

VICTORIA INSTITUTION (COLLEGE)

DEPARTMENT OF GEOGRAPHY

2020-2021

LESSON PLAN: HONOURS

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------|--------------|
| First | Hons | CC – 1 Geotectonics and Geomorphology (Theory) | Earth's tectonic and structural evolution with reference to geological time scale. | PG | 3 |
| | | | Earth's interior with special reference to seismology. Isostasy: Models of Airy, Pratt, and their applicability. | PG | 3 |
| | | | Plate Tectonics as a unified theory of global tectonics: process and landforms at plate margins and hotspots. | PG | 10 |
| | | | Folds and Faults- origin and types. | PG | 4 |
| | | | Degradational processes: Weathering and resultant landforms. | SN | 2.5 |
| | | | Degradational processes: mass wasting, and resultant landforms. | KB | 2.5 |
| | | | Processes of entrainment, transportation, and deposition by different geomorphic agents. Role of humans in landform development. | KB | 4 |
| | | | Development of river network and landforms on uniclinal and folded structures. Surface expression of faults. | KB | 7 |
| | | | Development of river network and landforms on granites, basalts and limestones. | KB | 4 |
| | | | Coastal processes and landforms. | SN | 4 |
| | | | Glacial and glacio-fluvial processes and landforms. | KB | 4 |

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| | | | Aeolian and fluvio-aeolian processes and landforms. | KB | 4 |
| | | | Role of time in geomorphology: Schumn and Lichty's model. Models on landscape evolution: Views of Davis, Penk, and Hack. Significance of systems approach. | PD | 8 |
| | | CC - 1 Geotectonics and Geomorphology Lab (Practical) | Measurement of dip and strike using clinometer. | KB | 6 |
| | | | Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopryrite, feldspar, galena, gypsum, hematite, magnetite, mica, quartz, talc, tourmaline; and (b) rock samples: Granite, basalt, dolerite, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite, marble. | PG | 14 |
| | | | Extraction and interpretation of geomorphic information 1:50K topographical maps of plateau region: Delineation of drainage basins. Construction of relative relief map, drainage density map (c.5'x5'). | PD | 15 |
| | | | Construction of relief profiles (superimposed, projected, composite). | PG | 5 |
| | | | Construction of slope map (Wentworth's method), stream ordering (Strahler), and bifurcation ratio on a drainage basin (c.5'x5'). | SN | 15 |
| | | | Construction of hypsometric curve and derivation of hypsometric integer of a drainage basin (c.5'x5') from survey of India 1:50K | KB | 5 |

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| | | | Topographical maps of plateau region. | | |
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| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------|--------------|
| First | Hons | CC – 2 Cartographic Techniques (Theory) | Maps: Components and classification. | PG | 4 |
| | | | Concept and application of scales: Plain, comparative, diagonal, and vernier. | PD | 8 |
| | | | Coordinate systems: Polar and rectangular. | SN | 6 |
| | | | Concept of generating globe. | SN | 2 |
| | | | Grids: Angular and linear systems of measurement. | SN | 5 |
| | | | Bearing: Magnetizing and true, whole-circle and reduced. | PD | 5 |
| | | | Concept of geoid and spheroid with special reference to Everest and WGS-84. | SN | 4 |
| | | | Map projections: Classification, properties and uses. | SN | 8 |
| | | | Concept and significance of UTM projection. | SN | 2 |
| | | | Representation of data using dots, spheres and divided proportional circles. | KB | 5 |
| | | | Representation of data using isopleth, choropleth, and chorochromatic maps. | PG | 5 |
| | | | Survey of India topographical maps: Reference scheme of open and old series. Information on the margin of maps. | PG | 6 |

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| | | CC – 2 Cartographic Techniques Lab (Practical) | Graphical construction of scales: Plain, comparative, diagonal, and vernier. | PD | 16 |
| | | | Construction of projections : Polar Zenithal Stereographic, Simple conic with one standard parallel, Bonne's. | SN | 12 |
| | | | Construction of projections : Cylindrical Equal Area, and Mercator's. | KB | 8 |
| | | | Thematic maps; Proportional squares, Pie diagrams with proportional circles, dots and sphere. | KB | 12 |
| | | | Thematic maps: Choropleth, isopleth, and chorochromatic maps. | PG | 12 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------------------|-------------------------------------------------------------------------------------------|---------|-----------------|
| Second | Hons | CC – 3 Human Geography (Theory) | Nature, scope and recent trends. Elements of human geography. | PG | 4 |
| | | | Approaches to Human Geography: resource, locational , landscape, environment. | PG | 6 |
| | | | Concept and classification of race. Ethnicity. | PD | 5 |
| | | | Space, society and cultural regions (language and religion). | PD | 5 |
| | | | Evolution of human societies: Hunting and food gathering, | KB | 6 |

