CBCS SYLLABUS FOR UNDERGRADUATE
HONOURS COURSE IN GEOGRAPHY

UNIVERSITY OF NORTH BENGAL
RAJA RAMMOHUNPUR
DISTRICT: DARJILING - 734013
B.A/B.Sc. (HONOURS COURSE)
GEOGRAPHY
DISCIPLINE CORE SPECIFIC – DSC

FIRST SEMESTER

   Course Code: GEO-H-DSC-1-01- PR -Practicals

2. Course Code: GEO-H-DSC-1-02-TH - Geomorphology
   Course Code: GEO-H-DSC-1-02- PR - Practical

SECOND SEMESTER

   Course Code: GEO-H-DSC-2-03-PR –Practicals

   Course Code: GEO-H-DSC-2-04-PR - Practical

THIRD SEMESTER

5. COURSE CODE: GEO-H-DSC-3-05-TH - Climatology
   COURSE CODE: GEO-H-DSC-3-05-PR –Practicals

6. COURSE CODE: GEO-H-DSC-3-06-TH - Statistical Methods in Geography
   COURSE CODE: GEO-H-DSC-3-06-PR –Practicals

7. COURSE CODE: GEO-H-DSC-3-07-TH - Geography of India
   COURSE CODE: GEO- H-DSC-3-07-PR - Practical

FOURTH SEMESTER

8. Course Code: GEO-H-DSC-4-08-TH - Economic Geography
   Course Code: GEO-H-DSC4-08-PR –Practicals

9. Course Code: GEO-H-DSC-4-09-TH - Regional Planning and Development
   Course Code: GEO-H-DSC4-09-PR -Practicals

10. Course Code: GEO-H-DSC-4-10-TH - Field Work and Research Methodology
    Course Code: GEO-H-DSC-4-10-PR -Practical (Field Survey)
FIFTH SEMESTER

    Course Code: GEO-H-DSC-5-11-PR -Practicals

    Course Code: GEO-H-DSC-5-12-PR -Practicals

SIXTH SEMESTER

    Course Code: GEO-H-DSC-6-13-PR –Practicals

14. Course Code: GEO-H-DSC-6-14-TH - Disaster Management
    Course Code: GEO-H-DSC-6-14-PR -Practicals

SKILL ENHANCEMENT COURSE – SEC (ANY ONE)

Students will have to choose any one from the given course

THIRD SEMESTER


2. Course Code: GEO-SEC-A-3-01-TH :Rural Development

FOURTH SEMESTER

Students will have to choose any one from the given course

1. Course Code: GEO-SEC-A-4-02-TH :Geographical Information System

DISCIPLINE SPECIFIC CORE COURSE - DSC

FIFTH SEMESTER
(Students will have to choose any two course, from Population Geography or Resource Geography and Urban Geography or Agricultural Geography)

   Course Code: GEO-H-DSE-5-01-PR: Population Geography
   Course Code: GEO-H-DSE-5-01-TH: Resource Geography
   Course Code: GEO-H-DSE-5-01-PR: Resource Geography

2. Course Code: GEO-H-DSE-5-02-TH: Urban Geography
   Course Code: GEO-H-DSE-5-02-PR: Urban Geography
   Course Code: GEO-H-DSE-5-02-TH: Agricultural Geography
   Course Code: GEO-H-DSE-5-02-PR: Agricultural Geography

SIXTH SEMESTER
(Students will have to choose any two course, from Advanced Cartography or Political Geography and Hydrology & Oceanography or Social Geography)

3. Course Code: GEO-H-DSE-6-03-TH: Advanced Cartography
   Course Code: GEO-H-DSE-6-03-PR: Advanced Cartography
   Course Code: GEO-H-DSE-6-03-TH: Political Geography
   Course Code: GEO-H-DSE-6-03-PR: Political Geography

   Course Code: GEO-H-DSE-6-04-PR: Hydrology and Oceanography
   Course Code: GEO-H-DSE-6-04-TH: Social Geography
   Course Code: GEO-H-DSE-6-04-PR: Social Geography
FIRST SEMESTER
GEOGRPHY
HONOURS COURSE
DISCIPLINE SPECIFIC CORE COURSE -DSC

COURSE CODE: GEO-H-DSC-1-01-TH   Credit: 04
GEOTECTONIC
1. Earth’s tectonic and structural evolution with reference to geological time scale;
2. Earth: Interior structure and theories of Isostasy
3. Earth Movements: Plate Tectonics: constructive, conservative and destructive plate
   margins and resultant landforms; and sea floor spreading
4. Types of folds and faults and resultant landforms, earthquakes; volcanoes and
   associated landforms.

COURSE CODE: GEO-H-DSC-1-01-PR   Credit: 02
PRACTICALS
1. Scales: Concept and application; graphical construction of plain, comparative
diagonal and vernierscales.
2. Map Projections: Classification, properties and uses; Mathematical/graphical
   construction of Polar Zenithal Stereographic Projection, Bonne’s Projection,
   Mercator’s Projections and Universal Transverse Mercator (UTM) Projection.

   Practical Record: A project file covering all practical topics must be prepared.

