5. Evaluate the phenomena of climatic change, such as the greenhouse effect and the relevance of the ozone layer. |
| 8 | | GEO/H/CC/T/06 (Theory) | Statistical Methods in Geography | 1. Understand how statistics may be used in geography and what types of data and measurement scales are prevalent.<br>2. Collect, tabulate, and present geographical data in the form of statistical tables and charts.<br>3. Apply different sampling techniques, such as random, systematic, and stratified sampling.<br>4. Analyze data by measures of central tendency, dispersion, correlation, and regression.<br>5. Perform time series analysis and interpret the probability distributions, particularly the normal distribution. |
| 9 | | GEO/H/CC/P/06 (Practical) | Statistical Methods in Geography | 1. Construct data matrices and compute frequency tables, measures of central tendency and dispersion.<br>2. Create and interpret histograms and frequency curves based upon data sets.<br>3. Draw scatter diagrams and regression lines; map residuals from regression for analysis.<br>4. Interpret the statistical output in a manner such that proper inference can be obtained from the geographical data. |

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| 10 | | GEO/H/CC/T/07 (Theory) | Geography of India | 1. Physical geography of India with geological and physiographic divisions.<br>2. The understanding of regionalization in India through various frameworks-physiographic, socio-cultural, and economic.<br>3. Study climate, soil, vegetation, and their features with population distribution and growth.<br>4. Evaluate agricultural regions, resource distribution (minerals and power), and industrial development.<br>5. Study the physical, demographic, and resource profiles of West Bengal along with regional development details. |
| 11 | | GEO/H/SEC/P/01/A (Practical) | Computer Basics and Computer Applications | 1. Understand and apply the use of binary arithmetic and numbering systems.<br>2. Work with data computations and formatting in spreadsheet, including computation of the statistical analyses: rank, mean, median, and regression.<br>3. Draw and interpret annotated diagrams, including scatter diagrams and histograms.<br>4. Employ the Internet to generate and extract information. |
| 12 | | GEO/H/SEC/P/01/B (Practical) | Remote Sensing | 1. Understand the principles and concepts of RS: satellite and sensor classification.<br>2. Apply sensor resolutions and referencing techniques related to image with reference to IRS and Landsat missions.<br>3. Prepare and interpret false color composites from various satellite images. Employ image rectification and enhancement techniques.<br>4. Use remote sensing image interpretation to extract features and carry out land use and land cover inventories. |
| 13 | SEMESTER-IV | GEO/H/CC/T/08 (Theory) | Regional Planning and Development | 1. Understand what is meant by 'region' and the different types of region: formal, functional, and planning regions.<br>2. Apply the principles and techniques of regional planning and multi-level planning in India.<br>3. Theorize the theories and different models of regional development, including growth pole, cumulative |

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| | | | | causation, and core-periphery model.<br>4. It is necessary to assess the contribution to regional imbalances and the importance of balanced development in India.<br>5. Evaluate parameters of human development and measurement tools. |
| 14 | | GEO/H/CC/ T/09 (Theory) | Economic Geography | 1. Understand what economic geography entails and how to approach it, including factors that influence economic activities and costs of transport.<br>2. Location theories of agriculture and industry - explanation.<br>3. Relate primary economic activities: agriculture, forestry, fishing, mining. Case studies.<br>4. Assess secondary activities, including manufacturing sectors, in addition to the concept of manufacturing regions.<br>5. Read about tertiary activities, agricultural systems, and transportation structures such as transnational sea-routes and major transport networks in India. |
| 15 | | GEO/H/CC/ T/10 (Theory) | Environmental Geography | 1. Understand the concept and scope of environmental geography, including perception of the environment through different civilizations.<br>2. Discuss concepts on ecosystems such as structure, functions, and the holistic approach of the environment.<br>3. Examine environmental pollution and degradation across land, water, and air, noting the related issues in agriculture and urban settings.<br>4. Evaluate the environmental issues of metropolitan areas, particularly problems concerning waste management.<br>5. Observe and assess environmental programs and policies internationally, nationally as well as locally. |
| 16 | | GEO/H/CC/ P/10 (Practical) | Environmental Geography | 1. Develop and carry out questionnaires that aim to survey perceptions about environmental problems.<br>2. Do environmental mapping and test the quality of the soil using field kits for pH and NPK. |