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| | | | pastoral nomadism , subsistence farming and industrial society. | | |
| | | | Human adaptation to environment: Case studies of Eskimos, Masai and Maori. | KB | 4 |
| | | | Population growth and distribution, composition , demographic transition. | PD | 5 |
| | | | Populaion-resource regions(Akerman). | PD | 5 |
| | | | Development- environment conflict. | PG | 5 |
| | | | Types and patterns of rural settlements. | SN | 5 |
| | | | Rural house types in India. | SN | 5 |
| | | | Morphology and hierarchy of urban settlements. | PG | 5 |
| | | CC - 3 Human Geography Lab (Practical) | Spatial variations in continent or country level religious compositions by divided proportional circles. | PG | 12 |
| | | | Measuring arithmetic growth rate of population comparing two decadal datasets. | PG | 15 |
| | | | Types of Age-Sex pyramids (progressive, regressive, intermediate and stationary): Graphical representation and analysis. | PD | 20 |
| | | | Nearest neighbor analysis from survey of India 1:50k topographical maps(5'x5'). | PG | 13 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
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| Second | Hons | CC – 4 Thematic Mapping and Surveying (Theory) | Concepts of rounding, scientific notation. Logarithm and anti logarithm. Natural and log scales. | SN | 4 |
| | | | Concept of diagrammatic representation of data. | PG | 2 |
| | | | Preparation and interpretation of geological maps. | PD | 5 |
| | | | Preparation and interpretation of weather maps. | PG | 5 |
| | | | Preparation and interpretation of land use land cover maps. | KB | 5 |
| | | | Preparation and interpretation of socio-economic maps. | PG | 5 |
| | | | Principle national agencies producing thematic maps in India: NATMO ,GSI, NBSSLUP, NHO,NRSC/ Bhuvan , etc. | PD | 5 |
| | | | Basic concepts of surveying and survey equipments: Prismatic compass. | SN | 5 |
| | | | Basic concepts of surveying and survey equipments: Dumpy level. | SN | 7 |
| | | | Basic concepts of surveying and survey equipments: Theodolite . | KB | 7 |
| | | | Basic concepts of surveying and survey equipments: Abney level . | KB | 5 |
| | | | Basic concepts of surveying and survey | KB | 5 |

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| | | | equipments: Laser distance measurer. | | |
| | | CC - 4 Thematic Mapping and Surveying (Practical) | Traverse survey using prismatic compass. | SN | 10 |
| | | | Profile survey using dumpy level. | SN | 12 |
| | | | Height determination of base accessible and inaccessible (same vertical plane method) objects by theodolite . | KB | 18 |
| | | | Interpretation of geological maps with uniclinal structure, folds, unconformity and intrusions | PD | 20 |

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| Third | Hons | CC – 5 Climatology (Theory) | Nature, Composition and layering of the atmosphere. | PG | 4 |
| | | | Insolation: Controlling factors. Heat budget of the atmosphere. | PG | 6 |
| | | | Temperature: Horizontal and vertical distribution. Inversion of temperature: types, causes and consequences. | PG | 6 |
| | | | Overview of climate change: Greenhouse effect. Formation, depletion and significance of the ozone layer. | PG | 4 |
| | | | Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation. | PG | 6 |
| | | | Air mass: Typology, origin, characteristics and modification. | PG | 4 |
| | | | Fronts: Warm and cold, frontogenesis and frontolysis. | PG | 5 |

