

D. Syllabus

SYLLABUS FOR EVEN SEMESTER (HONOURS) (2ND, 4TH, 6TH)

SECOND SEMESTER GEOGRAPHY HONOURS COURSE DISCIPLINE SPECIFIC CORE COURSECC

COURSE CODE: GEO-H-CC-2-03-H

Credit: 04

HUMAN GEOGRAPHY

1. Defining Human Geography; Scope and content of Human Geography; 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; Population Policy of India;
4. Concept of population-resource relationship; Population resource regions of the world (Ackerman)

COURSECODE: GEO-H-CC-2-03-PR

Credit: 02

PRACTICAL

1. Diagrammatic data presentation: isopleth (isotherm, isohyet and isobar); bar (simple, compound and composite); circles (proportional concentric circle and proportional divided circle);
2. Thematic Mapping Techniques: properties, uses and limitations; Areal Data: Choropleth, Chorochromatic, Dot and Sphere, Proportional Cubes.

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

COURSECODE: GEO-H-CC-2-04-TH

Credit: 04

SETTLEMENT GEOGRAPHY

1. Settlements: Origin and growth of rural and urban settlements;
2. Types, patterns and morphology of rural settlements;
3. Trends and patterns of world urbanization (ancient, medieval and modern);
4. Theories of urban land use: Concentric Zone Theory; Sector Theory; Multiple Nuclei Theory

COURSECODE: GEO-H-CC-2-04-PR

Credit: 02

PRACTICAL

1. Concept of levelling and surveying; Surveying by Prismatic Compass (closed traverse); 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. Geological Map; Drawing of sections on uniclinal and folded structures depicting unconformity.

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

FOURTH SEMESTER (HONS)
GEOGRAPHY
HONOURS COURSE DISCIPLINE SPECIFIC
CORE COURSE -CC

COURSE CODE: GEO-H-CC-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), Special Economic Zones and Technology Parks;
4. Tertiary activities: transport, trade and services.

COURSECODE: GEO-H-CC4-08-PR

Credit: 02

PRACTICAL

1. Transport network analysis: connectivity (alpha, beta, gamma, theta and eta indices) and accessibility (Accessibility zoning using Detour Index);
2. Representation of state wise variation in occupational structure and work participation rate using proportional circles and proportional divided circles; Kendall's Ranking Co-efficient method (comparison of developed and developing countries).

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

COURSE CODE: GEO-H-CC-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-CC4-09-PR

Credit: 02

PRACTICAL

1. Delineation of formal regions by weighted index method; Delineation of functional regions by breaking point analysis;
2. Measuring inequality by Location Quotient; Nearest Neighbour Test for clustering and regularity.

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

COURSECODE: GEO-H-CC-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;
4. Defining research problems; objectives and hypothesis.

COURSE CODE: GEO-H-CC-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 10,000 to 12,000 excluding figures, tables, photographs, maps, references and appendices. 4. One typed copy of the report on A 4 size paper should be submitted in soft binding.

SIXTH SEMESTER (HONS) **GEOGRAPHY** **HONOURS COURSE DISCIPLINE SPECIFIC** **CORE COURSE -CC**

COURSE CODE: GEO-H-CC-6-13-TH

Credit: 04

EVOLUTION OF GEOGRAPHICAL THOUGHTS

1. Evolution of geographical ideas during the ancient period in Western world and India;
2. Evolution of geographical ideas during the medieval period in Western world and India;
3. Modern evolution of geographical thinking in Germany, France, Britain, United States of America;
4. Debates: Environmental Determinism and Possibilism, Systematic and Regional.

COURSE CODE: GEO-H-CC-6-13-PR

Credit: 02

PRACTICAL

1. Quantitative techniques in geography: Chi square, standard score; 2. Crop combination by Weaver, Rafiulla and Doi.

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

COURSE CODE: GEO-H-CC-6-14-TH

Credit: 04

DISASTERMANAGEMENT

1. Definition, classification of hazards and disasters;
2. Approaches to hazard study: Risk perception and vulnerability assessment;
3. Factors, consequences and management of earthquake, flood, riverbank erosion, landslide;
4. Human induced disaster: Fire hazard, industrial accidents.