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| | | | | 3. Interpretation of air quality data would be drawn from sources under CPCB/WBPCB.<br>4. Gather and present project files with exercises related to environmental geography. |
| 17 | SEMESTER-V | GEO/H/CC/T/11 (Theory) | Research Methodology and Field Work | 1. Understand the principles of research in geography: types of research, importance of research, and the process of literature review and research design.<br>2. Produce research problems, objectives and hypotheses, and outline the structure of a research report using APA style.<br>3. Employ fieldwork techniques and tools of observation, questionnaires, interviews, and landscape surveys.<br>4. Do the preparations pre-field, maintain ethical considerations, and develop comprehensive field reports with aims, objectives, methodology, and analysis. |
| 18 | | GEO/H/CC/P/11 (Practical) | Research Methodology and Field Work | 1. Field surveys are to be carried out, with the collection of primary data integrated with secondary data in order to solve some identified geographical problems.<br>2. Prepare a detailed handwritten report within the given word limits and format, including maps, diagrams, and photographs.<br>3. Showcase competence in the presentation of reports, including guidelines on submission and ethical considerations. |
| 19 | | GEO/H/CC/T/12 (Theory) | Remote Sensing and GIS | 1. Understand the stages involved in remote sensing, platforms, and sensors used in Remote Sensing - Application of sensor resolutions.<br>2. Interpret aerial photographs and prepare false color composites for analysis.<br>3. Know the underlying data structure in GIS, for example, raster and vector data type, learn to manipulate data and carry out overlay analysis.<br>4. Implement the principles of GNSS for positioning, collecting waypoints, and integrating these data into a GIS. |

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| 20 | | GEO/H/CC/P/12 (Practical) | Remote Sensing and GIS | 1. Georeference maps and digitize spatial features such as point, line, and polygon.<br>2. Produce and overlay thematic maps by employing bar graphs, pie charts, and choropleth techniques.<br>3. Prepare FCC and LULC maps using data from IRS LISS-III or LANDSAT (ETM+) data.<br>4. Image classification and thematic map preparation using Q-GIS software. |
| 21 | | GEO/H/DSE/T/01/A (Theory) | Urban Geography | 1. Describe the nature, scope, and recent trends in urban geography.<br>2. Apply theories of Concentric Zone, Sector, and Multiple Nuclei to urban morphology.<br>3. Apply concepts like Christaller's Central Place Theory, Rank Size Rule, and the Law of the Primate City to urban patterns.<br>4. Study ecological processes of urban growth and characteristics of city regions.<br>5. Evaluate the trend of Urbanization in India and urban problems by case studies of Delhi and Kolkata, including urban renewal programmes like JNNURM. |
| 22 | | GEO/H/DSE/T/01/B (Theory) | Cultural and Settlement Geography | 1. Understand the scope, development, and content of cultural geography, including cultural hearths, processes of diffusion, and cultural diversity. Analyze the impact of culture, technology, and development on societies.<br>2. Understand the scope and content of settlement geography; rural settlement morphology; house types in India; and definition of urban settlement. The classical urban morphology models and functional classification shall be used to understand the structure and functions of cities. |
| 23 | | GEO/H/DSE/T/02/A (Theory) | Population Geography | 1. Understand the emergence of Population Geography and its relationship with demography. This will also be clarified through sources of population data: a) the census, and b) vital statistics, with a focus on India.<br>2. Discuss the global pattern of population distribution; |