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| | | Weather: Stability and instability, barotropic and baroclinic conditions. | PG | 5 |
| | | Circulation in the atmosphere: Planetary winds, jet streams, index cycle. | PG | 5 |
| | | Atmospheric disturbances: Tropical and mid-latitude cyclones, thunderstorms. | PG | 5 |
| | | Monsoon circulation and mechanism with reference to India. | PG | 5 |
| | | Climatic classification after Thornthwaite (1955) and Oliver. | PD | 5 |
| | CC - 5 Climatology Lab (Practical) | Measurement of weather elements using analogue instruments: Mean daily temperature, air pressure, relative humidity, rainfall. | PG | 15 |
| | | Interpretation of a daily weather map of India (any two): Pre-Monsoon, Monsoon and Post-Monsoon. | PG | 20 |
| | | Construction and interpretation of hythergraph and climograph (G. Taylor). | PG | 15 |
| | | Construction and interpretation of wind rose. | PG | 10 |
| | CC – 6 Hydrology and Oceanography (Theory) | Systems approach in hydrology. Global hydrological cycle: Its physical and biological role. | SN | 5 |
| | | Run off: Controlling factors. Infiltration and evapotranspiration. Run off cycle. | KB | 5 |
| | | Drainage basin as a hydrological unit. Principles of water harvesting and watershed management. | KB | 5 |
| | | Groundwater : Occurrence and storage. Factors controlling recharge, discharge and movement. | SN | 5 |
| | | Major relief features of the ocean floor: Characteristics and origin according to plate tectonics. | PD | 6 |

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| | | Physical and chemical properties of ocean water. | PD | 4 |
| | | Water mass, T-S diagram | KB | 4 |
| | | Air-Sea interactions, ocean circulation, wave and tide. | KB | 8 |
| | | Ocean temperature and salinity: Distribution and determinants. | PD | 4 |
| | | Coral reefs: Formation, classification and threats. | KB | 5 |
| | | Marine resources: Classification and sustainable utilisation. | PD | 4 |
| | | Sea level change: Types and causes. | KB | 5 |
| | CC – 6 Hydrology and Oceanography Lab (Practical) | Construction and interpretation of rating curves. | PD | 10 |
| | | Construction and interpretation of hydrographs and unit hydrographs. | PD | 15 |
| | | Monthly rainfall dispersion diagram (Quartile method), Climatic water budget and Ergograph. | KB | 25 |
| | | Construction of Thiessen polygon from precipitation data. | KB | 10 |
| | CC – 7 Statistical Methods in Geography (Theory) | Importance and significance of statistics in Geography. | SN | 4 |
| | | Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio). | SN | 5 |
| | | Sources of geographical data for statistical analysis. | SN | 4 |
| | | Collection of data and formation of statistical tables. | SN | 5 |
| | | Sampling: Need, types and significance and methods of random sampling. | SN | 4 |
| | | Theoretical distribution: frequency, cumulative frequency, normal and probability. | SN | 6 |
| | | Central tendency: Mean, median, mode, partition values. | SN | 6 |

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| | | Measures of dispersion range, mean deviation, standard deviation, coefficient of variation. | SN | 6 |
| | | Association and correlation: Rank correlation, product moment correlation. | PD | 5 |
| | | Regression: Linear and non-linear. | PD | 5 |
| | | Time series analysis: Moving average. | SN | 5 |
| | | Hypothesis testing: Chi-squared and T-test. | PD | 5 |
| | CC – 7 Statistical Methods in Geography Lab (Practical) | Construction of data matrix with each row representing an areal unit (districts/ blocks/ mouzas/ towns) and corresponding columns of relevant attributes. | SN | 15 |
| | | Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted using histogram and frequency curve. | SN | 15 |
| | | From the data matrix, a sample set (20%) would be drawn using random, systematic and stratified methods of sampling and the samples would be located on a map with an explanation of the methods used. | SN | 15 |
| | | Based on of the sample set and using two relevant attributes, a scatter diagram and linear regression line would be plotted and residual from regression would be mapped with a short interpretation. | PD | 15 |
| | SEC - A-2 Tourism Management (Theory) | Scope and Nature: Concepts and issues, tourism, recreation and leisure inter-relations; Factors influencing tourism, Types of tourism: Ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage, international, national. | PD | 10 |

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| | | Use of information on factors (Historical, natural, socio-cultural and economic; motivating factors for pilgrimages) to plan destination marketing; tourism products; niche tourism planning. | SN | 5 |
| | | Tourism impact assessment, Sustainable tourism, Information Technology and Tourism, Tour operations planning and guiding. | PG | 8 |
| | | Increasing Global tourism ; Tourism in India: Tourism infrastructure, access, planning for different budgets for case study sites of Western Himalayas, Goa, Chilka/Vembanad, Jaipur. | KB | 7 |