COURSE CODE: GEO-H-DSC-1-02-TH   Credit: 04
GEOMORPHOLOGY
1. Geomorphology: Nature and scope; Fundamental concepts
2. Geomorphic processes: weathering, mass wasting, cycle of erosion (Davis and
   Penck).
3. Evolution of erosional and depositional landforms: fluvial, karst, aeolian, glacial, and
   coastal;
4. Slope: Forms and processes

COURSE CODE: GEO-H-DSC-1-02-PR   Credit: 02
PRACTICALS
1. Topographical Map: Interpretation of mountain area with the help of cross and
   longitudinal profiles; interpretation of relief profile: superimposed, projected and
   composite;Slope Analysis: Wentworth’s method and Smith’s method.
2. Identification of rocks and minerals: granite, basalt, limestone, shale, sandstone,
   phyllite, slate, marble, schist, quartzite, bauxite, calcite, chalcopyrite, feldspar, galena,
   haematite, magnetite, mica, quartz and talc

   Practical Record: A project file covering all practical topics must be prepared.
Reading List


Important Note: Continuing evaluation will be as follows:

COURSE CODE: GEO-H-DSC-1-01: Class Test
COURSE CODE: GEO-H-DSC-1-02: Class Test
SECOND SEMESTER
GEOGRPHY
HONOURS COURSE
DISCIPLINE SPECIFIC CORE COURSE -DSC

COURSE CODE: GEO-H-DSC-2-03- H Credit: 04
HUMAN GEOGRAPHY
1. Defining Human Geography; major themes; contemporary relevance;
2. Space and society; cultural regions; race; religion and language
3. Population growth and distribution with special reference to India; population composition; Demographic Transition Theory

COURSE CODE: GEO-H-DSC-2-03-PR Credit: 02
PRACTICALS
1. Diagrammatic data presentation: line, bar and circle
2. Thematic Mapping Techniques: properties, uses and limitations; Areal Data: Choropleth, Chorochromatic, Dot, Proportional Cubes; Point Data: Isopleths

Practical Record: A project file covering all practical topics must be prepared.

COURSE CODE: GEO-H-DSC-2-04-TH Credit: 04
SETTLEMENT GEOGRAPHY
1. Settlements: Origin and growth of rural and urban settlements
2. Classification and morphology of settlements;
3. Trends and patterns of world urbanization with special reference to India
4. Theories of urban growth: Concentric Zone Theory; Sector Theory; Multiple Nuclei Theory

COURSE CODE: GEO-H-DSC-2-04-PR Credit: 02
PRACTICALS
1. Concept of levelling and surveying; Levelling by Dumpy Level along a given line by rise and fall and collimation method; determination of height of an object with accessible and inaccessible base in the same vertical plane by Theodolite (transit);
2. Thematic maps: Preparation and interpretation by conventional method.

Practical Record: A project file covering all practical topics must be prepared.)

Reading List
6. Cuff J. D. and Mattson M. T., 1982: Thematic Maps: Their Design and Production, Methuen Young Books

Important Note: Continuing evaluation will be as follows:

COURSE CODE: GEO-H-DSC-2-03: Term Paper
COURSE CODE: GEO-H-DSC-2-04: Seminar
THIRD SEMESTER
GEOGRPHY
HONOURS COURSE
DISCIPLINE SPECIFIC CORE COURSE -DSC

COURSE CODE: GEO-H-DSC-3-05-TH          Credit: 04
CLIMATOLOGY
2. Atmospheric pressure and winds: planetary winds, forces affecting winds, general circulation, jet streams; Monsoon: origin and mechanism.
3. Atmospheric moisture: evaporation, humidity, condensation, fog and clouds, precipitation types; climatic regions (Koppen)
4. Cyclones: Tropical cyclones, extra tropical cyclones

COURSE CODE: GEO-H-DSC-3-05-PR          Credit: 02
PRACTICALS
1. Meteorological instruments: Recording of Maximum and Minimum thermometer, Hygrometer, Fortin’s barometer
2. Interpretation of Indian daily weather report (summer and winter case); Representation of climatic data by climographs and hythergraphs

Practical Record: A project file covering all practical topics must be prepared.

COURSE CODE: GEO-H-DSC-3-06-TH          Credit: 04
STATISTICAL METHODS IN GEOGRAPHY
1. Significance of statistics in Geography
2. Use of data in Geography: Geographical data matrix, significance of statistical methods in geography; sources of data, scales of measurement (nominal, ordinal, interval, ratio)
3. Sampling: purposive, random, systematic and stratified
4. Theoretical distribution: probability and normal distribution.

COURSE CODE: GEO-H-DSC-3-06-PR          Credit: 02
PRACTICALS
1. Tabulation of data; frequency distribution table, class group and class interval; Descriptive statistics: Deciles, Quartiles, Cross Tabulation, Measures of Central Tendency (Mean, Median and Mode), Centrographic techniques, Measures of Dispersion (Standard Deviation, Variance and Coefficient of Variation).

Practical Record: A project file covering all practical topics must be prepared.
Each student will submit a practical record containing the following exercises:

1. Construction of a data matrix of about (10 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 to be computed and interpreted for any two attributes.
3. Based on the sample set and using two relevant attributes, a scatter and regression line to be plotted with a short interpretation.