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| | | | | growth patterns and the concept of optimum population. Illustrate the Malthusian and Marxian theories related to population.<br>3. Theories of migration, causes of migration, types of migration, and population policies in India and China - a critical assessment.<br>4. Population health and unemployment issues, the concept of Human Development Index, and its implications for population development. |
| 24 | | GEO/H/DSE/T/02/B (Theory) | Social Geography | 1. Understand the nature, scope, and contents of the Social Geography, Social Groups, behaviour and structures.<br>2. Discuss various aspects of social structure like caste, class, religion and race and perceive social stratification in India.<br>3. Assess the concept and indicators of social well-being, living standards and quality of life, models by Knox and Smith.<br>4. Discuss social problems of inclusion, exclusion, crimes, and violence. Understand the role and importance of SIA in this context.<br>5. Discussion of various social policies in India, like Sarva Shiksha Abhiyan and National Rural Health Mission, and impacts on social development. |
| 25 | SEMESTER-VI | GEO/H/CC/T/13 (Theory) | Evolution of Geographical Thoughts | 1. Trace the development of geography from its ancient contributions of Greek, Chinese, and Indian geographers to the impact of the Dark Age and Arab contributions.<br>2. The paper discusses how it evolved from cosmography to scientific geography, key figures like Bernard Varenius and Immanuel Kant, and the dualism issue affecting geographical thought.<br>3. Critical evaluation of the contributions of major geographical thinkers and schools of thought from Germany, France, Britain, and the USA; to understand the evolution of geographical thought in India and the impact of the Quantitative Revolution.<br>4. Recent trends and perspectives in geography - |

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| | | | | Behavioralism, Systems approach, Radicalism, Feminism, and the drift towards Post Modernism and changing concepts of space. |
| 26 | | GEO/H/CC/T/14 (Theory) | Disaster Management | 1. Identify various hazards and disasters, and understand the approaches to risk perception, vulnerability assessment, and hazard paradigms.<br>2. Evaluate the various responses to hazards in terms of preparedness, trauma management, and resilience in addition to capacity building.<br>3. Learn about appropriate hazard mapping techniques and data utilized to implement effective hazard mapping and risk assessment.<br>4. Analyze earthquakes, landslides, cyclones, and fire-one factor, vulnerability, consequences, and management strategies. |
| 27 | | GEO/H/CC/P/14 (Practical) | Disaster Management | 1. Present a detailed analysis for any one disaster type, describing factors, impacts, and management strategies.<br>2. Develop and propose a preparedness plan for a disaster in the vicinity of the candidate's institution or residence.<br>3. Prepare an overall detailed project report on the analysis, preparedness plan, and recommendations regarding disaster management.<br>4. Provide real-life applications of knowledge learned from theory, as it relates to disaster response and mitigation strategies. |
| 28 | | GEO/H/DSE/T/03/A (Theory) | Fluvial Geomorphology | 1. Learn about the scope, importance, and how river systems and their hydrological elements are studied.<br>2. Understand runoff processes, channel patterns, factors that control them; runoff cycle and drainage basins dynamics.<br>3. Recognize different types of fluvial landforms and processes involved in their formation.<br>4. Apply the basics of integrated watershed management, including management of river bank erosion and its impact on land use. |

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| 29 | | GEO/H/DSE/T/03/B (Theory) | Resource Geography | 1. Define and classify natural resources; understand various approaches to utilization and conservation of resources.<br>2. Distribution, Utilization, and Management of Metallic Resources - Iron Ore, Bauxite, Mica, Gypsum, and Other Non-metallic Resources.<br>3. Problems and Management Strategies for Conventional and Non-conventional Energy Resources; Contemporary Energy Crises and Future Scenario.<br>4. Address resource depletion in relation to interested sustainable use that could alleviate global environmental challenges. |
| 30 | | GEO/H/DSE/T/04/A (Theory) | Soil and Bio Geography | 1. The formation and properties of soil involve describing factors and processes of soil formation; describe the characteristics and importance of different types of soils and their properties.<br>2. Apply principles of soil classification and concepts of land capability for proper management of soils in relation to erosion and degradation.<br>3. Define and explain basic ecological terms such as ecosystems, biomes, and trophic structures; recognize energy flow and nutrient cycling within these systems.<br>4. Biodiversity and Conservation Describe the coverage and features of major biomes, assess the effects of deforestation, and evaluate biodiversity threats and conservation strategies. |
| 31 | | GEO/H/DSE/T/04/B (Theory) | Agricultural Geography | 1. Describe origin and dispersal of agriculture and the role of agriculture in human society; identify major agricultural systems; and describe their characteristics.<br>2. Crop patterns, crop combination, measures of agricultural productivity: Review Von Thunen's model in contemporary contexts<br>3. Assess the factors affecting agricultural yield and productivity with special reference to irrigation practices and its importance in India.<br>4. Discuss any agricultural issues in South Asia, contemporary global production trends, food security, and globalization of agriculture. |

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