COURSECODE:GEO-H-CC-6-14-PR

Credit: 02 PRACTICAL

Project report based on any one field based case study from the following disaster will be prepared:

- a) Flood
- b) Landslide
- c) Earthquake

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 A4 size paper should be submitted in soft binding.

COURSE CODE: GEO-H-CC-6-13: Seminar COURSE

CODE: GEO-H-CC-6-14: Class Test

DISCIPLINE SPECIFIC ELECTIVE - DSE

(Students will have to choose two courses: Advanced Cartography or Political Geography and Hydrology & Oceanography or Social Geography)

COURSECODE: 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);
3. Map Projection: Properties, advantages, limitations and derivation of Polar Zenithal Equal Area, Polar Zenithal Equidistant, Cubic Development of Gnomonic Projection; Simple Conical Projection with two standard parallels; International Projection, Universal Transverse Mercator's Projection;
4. Remote Sensing and GIS: Concept, principles and components of Remote sensing, Techniques of digital image processing, Application of GIS.

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, Simple Conical Projection with two standard parallels; International Projection

COURSECODE: GEO-H-DSE-6-03-TH

Credit: 04

POLITICAL GEOGRAPHY (THEORY)

1. Introduction: Concepts, nature and scope of Political Geography;
2. Concept of nation, state and nation state, Attributes of states: frontiers and boundaries; geopolitics; theories (Heartland and Rimland);
3. Political Geography of resource conflicts: water sharing disputes, conflicts related to forest rights in India;
4. Politics of displacement: Issues of relief, compensation and rehabilitation: with reference to dams in India.

COURSECODE: GEO-H-DSE-6-03-PR

Credit: 02

POLITICAL GEOGRAPHY (PRACTICAL)

1. Preparation of spatial distribution maps of India: gender, caste, religion;
2. Preparation of questionnaire on socio-economic status of rural and urban centres of India

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

Credit: 04

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. Characteristics of river basins, basin surface run-off, measurement of river discharge; floods and droughts;
3. Bottom floor topography; ocean salinity and temperature; distribution and determinants;
4. Coral Reefs: types and theories of origin; marine deposits and ocean resources

COURSECODE: GEO-H-DSE-6-04-PR

Credit: 02

HYDROLOGY AND OCEANOGRAPHY (PRACTICAL)

1. Morphometric analysis of any river basin from topographical map (stream frequency, drainage texture, circulatory ratio, elongation ratio);
2. Calculation of discharge by area velocity methods.

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

Credit: 04

SOCIAL GEOGRAPHY (THEORY)

1. Social Geography: concept, origin, nature and scope;
2. People as a workforce: Technological and occupational change of the people of India; migration; types, causes and consequences;
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; slums.

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

Credit: 02

SOCIAL GEOGRAPHY (PRACTICAL)

1. Flow chart to show migration trends;
2. Spatial distribution of caste, religion and gender in India using suitable cartographic techniques.

Important Note: Continuing evaluation for all Discipline Specific Elective will be Seminar

SKILL ENHANCEMENT COURSE – SEC (ANY ONE)

Students will have to choose any one from the given course

COURSECODE: GEO-SEC-A-4-02-TH

Credit: 02

GEOGRAPHICAL INFORMATION SYSTEM

1. Geographical Information System (GIS): Definition and Components;
2. Global Positioning System (GPS): Principles and uses;
3. GIS Data Structures: Types (spatial and non-spatial), raster and vector data structure; GIS Data Analysis: Input; geo-referencing; editing and output; 4.Application of GIS: Land use mapping; urban sprawl analysis; forests monitoring.