Reading List


COURSE CODE: GEO-H-DSC-3-07-TH Credit: 04

GEOGRAPHY OF INDIA

1. Physical: Physiographic divisions, soil, vegetation, climate (characteristics and classification)
2. Economic: Mineral and power resources distribution and utilisation of iron ore, coal, petroleum, gas; agricultural production and distribution of rice and wheat; industrial development: automobile and Information Technology
3. Social: Distribution of population by race, caste, religion, language, tribes and their correlates
4. Regionalisation of India: Physiographic (R.L.Singh), Socio-cultural (Sopher), Economic (Sengupta)
COURSE CODE: GEO- H-DSC-3-07-PR Credit: 02

PRACTICALS
1. Monthly temperature and rainfall graphs of five selected stations from different physiographic regions of India
2. Measuring arithmetic growth rate of population comparing two decadal datasets; Measures of Inequality: Lorenz Curve and Gini’s Coefficient

Practical Record: A project file covering all practical topics must be prepared.

Reading List

Important Note: Continuing evaluation will be as follows:

COURSE CODE: GEO-H-DSC-3-05: Report writing
COURSE CODE: GEO-H-DSC-3-06: Report writing
COURSE CODE: GEO-H-DSC-3-07: Report writing

SKILL ENHANCEMENT COURSE - SEC (ANY ONE)
Students will have to choose any one from the given course

COURSE CODE: GEO-SEC-A-3-01-TH Credit: 02

REMOTE SENSING
1. Remote Sensing: Definition and development; platforms and types; photogrammetry.
2. Satellite Remote Sensing: Principles, EMR Interaction with atmosphere and earth surface; satellites (Landsat and IRS); sensors
3. Image Processing (Digital and Manual): Pre-processing (Radiometric and Geometric Correction); Enhancement (Filtering); Classification (Supervised and Un-supervised)
4. Satellite Image Interpretation.

Reading List

COURSE CODE: GEO-SEC-A-3-01-TH
Credit: 02

RURAL DEVELOPMENT
1. Rural Development: Concept, basic elements, measures of level of rural development
2. Paradigms of rural development: Gandhian approach to rural development; Lewis model of economic development,
3. Area based approach to rural development: Drought prone area programmes, PMGSY
4. Target group approach to rural development: SJSY, MNREGA, Jan DhanYojana and rural connectivity
5. Rural Governance: Panchayati Raj System and rural development policies and programmes in India

Reading list:
FOURTH SEMESTER
GEOGRAPHY
HONOURS COURSE
DISCIPLINE SPECIFIC CORE COURSE - DSC

COURSE CODE: GEO-H-DSC-4-08-TH Credit: 04

ECONOMIC GEOGRAPHY
1. Introduction: Concept of economic activity; factors affecting location of economic activity with special reference to agriculture (Von Thunen theory), Industry (Weber’s theory).
2. Primary activities: subsistence and commercial agriculture, forestry, fishing and mining.
3. Secondary activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.
4. Tertiary activities: transport, trade and services.

COURSE CODE: GEO-H-DSC4-08-PR Credit: 02

PRACTICALS
1. Transport network analysis: connectivity and accessibility
2. Representation of state wise variation in occupational structure and work participation rate using proportional circles and proportional divided circles; Composite Index: comparison of developed and backward states

Practical Record: A project file covering all practical topics must be prepared.

Reading List
COURSE CODE: GEO-H-DSC-4-09-TH  Credit: 04
REGIONAL PLANNING AND DEVELOPMENT
1. Definition of region, evolution and types of regional planning: formal, functional, and planning regions and regional planning; need for regional planning; types of regional planning
2. Choice of a region for planning: Characteristics of an ideal planning region; delineation of planning region; Regionalization of India for planning (Agro Ecological Zones)
3. Theories and Models for regional planning: Growth Pole Model of Perroux; Growth Centre Model in Indian Context; Myrdal and Rostow
4. Measuring development: Indicators (economic, social and environmental); Human development.

COURSE CODE: GEO-H-DSC4-09-PR  Credit: 02
PRACTICALS
1. Delineation of formal regions by weighted index method; Delineation of functional regions by breaking point analysis
2. Measuring inequality by Location Quotient; Measuring regional disparity by Sopher Index

Practical Record: A project file covering all practical topics must be prepared.

Reading List

COURSE CODE: GEO-H-DSC-4-10-TH  Credit: 04
FIELD WORK AND RESEARCH METHODOLOGY
1. Field work in geographical studies: Role, value, data and ethics of field-work
2. Defining the field and identifying the case study: Rural; urban; physical; human and environmental

3. Field techniques: Merits, demerits and selection of the appropriate technique; observation (participant and non participant), questionnaires (open, closed, structured and non-structured); interview with special focus on focused group discussions; space survey (transects and quadrants, constructing a sketch)

4. Defining research problems; objectives and hypothesis

**COURSE CODE: GEO-H-DSC-4-10-PR  Credit: 02**

**PRACTICAL (FIELD SURVEY)**

1. Use of field tools: Collection of material for physical and socio-economic surveys.
2. Designing the field report: Aims and objectives, methodology, analysis, interpretation and writing the report.

**Project Report**

1. Each student will prepare an individual report based on primary and secondary data collected during field work within India
2. The duration of the field work should not exceed 10 days.
3. The word count of the report should be 8000 to 12,000 excluding figures, tables, photographs, maps, references and appendices.
4. One typed copy of the report on A4 size paper should be submitted in soft binding.