COURSECODE: GEO-SEC-A-4-02-TH

Credit: 02

TOURISM MANAGEMENT

1. Tourism: Concepts, nature and scope, inter-relationships of tourism, recreation and leisure; geographical parameters of tourism by Robinson;
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); Case studies of Himalaya, desert, coastal areas and heritage tourism in India; 4.National Tourism Policy of India.

SYLLABUS FOR EVEN SEMESTER (PROGRAMME)

SECOND SEMESTER GEOGRAPHY PROGRAMME COURSE CORE COURSE – CC

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

Credits: 04

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-PR

Credits: 02

PRACTICAL

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.

**FOURTH SEMESTER
GEOGRAPHY
PROGRAMME COURSE
CORE COURSE – CC**

COURSE CODE: GEO-P-CC-4-04-TH

Credits: 04

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

COURSE CODE: GEO-P-CC-4-04-PR

Credits: 02

PRACTICAL

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.

**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

Credits: 04

CLIMATE CHANGE: VULNERABILITY AND ADAPTATION

1. Science of climate change: understanding climate change; greenhouse 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;
4. Adaptation and mitigation: global initiatives with particular reference to South Asia.

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

Credits: 02

PRACTICAL

1. Project report based on climate change field based case study 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 fieldwork.

2. The word count of the report should be about 4000 to 5000 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.

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

Credits: 04

RURAL DEVELOPMENT

1. Defining Development: Inter-Dependence of Urban and Rural Sectors of the Economy; Need for Rural Development, Gandhian Approach of 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 Dhan Yojana and Rural Connectivity.

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

Credits: 02

PRACTICAL

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

COURSE CODE: GEO-P-CC-4-04-CE: Seminar

SKILL ENHANCEMENT COURSE – SEC (ANY ONE)

Students will have to choose any one from the given courses

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

Credit: 02

GEOGRAPHICAL INFORMATION SYSTEM

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

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

Credit: 02

TOURISM MANAGEMENT

1. Tourism: Concepts, nature and scope, inter-relationships of tourism, recreation and leisure; geographical parameters of tourism by Robinson;
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); Case studies of Himalaya, desert, coastal areas and heritage tourism in India; 4. National Tourism Policy of India.

SYLLABUS FOR ODD SEMESTER, HONOURS (1ST, 3RD, 5TH)

FIRST SEMESTER
GEOGRAPHY
HONOURS COURSE DISCIPLINE
SPECIFIC CORE COURSE-CC

COURSE CODE: GEO-H-CC-1-01-TH
GEOTECTONIC

Credit: 04

1. Earth's tectonic and structural evolution with reference to geological timescale;
2. Earth: Interior structure and theory of Isostasy (Airy, Pratt, Bowie, Hayford, Heiskanen);
3. Earth Movements: Types of folds and faults; Plate Tectonics: concept and theory;
4. Development of drainage on uniclinal and folded structure; Mountain Building theories (Kober and Holmes).

COURSE CODE: GEO-H-CC-1-01-PR
PRACTICAL

Credit: 02

1. Scales: Concept and application; graphical construction of plain, comparative, diagonal and vernier scales;
2. Map Projections: Classification, properties and uses; Mathematical/graphical construction of Polar Zenithal Stereographic Projection, Bonne's Projection, Polyconic Projection, Sinusoidal Projection and Mercator's Projections.

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

COURSECODE: GEO-H-CC-1-02-TH
GEOMORPHOLOGY

Credit: 04

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, aeolian, glacial, coastal and karst;
4. Slope: Forms and processes; Theories of slope development (Davis, Penck and King).

COURSE CODE: GEO-H-CC-1-02-PR
PRACTICAL

Credit: 02

1. Topographical Map: Interpretation of plateau/mountain area with the help of cross and longitudinal profiles; interpretation of relief profile: superimposed, projected and composite; Slope Analysis (Wentworth's method); Relative relief (Smith's method); Drainage density and drainage frequency; Transect chart.
2. Megascopic identification of rocks and minerals: granite, basalt, limestone, shale, sandstone, phyllite, slate, marble, schist, quartzite, bauxite, calcite, chalcopryrite, feldspar, galena, haematite, magnetite, mica, quartz and talc.