**Reading List**


**Important Note: Continuing evaluation will be as follows:**

**COURSE CODE: GEO-H-DSC-4-08: Class Test**

**COURSE CODE: GEO-H-DSC-4-09: Class Test**

**COURSE CODE: GEO-H-DSC-4-10: Class Test**
SKILL ENHANCEMENT COURSE – SEC (ANY ONE)

Students will have to choose any one from the given course

COURSE CODE: GEO-SEC-A-4-02-TH

GEOGRAFICAL INFORMATION SYSTEM

2. Global Positioning System (GPS): Principles and uses; DGPS.
3. GIS Data Structures: Types (spatial and Non-spatial), raster and vector data structure.
4. GIS Data Analysis: Input; geo-referencing; editing, output and query; overlays.
5. Application of GIS: Land use mapping; urban sprawl analysis; forests monitoring.

Reading List


COURSE CODE: GEO-SEC-A-4-02-TH

TOURISM MANAGEMENT

2. Type of tourism: Nature tourism, Cultural tourism, Medical tourism, Pilgrimage tourism and Ecotourism
3. Recent Trends of Tourism: International and regional; domestic (India); Meetings, Incentives, Conventions and Exhibitions (MICE)
4. Tourism in India: Case studies of Himalaya, desert, coastal areas and heritage;
5. National Tourism Policy

Reading List:

FIFTH SEMESTER
GEOGRPHY
HONOURS COURSE
DISCIPLINE SPECIFIC CORE COURSE -DSC

COURSE CODE: GEO-H-DSC-5-11-TH Credit: 04
ENVIRONMENTAL GEOGRAPHY
1. Environmental Geography: Concept and scope; components of environment (physical and socio-cultural)
2. Human-environment relationships: Historical progression, adaptation in different biomes.
3. Ecosystem: Concept, structure and functions and problems in tropical and temperate ecosystems
4. Environmental programmes and policies: Global, national and regional levels

COURSE CODE: GEO-H-DSC-5-11-PR Credit: 02
PRACTICALS
1. Preparation of questionnaire for perception survey on environmental problems.
2. Project on environmental problems of North Bengal.

Project Report:
1. Each student will prepare an individual report based on primary and secondary data
2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices
3. One typed copy of the report on A4 size paper should be submitted in soft binding.

Reading List

**COURSE CODE: GEO-H-DSC-5-12-TH**  
**Credit: 04**

**REMOTE SENSING AND GIS**
1. Remote Sensing and GIS: Definition and components, development, platforms and types;
2. Aerial Photography and Satellite Remote Sensing: principles, types and geometry of aerial photograph; principles of remote sensing, EMR interaction with atmosphere and earth surface; satellites (Landsat and IRS) and sensors.
3. GIS Data Structures: Types (spatial and Non-spatial), raster and vector data structure
4. Interpretation and application of Remote Sensing and GIS: Land use/Land Cover; urban sprawl analysis; forests monitoring

**COURSE CODE: GEO-H-DSC-5-12-PR**  
**Credit: 02**

**PRACTICALS**
1. Air photo interpretation (using pocket stereoscope); and satellite imagery interpretation;
2. Image Processing (Digital & Manual), Classification (Supervised & Unsupervised); Georeferencing, Editing and Output, Overlays.

**Practical Record**
A project file consisting of two exercises will be done from aerial photos and satellite images (scale, orientation and interpretation) and 3 exercises using any of the following software: Map Info/Global Mapper/QGIS/ERDAS

**Reading List**

**Important Note: Continuing evaluation will be as follows:**
- **COURSE CODE: GEO-H-DSC-5-11:** Seminar
- **COURSE CODE: GEO-H-DSC-5-12:** Class Test

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ELECTIVE DISCIPLINE SPECIFIC-DSE (ANY TWO)
(Students will have to choose any two course, from Population Geography or Resource Geography and Urban Geography or Agricultural Geography)

COURSE CODE: GEO-H-DSE-5-01-TH Credit: 04
POPULATION GEOGRAPHY (THEORY)
1. Defining the field: Nature and Scope; Sources of data with special reference to India (Census, Vital Statistics and NSSO).
2. Population size, distribution and growth: Determinants and patterns; Theories of growth; Malthusian Theory and Demographic Transition Theory.
4. Population composition and characteristics: age-sex composition; rural and urban composition; literacy; contemporary issues: ageing of population; declining sex ratio, HIV/AIDS

COURSE CODE: GEO-H-DSE-5-01-PR Credit: 02
POPULATION GEOGRAPHY (PRACTICAL)
1. Population projection by arithmetic method; Population density mapping for India;
2. Analysis of work participation rate: Total and gender-wise for India; Analysis of occupation structure by dominant and distinctive functions for West Bengal

Reading List

COURSE CODE: GEO-H-DSE-5-01-TH Credit: 04
RESOURCE GEOGRAPHY (THEORY)
1. Natural Resource: Concept, classification and techniques
2. Distribution, utilisation, problems and management of land resources and water resources
3. Distribution, utilisation, problems and management of forests and energy resources
4. Appraisal and conservation of natural resources, sustainable resource development
COURSE CODE: GEO-H-DSE-5-01-PR  Credit: 02
RESOURCE GEOGRAPHY (PRACTICAL)
1. Mapping of landuse/land cover
2. Computing Human Development Index: comparative decadal change of top five Indian states