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

THIRD SEMESTER GEOGRAPHY
HONOURS COURSE DISCIPLINE SPECIFIC
CORE COURSE -CC

COURSECODE: GEO-H-CC-3-05-TH

Credit: 04

CLIMATOLOGY

1. Atmospheric composition and structure; insolation and temperature: factors and distribution, heat budget, temperature inversion;
2. Atmospheric pressure and winds: planetary winds, forces affecting winds, general circulation, jet streams; Monsoon: origin and mechanism (thermal and jet stream theory);
3. Atmospheric moisture: evaporation, humidity, condensation, precipitation types; climatic regions (Koppen and Thornthwaite) 4.Cyclones: Tropical cyclones, extra tropical cyclones.

COURSECODE: GEO-H-CC-3-05-PR

Credit: 02

PRACTICAL

1. Meteorological instruments: Recording of Maximum and Minimum thermometer, Hygrometer, Fortin's barometer;
2. Interpretation of Indian daily weather report; Representation of climatic data by climographs and hythergraphs.

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

COURSECODE: GEO-H-CC-3-06-TH

Credit: 04

STATISTICAL METHODS IN GEOGRAPHY

1. Significance of statistics in Geography;
2. Use of data in Geography: sources of data, scales of measurement (nominal, ordinal, interval, ratio);
3. Sampling: purposive, random, systematic and stratified; 4.Theoretical concept: probability and normal distribution.

COURSECODE: GEO-H-CC-3-06-PR

Credit: 02

PRACTICAL

1. Tabulation of data; frequency distribution table, class group and class interval; Descriptive statistics: Deciles, Quartiles, Percentiles; Measures of Central Tendency: Mean, Median and Mode; Measures of Dispersion: Quartile Deviation, Mean Deviation, Standard Deviation, Variance and Coefficient of Variation;
2. Association and Correlation: Rank Correlation, Product Moment Correlation, and Simple Linear Regression.

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

COURSE CODE: GEO-H-CC-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 utilization of iron ore, coal, petroleum, gas; agricultural production and distribution of rice and wheat; industrial development: Automobile and Information Technology;

3. Social: Spatial distribution of population by race, caste, religion, language and tribes;
4. Regionalization of India: Physiographic (R.L.Singh), Economic (P. Sengupta).

COURSE CODE: GEO-H-CC-3-07-PR

Credit: 02

PRACTICAL

1. Monthly temperature and rainfall graphs of five selected stations from different climatic regions of India;
2. Decadal growth rate of population; Measures of Inequality: Lorenz Curve and Gini's Coefficient.

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

COURSE CODE: GEO-H-CC-3-05: Report writing

COURSE CODE: GEO-H-CC-3-06: Report writing

COURSE CODE: GEO-H-CC-3-07: Report writing

(Report will be an overview of syllabus topic given by the guide teacher. Word limit will be 1000 words. It must be hand-written)

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. Visual Satellite Image Interpretation;
4. Application of Remote Sensing in Land use/Land cover mapping.

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. Major Rural Development Programmes in India: PMGSY, SJSY, MNREGA, Jan Dhan Yojana and NABARD;
4. Rural Governance: Panchayati Raj System and rural development policies.

FIFTH SEMESTER

GEOGRAPHY

HONOURS COURSE DISCIPLINE SPECIFIC

CORE COURSE -CC

COURSE CODE: GEO-H-CC-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 (tundra, savanna and equatorial);
3. Ecosystem: Concept, structure and functions and problems in tropical and temperate ecosystems;
4. Environmental programmes and policies: global, national and regional.

COURSE CODE: GEO-H-CC-5-11-PR Credit: 02 PRACTICALS

1. Preparation of questionnaire for perception survey on environmental problems;
2. Project on environmental problems of North Bengal relating to solid waste/water pollution/air pollution.

Project Report:

1. Each student will prepare an individual report based on primary and secondary data on any one topic mentioned above;
2. The word count of the report should be about 3000 to 4000 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.

COURSE CODE: GEO-H-CC-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-CC-5-12-PR

Credit: 02

PRACTICAL

1. Air photo interpretation (using pocket stereoscope); and satellite imagery interpretation (manual);
2. Image Processing, Classification (supervised & unsupervised); Geo-referencing, 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 three exercises using any of the following software: Map Info/Global Mapper/QGIS/ERDAS

ELECTIVE DISCIPLINE SPECIFIC-DSE (ANY TWO)

(Students will have to choose any two courses: 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 population; (Malthusian Theory and Optimum Population Theory);
3. Population dynamics: Fertility, mortality and migration; measures, determinants and implications;
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.

COURSE CODE: GEO-H-DSE-5-01-TH

Credit: 04

RESOURCE GEOGRAPHY (THEORY)

1. Natural Resource: Concept, classification and techniques;
2. Distribution, utilization, problems and management of land resources and water resources;
3. Distribution, utilization, problems and management of forests and energy resources;
4. Appraisal and conservation of natural resources, sustainable resource development.

COURSECODE: GEO-H-DSE-5-01-PR

Credit: 02

RESOURCE GEOGRAPHY (PRACTICAL)

1. Preparation of landuse/landcover map;
2. Computing Human Development Index: comparative decadal change of top five Indian states.

COURSECODE: 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 (F.S, Hudson, C.D. Harris and R. Ramachandran);
4. Urban Issues: problems of housing, slums, civic amenities (water and transport), Case studies of urban centres in North Bengal (*Siliguri Municipal Corporation and Headquarters of North Bengal districts*):

COURSECODE: 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 urbanization; Temporal analysis of urban growth using Census data of India.

COURSE CODE: GEO-H-DSE-5-02-TH

Credit: 04

AGRICULTURAL GEOGRAPHY (THEORY)

1. Agricultural Geography: 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 and Blue.

COURSECODE: GEO-H-DSE-5-02-PR

Credit: 02

AGRICULTURAL GEOGRAPHY (PRACTICAL)

1. Measurement of agricultural efficiency (Bhatia, Martin-Gibbs methods);
2. Measurement of crop concentration index by Jasbir Singh; measurement of crop diversification by ICAR.

Important Note: Continuing evaluation for all Discipline Specific Elective will be Seminar

SYLLABUS FOR ODD SEMESTER (PROGRAMME)

**FIRST SEMESTER
GEOGRAPHY
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;
3. Folds and faults: Classification and surface expression;
4. Principal geomorphic agents. Classification and evolution of fluvial, coastal, aeolian and glacial landforms.

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

Credits: 02

PRACTICAL

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.

**THIRD SEMESTER
GEOGRAPHY
PROGRAMME COURSE
CORE COURSE – CC**

COURSECODE: 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.

COURSECODE: GEO-P-CC-3-03-PR

Credits: 02

PRACTICAL

1. Interpretation of Indian Topographical maps: plains/plateaus; scale 1:50000 (Broad physiographic divisions, 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.

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. Visual Satellite Image Interpretation;
4. Application of Remote Sensing in Land use/Land cover mapping.

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. Major Rural Development Programmes in India: PMGSY, SJSY, MNREGA, Jan Dhan Yojana and NABARD;
4. Rural Governance: Panchayati Raj System and rural development policies.

SKILL ENHANCEMENT COURSE – SEC (ANY ONE)

Students will have to choose any one from the given courses

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

Credit: 02

GEOGRAPHICAL INFORMATION SYSTEM

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

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

Credit: 02

TOURISM MANAGEMENT

1. Tourism: Concepts, nature and scope, inter-relationships of tourism, recreation and leisure; geographical parameters of tourism by Robinson;
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); Case studies of Himalaya, desert, coastal areas and heritage tourism in India; 4. National Tourism Policy of India.