Reading List

COURSE CODE: GEO-H-DSE-5-02-TH  Credit: 04
URBAN GEOGRAPHY (THEORY)
1. Urban geography: Introduction, nature and scope
2. Patterns of urbanisation in developed and developing countries
3. Functional classification of cities: quantitative and qualitative methods
4. Urban Issues: problems of housing, slums, civic amenities (water and transport), Case studies of urban centres in North Bengal with reference to land use and urban problems

COURSE CODE: GEO-H-DSE-5-02-PR  Credit: 02
URBAN GEOGRAPHY (PRACTICAL)
1. Hierarchy of urban settlements: Rank-size rule
2. State-wise variation and trends of urbanisation; Temporal analysis of urban growth using Census data of India

Reading List

COURSE CODE: GEO-H-DSE-5-02-TH  
Credit: 04
AGRICULTURAL GEOGRAPHY (THEORY)
1. Defining the field: Introduction, nature and scope; Land use/land cover definition and classification.
2. Determinants of Agriculture: Physical, technological and institutional
3. Agricultural Regions of India: Agro-climatic, Agro-ecological & Crop Combination Regions.
4. Agricultural Systems of the world (Whittlesey’s classification) and Agricultural land use model (Von Thunen’s modification and relevance), Agricultural revolutions in India: Green, White, Blue, Pink

COURSE CODE: GEO-H-DSE-5-02-PR  
Credit: 02
AGRICULTURAL GEOGRAPHY (PRACTICAL)
1. Measurement of agricultural efficiency (Bhatia, Martin-Gibbs methods)
2. Measurement of cropping intensity (ICAR)

Reading List

Important Note: Continuing evaluation for all Discipline Specific Elective will be Seminar
COURSE CODE: GEO-H-DSC-6-13-TH Credit: 04

EVOLUTION OF GEOGRAPHICAL THOUGHTS

1. Development of geographical thought: Pre-modern, early origins of geographical thinking with reference to the classical and medieval periods;
2. Modern: evolution of geographical thinking and disciplinary trends in Germany, France, Britain, United States of America.
3. Debates: Environmental Determinism and Possibilism, Systematic and Regional

COURSE CODE: GEO-H-DSC-6-13-PR Credit: 02

PRACTICALS

1. Quantitative techniques in geography: Chi square, standard score, ranking coefficient by Kendall
2. Crop combination by Weber, Rafiulla and Doi

Practical Record: A project file covering all practical topics must be prepared.

Reading List

COURSE CODE: GEO-H-DSC-6-14-TH  Credit: 04

DISASTER MANAGEMENT
1. Definition, classification of hazards and disasters;
2. Approaches to hazard study: Risk perception and vulnerability assessment
3. Factors, consequences and management of earthquake, landslide, flood and riverbank erosion

COURSE CODE: GEO-H-DSC-6-14-PR  Credit: 02

PRACTICALS
Project report based on any one field based case study from the following disaster will be prepared:
   b) Flood
   c) Landslide
   d) Earthquake
   e) Human induced disaster

Project Report
1. Each student will prepare an individual project report based on primary and secondary data collected from local area.
2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices.
3. One typed copy of the report on A 4 size paper should be submitted in soft binding

Reading List

Important Note: Continuing evaluation will be as follows:
   COURSE CODE: GEO-H-DSC-6-13: Seminar
   COURSE CODE: GEO-H-DSC-6-14: Class Test

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DISCIPLINE SPECIFIC ELECTIVE - DSE

(Students will have to choose any two course, from Advanced Cartography or Political Geography and Hydrology & Oceanography or Social Geography)

COURSE CODE: GEO-H-DSE-6-03-TH                 Credit: 04
ADVANCED CARTOGRAPHY
1. Fundamentals of cartography: Nature, scope and history
2. Levelling: Solution of computational problems in Dumpy Level and drawing of profiles, methods of contouring; Determination of height and distance by transit Theodolite (accessible and inaccessible base)

COURSE CODE: GEO-H-DSE-6-03-PR                 Credit: 02
ADVANCED CARTOGRAPHY (PRACTICAL)
1. Drawing of profiles and contouring by Dumpy Level; determination of height and distance by transit Theodolite (accessible and inaccessible base)
2. Construction of Polar Zenithal Equal Area, Polar Zenithal Equidistant, Polar Zenithal Gnomonic; Simple Conical Projection with two standard parallels; International Projection

Reading List
COURSE CODE: GEO-H-DSE-6-03-TH

POLITICAL GEOGRAPHY (THEORY)

1. Introduction: Concepts, nature and scope.
2. State, Nation and Nation State: Concept of Nation and State, Attributes of state: frontiers, boundaries, shape, size, territory and sovereignty, concept of nation state; geopolitics; theories (Heartland and Rimland)
3. Political Geography of resource conflicts: water sharing disputes, disputes and conflicts related to forest rights and minerals.