FIFTH SEMESTER
GEOGRAPHY
DISCIPLINE SPECIFIC ELECTIVE - DSE

(Students will choose either Disaster Management or Sustainable Management)

COURSECODE: 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.

COURSECODE: GEO-P-DSE-5-01-PR

Credits: 02

PRACTICAL

1. Project report based on any one field based case study 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 fieldwork.
2. The word count of the report should be about 4000 to 5000 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.

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.

COURSECODE: GEO-P-DSE-5-01-PR

Credits: 02

PRACTICAL

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 fieldwork.
2. The word count of the report should be about 4000 to 5000 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

COURSE CODE: GEO-P-GE-5-01-CE: Class test

E. Students Activities

Students participated in different events such as

a. College Level

1. Raj Basor (Semester VI GE), College Football Team, participated in various tournaments
2. Jacob Matthew (Semester IV Honours), College Football Team, participated in various tournaments
3. Chandra Kumar Rai (Semester II Program), Winner, College Debate Competition

b. University Level

c. State Level.

d. National Level.

1. Raj Basor (Semester VI GE) selected as a team member for Bangalore F.C. (Football)

F. Photo Gallery

Photos of dept. Seminars, excursion, educational tours, Co-curricular Activities etc.

Educational Tour, 2022



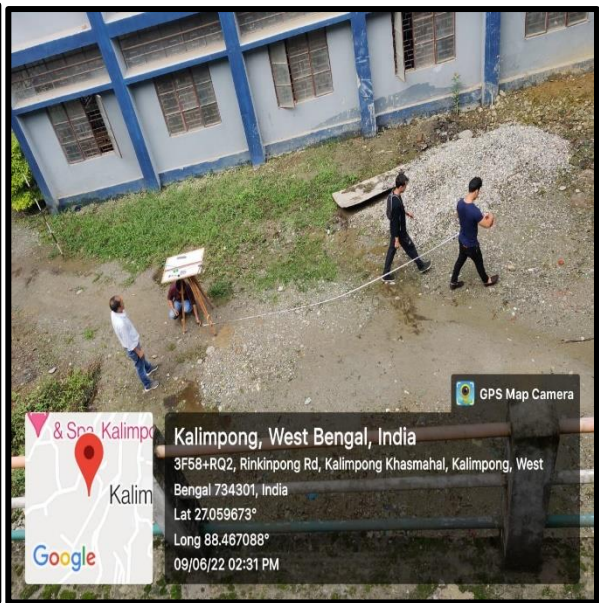
Extension Activities, 2022



Special Lecture by Ms. Susmita Singh, Research Scholar, Department of Geography, University of North Bengal



Conversation with Members of Anugalya, Darjeeling (NGO) on Disaster Management in Darjeeling Hill



Practical Work with Teachers of Kendriya Vidyalaya, Kalimpong and Jaigaon School, Kalimpong College



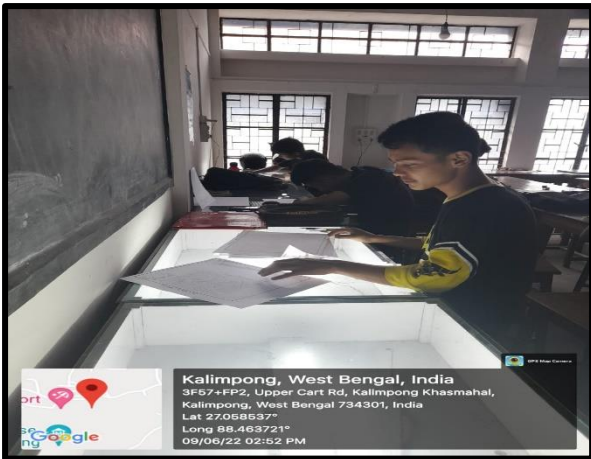
Interaction with the Students of Surya Sen College



Parents-Teachers Meeting, 2022



Departmental Seminar



Students Conducting Practical Work