Reading List
7. Jones M., 2004: An Introduction to Political Geography: Space, Place and Politics, Routledg
   Mathur H M and M MCerneua (eds.) Development, Displacement and Resettlement – Focus on Asian Experience, Vikas, Delhi

COURSE CODE: GEO-H-DSE-6-04-TH

HYDROLOGY AND OCEANOGRAPHY (THEORY)

1. Hydrological Cycle: Systems approach in hydrology, human impact on the hydrological cycle; precipitation, interception, evaporation, evapo-transpiration, infiltration, ground-water, run off and over land flow; Hydrological input and output.
2. River Basin and problems of regional hydrology: Characteristics of river basins, basin surface run-off, measurement of river discharge; floods and droughts.
4. Coral Reefs and marine deposits and ocean resources: types and theories of origin; biotic, mineral.

**COURSE CODE: GEO-H-DSE-6-04-PR**

**HYDROLOGY AND OCEANOGRAPHY (PRACTICAL)**

1. Morphometric analysis of any river basin from topographical map
2. Calculation of discharge by area velocity methods

Reading List

8. Pinet P. R., 2008: Invitation to Oceanography (Fifth Edition), Jones and Barlett Publishers, USA, UK and Canada.

**COURSE CODE: GEO-H-DSE-6-04-TH**

**SOCIAL GEOGRAPHY (THEORY)**

1. Social Geography: concept, origin, nature and scope.
2. Peopling process of India: technology and occupational change; migration.
3. Social categories: caste, class, religion, race and gender and their spatial distribution
4. Geographies of welfare and wellbeing: concept and components – healthcare, housing and education, social geographies of inclusion and exclusion, slums

**COURSE CODE: GEO-H-DSE-6-04-PR**

**SOCIAL GEOGRAPHY (PRACTICAL)**

1. Flow chart to show migration trends
2. Spatial distribution of caste, religion and gender in India using proportional circles and proportional divided circles
Reading List


Important Note: Continuing evaluation for all Discipline Specific Elective will be Seminar
GEOGRAPHY
GENERIC ELECTIVE
(FIRST/THIRD SEMESTER)

COURSE CODE: GEO-GE-01-TH
PHYSICAL GEOGRAPHY

1. Geography as a discipline: Meaning, scope and content, branches of geography
2. Geotectonics: Origin and evolution of the earth, Interior structure of the earth; Wegener’s Continental Drift theory and Plate Tectonic theory
3. Rocks: Major types of rocks and their characteristics,
4. Geomorphic processes: Weathering and mass wasting,
5. Geomorphology: Erosional and depositional features of river, glacier and wind.

COURSE CODE: GEO-GE-01-PR
PRACTICALS

1. Scale: Definition, classification, construction of simple linear scale
2. Map Projection: Definition, classification and graphical construction of Zenithal Gnomonic Projection (Polar Case); Cylindrical Equal Area Projection; Simple Conical Projection with one Standard Parallel

Reading List
GEOGRAPHY
GENERIC ELECTIVE
(SECOND/FOURTH SEMESTER)

COURSE CODE: GEO-GE-02-TH
GEOGRAPHY OF INDIA

1. Physiography, climate, natural vegetation and soil
2. Types of settlements, morphology of rural and urban settlements
3. Intensive farming (rice), plantation farming (tea and rubber), horticulture
4. Factors of industrial location, classification of industries, distribution of Iron and Steel industry, Cotton Textile industry
5. Growth and distribution of population; demographic characteristics of population.

COURSE CODE: GEO-GE-02-PR
PRACTICALS

1. Geological map: Uniclinal and folded structure with given dips
2. Topographical maps: Interpretation of topographical map of India; relief, drainage, natural vegetation, settlement and transport & communication (plateau region)

Reading List


Important Note: continuing evaluation will be as follows:
COURSE CODE: GEO-GE-O2-TH: Class Test
GEOGRAPHY
PROGRAMME COURSE
CORE COURSE – CC

FIRST SEMESTER
1. Course Code: GEO-P-CC-1-01-TH: Physical Geography
   Course Code: GEO-P-CC-1-01-PR: Practicals

SECOND SEMESTER
2. Course Code: GEO-P-CC-2-02-TH: Human Geography
   Course Code: GEO-P-CC-2-02-PR: Practicals

THIRD SEMESTER
3. Course Code: GEO-P-CC-3-03-TH: Regional Development
   Course Code: GEO-P-CC-3-03-PR: Practicals

FOURTH SEMESTER
4. Course Code: GEO-P-CC-4-04-TH: Spatial Information Technology
   Course Code: GEO-P-CC-4-04-PR: Practicals

SKILL ENHANCEMENT COURSE - SEC (ANY ONE)

Students will have to choose any one from the given course

THIRD SEMESTER
   
   or

   Course Code: GEO-SEC-A-3-01-TH: Rural Development

FOURTH SEMESTER
2. Course Code: GEO-SEC-A-4-02-TH: Geographical Information System
   
   or

   Course Code: GEO-SEC-A-4-02-TH: Tourism Management

DISCIPLINE SPECIFIC ELECTIVE - DSE
(Students will choose either Disaster Management or Sustainable Management)

FIFTH SEMESTER
1. Course Code: GEO-P-DSE-5-01-TH: Disaster Management
   Course Code: GEO-P-DSE-5-01-PR: Practicals
   
   or

2. Course Code: GEO-P-DSE-5-01-TH: Sustainable Development
   Course Code: GEO-P-DSE-5-01-PR: Practicals
SIXTH SEMESTER
(Students will choose either Climate Change: Vulnerability and Adaptation or Rural Development)

1. Course Code: GEO-P-DSE-6-02-: Climate Change: Vulnerability and Adaptation
   Course Code: GEO-P-DSE-6-02-PR: Practicals
   or
2. Course Code: GEO-P-DSE-6-02-TH: Rural Development
   Course Code: GEO-P-DSE-6-02-PR: Practicals
FIRST SEMESTER
GEOGRPHY
PROGRAMME COURSE
CORE COURSE – CC

COURSE CODE: GEO-P-CC-1-01-TH  Credits: 04

PHYSICAL GEOGRAPHY

1. Earth’s interior with special reference to seismology
2. Plate Tectonics as a unified theory of global tectonics. Formation of major relief features of the ocean floor and continents according to Plate Tectonics
1. Folds and faults: Classification and surface expression
2. Principal geomorphic agents. Classification and evolution of fluvial, coastal, aeolian and glacial landforms

Reading list

COURSE CODE: GEO-P-CC-1-01-PR  Credits: 02

PRACTICALS

1. Construction of scale; plain (linear and comparative), diagonal and vernier scale
2. Map Projection: Zenithal Gnomonic Projection (Polar Case), Cylindrical Equal Area Projection (Equatorial Case), Simple Conical Projection with one standard parallel, Sinusoidal Projection

Practical Record: A project file covering all practical topics must be prepared.

Reading List

Important Note: Continuing evaluation will be as follows:
COURSE CODE: GEO-P-CC-1-01-CE: Class test
HUMAN GEOGRAPHY
1. Introduction: Definition, Scope and Content of Human Geography
2. Cultural Regions; Race; religion and language with reference to India
3. Population growth and distribution with special reference to India;
4. Population-Resource Relationship

COURSE CODE: GEO-P-CC-2-02-TH
Credits: 04

PRACTICALS
1. Diagrammatic Data Presentation – Line, Bar and Circle;
2. Thematic Mapping Techniques: Choropleth, Proportional Circles and Proportional Divided Circles

Practical Record: A project file covering all practical topics must be prepared.

References:

Important Note: Continuing evaluation will be as follows:
COURSE CODE: GEO-P-CC-2-02-CE: Class test
THIRD SEMESTER
GEOGRAPHY
PROGRAMME COURSE
CORE COURSE – CC

COURSE CODE: GEO-P-CC-3-03-TH  Credits: 04
REGIONAL DEVELOPMENT (THEORY)
1. Definition, types of Regional planning: Formal, Functional, and Planning regions
2. Regional Imbalances and problems of functional regions.
3. Strategies; Models for Regional Planning: Growth Pole Model of Perroux;
4. Problem Regions and Regional Planning: Backward Regions and Regional Plans-Special Area Development Plans in India

COURSE CODE: GEO-P-CC-3-03-PR  Credits: 02
PRACTICALS
1. Interpretation of Indian Topographical maps: plains and plateaus; scale 1:50000
   (Broad physiography, drainage, natural vegetation, settlement, transport and communication, simple profiles and transect chart)
2. Geological maps: Uniclinal and folded structures with given dips

Practical Record: A project file covering all practical topics must be prepared.

Reading List

Important Note: Continuing evaluation will be as follows:
COURSE CODE: GEO-P-CC-3-03-CE: Project report on any rural issue

Project Report:
1. Each student will prepare an individual report based on primary and secondary data
2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices
3. One typed copy of the report on A4 size paper should be submitted in soft binding.

SKILL ENHANCEMENT COURSE - SEC (ANY ONE)

Students will have to choose any one from the given course

COURSE CODE: GEO-SEC-A-3-01-TH
Credit: 02

REMOTE SENSING

1. Remote Sensing: Definition and development; platforms and types; photogrammetry.
2. Satellite Remote Sensing: Principles, EMR Interaction with atmosphere and earth surface; satellites (Landsat and IRS); sensors
3. Image Processing (Digital and Manual): Pre-processing (Radiometric and Geometric Correction); Enhancement (Filtering); Classification (Supervised and Un-supervised)
4. Satellite Image Interpretation.

Reading List


COURSE CODE: GEO-SEC-A-3-01-TH
Credit: 02

RURAL DEVELOPMENT

1. Rural Development: Concept, basic elements, measures of level of rural development
2. Paradigms of rural development: Gandhian approach to rural development; Lewis model of economic development,
3. Area based approach to rural development: Drought prone area programmes, PMGSY
4. Target group approach to rural development: SJSY, MNREGA, Jan DhanYojana and rural connectivity
5. Rural Governance: Panchayati Raj System and rural development policies and programmes in India
Reading list:

SPATIAL INFORMATION TECHNOLOGY

1. Introduction: definitions, concept and historical development
2. Spatial Information/Data: Web data sources; registration and projection; data structures; data interpolation and modelling.
3. Functions of Spatial information system: Information retrieval; Topological modelling; networks; overlay; data output.
4. Application of Spatial Information Technology

PRACTICALS

1. Identification of broad physical and cultural features from aerial photographs using pocket stereoscope
2. Statistical techniques: Measures of central tendency and measures of dispersion

*Practical Record: A project file covering all practical topics must be prepared.*

Reading List

SKILL ENHANCEMENT COURSE – SEC (ANY ONE)

Students will have to choose any one from the given course

COURSE CODE: GEO-SEC-A-4-02-TH  Credit: 02

GEOGRAPHICAL INFORMATION SYSTEM
2. Global Positioning System (GPS): Principles and uses; DGPS.
3. GIS Data Structures: Types (spatial and Non-spatial), raster and vector data structure.
4. GIS Data Analysis: Input; geo-referencing; editing, output and query; overlays.
5. Application of GIS: Land use mapping; urban sprawl analysis; forests monitoring.

Reading List

COURSE CODE: GEO-SEC-A-4-02-TH  Credit: 02

TOURISM MANAGEMENT
2. Type of tourism: Nature tourism, cultural tourism, medical tourism, pilgrimage tourism and ecotourism.
3. Recent Trends of Tourism: International and regional; domestic (India); Meetings, Incentives, Conventions and Exhibitions (MICE).
4. Tourism in India: Case studies of Himalaya, desert, coastal areas and heritage.
5. National Tourism Policy

Reading List:
FIFTH SEMESTER
GEOGRAPHY
DISCIPLINE SPECIFIC ELECTIVE - DSE
(Students will choose either Disaster Management or Sustainable Management)

COURSE CODE: GEO-P-DSE-5-01-TH Credits: 04
DISASTER MANAGEMENT
1. Disasters: definition and concepts: hazards, disasters; risk and vulnerability; classification
2. Disasters in India: (a) flood: causes, impact, distribution and mapping; landslide: causes, impact, distribution and mapping; drought: causes, impact, distribution and mapping
3. Disasters in India: (b) earthquake and tsunami: causes, impact, distribution and mapping; cyclone: causes, impact, distribution and mapping.
4. Response and mitigation to disasters: mitigation and preparedness, NDMA and NIDM; Indigenous Knowledge and Community-Based Disaster Management

COURSE CODE: GEO-P-DSE-5-01-PR Credits: 02
PRACTICALS
1. Project report based on any one field based case studies among the following disasters:
   a) Flood
   b) Landslide
   c) Human induced disaster: fire, chemical and industrial accidents

Practical Record
1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices.
3. One typed copy of the report on A4 size paper should be submitted in soft binding

Reading List

COURSE CODE: GEO-P-DSE-5-01-TH  
CREDITS: 04

SUSTAINABLE DEVELOPMENT

1. Sustainable Development: definition, components, limitations and historical background.
2. The Millennium Development Goals: national strategies and international experiences
3. Inclusive Development: education, health; climate change: the role of higher education in sustainable development; the human right to health; poverty and disease; the challenges of universal health coverage; policies and global cooperation for climate change
4. Sustainable Development policies and programmes: The proposal for SDGs at Rio+20; Illustrative SDGs; goal-based development; financing for sustainable development; principles of good governance; National Environmental Policy, CDM.

COURSE CODE: GEO-P-DSE-5-01-PR  
CREDITS: 02

PRACTICALS

1. Project report based on any one field based case study among the following:
   a) Health issues in any local village
   b) Education status in any local village

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices.
3. One typed copy of the report on A 4 size paper should be submitted in soft binding

Reading List


COURSE CODE: GEO-P-GE-5-01-CE: Class test
SIXTH SEMESTER
GEOGRAPHY
DISCIPLINE SPECIFIC ELECTIVE - DSE

(Students will choose either Climate Change: Vulnerability and Adaptation or Rural Development)

COURSE CODE: GEO-P-DSE-6-02-TH

CLIMATE CHANGE: VULNERABILITY AND ADAPTATION

1. Science of climate change: understanding climate change; green house gases and global warming; global climatic assessment- IPCC
2. Climate change and vulnerability: physical vulnerability; economic vulnerability; social vulnerability
3. Impact of climate Change: Agriculture and Water; Flora and Fauna; Human Health

COURSE CODE: GEO-P-DSE-6-02-PR

PRACTICALS

1. Project report based on climate change field based case studies among any one of the following:
   a) Local level
   b) National level

   Practical Record
   1. Each student will prepare an individual report based on primary and secondary data collected during field work.
   2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices.
   3. One typed copy of the report on A 4 size paper should be submitted in soft binding

Further Readings


COURSE CODE: GEO-P-DSE-6-02-TH
RURAL DEVELOPMENT

2. Rural Economic Base: Panchayat raj System, Agriculture and Allied Sectors, Seasonality and Need for Expanding Non-Farm Activities, Co-operatives, PURA.
3. Area Based Approach to Rural Development: Drought Prone Area Programmes, PMGSY.
4. Target Group Approach to Rural Development: SJSY, MNREGA, Jan DhanYojana and Rural Connectivity.

COURSE CODE: GEO-P-DSE-6-02-PR
PRACTICALS

1. A case study on socio economic status of the people at any one of the following level:
   a) Mouza level
   b) Village level

Practical Record
1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The word count of the report should be about 4000 to 6000 excluding figures, tables, photographs, maps, references and appendices.
3. One typed copy of the report on A4 size paper should be submitted in soft binding

Reading List

COURSE CODE: GEO-P-GE-6-01-CE: Seminar