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| Fourth | Hons | CC - 8 Economic Geography (Theory) | Meaning and approaches to economic geography | PD | 4 |
| | | | Concepts in economic geography: Goods and services, production, exchange, and consumption. | PD | 6 |
| | | | Concept of economic man. Theories of choices. | PD | 6 |
| | | | Economic distance and transport costs. | PD | 4 |
| | | | Concept and classification of economic activities. | PD | 4 |
| | | | Factors affecting location of economic activity with special reference to agriculture (von Thünen), and industry (Weber). | SN | 6 |
| | | | Primary activities: Agriculture, forestry, fishing, and mining. | KB | 6 |
| | | | Secondary activities: Classification of manufacturing, concept of manufacturing regions, special economic zones and technology parks. | PD | 6 |
| | | | Tertiary activities: Transport, trade and services. | PD | 6 |

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| | | Transnational sea-routes, railways and highways with reference to India. | PD | 4 |
| | | International trade and economic blocs. | PD | 4 |
| | | WTO and BRICS: Evolution, structure and functions. | PD | 4 |
| | CC - 8 Economic Geography Lab (Practical) | Choropleth mapping of state-wise variation in GDP. | PD | 10 |
| | | State-wise variation in occupational structure by proportional divided circles. | PD | 15 |
| | | Time series analysis of industrial production (India and West Bengal). | KB | 20 |
| | | Transport network analysis by detour index and shortest path analysis. | PD | 15 |
| | CC - 9 Regional Planning and Development (Theory) | Regions: Concept, types, and delineation. | PG | 4 |
| | | Regional Planning: Types, principles, objectives, tools and techniques. | PG | 6 |
| | | Regional planning and multi-level planning in India. | PG | 6 |
| | | Concept of metropolitan area and urban agglomeration. | PG | 4 |
| | | Concept of growth and development, growth versus development. | PG | 4 |
| | | Indicators of development: Economic, demographic, and environmental. | PG | 6 |
| | | Human development: Concept and measurement. | SN | 4 |
| | | Theories and models for regional development: Cumulative causation (Myrdal). | KB | 4 |
| | | Models and theories in regional development: Stages of development (Rostow), growth pole model (Perroux). | PG | 6 |
| | | Underdevelopment: Concept and causes . | SN | 4 |
| | | Regional development in India: Disparity and diversity. | PG | 5 |
| | | Need and measures for balanced development in India. | PG | 5 |

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| | CC - 9 Regional Planning and Development Lab (Practical) | Delineation of formal regions by weighted index method. | PG | 15 |
| | | Delineation of functional regions by breaking point analysis . | PD | 15 |
| | | Measurement of inequality by location quotient. | PG | 15 |
| | | Measuring regional disparity by Sopher index. | PG | 15 |
| | CC - 10 Soil and Biogeography (Theory) | Factors of soil formation. | KB | 3 |
| | | Definition and significance of soil properties: Texture, structure, and moisture. | KB | 5 |
| | | Definition and significance of soil properties: pH, organic matter, and NPK. | KB | 5 |
| | | Soil profile. Origin and profile characteristics of lateritic, podsol and chernozem soils. | KB | 6 |
| | | Soil erosion and degradation: Factors, processes and management measures. Humans as active agents of soil transformation. | KB | 5 |
| | | Principles of soil classification: Genetic and USDA. Concept of land capability and its classification. | KB | 6 |
| | | Concepts of biosphere, ecosystem, biome, ecotone, community and ecology. | SN | 5 |
| | | Concepts of trophic structure, food chain and food web. Energy flow in ecosystems. | SN | 5 |
| | | Classification of world biomes (Whittaker). Geographical extent and characteristics of tropical rain forest, savanna, hot desert, taiga and coral reef biomes. | SN | 8 |
| | | Bio-geochemical cycles with special reference to carbon dioxide and nitrogen. | SN | 4 |
| Deforestation: Causes, consequences and management. | SN | 4 | | |
| Biodiversity: Definition, types, threats and conservation measures. | SN | 4 | | |
| CC - 10 Soil and | Determination of soil reaction (pH) and salinity using field kit. | KB | 15 | |

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| | Biogeography Lab (Practical) | Determination of soil type by ternary diagram textural plotting . | KB | 15 |
| | | Plant species diversity determination by matrix method. | SN | 10 |
| | | Time series analysis of biogeography data. | SN | 20 |
| | SEC-B-3 Rural Development (Theory) | Rural Development: Concept, basic elements, measures of level of rural development. | PD | 5 |
| | | Paradigms of rural development: Gandhian approach to rural development Lewis model of economic development, 'big push' theory of development, Myrdal's model of 'spread and backwash effects'. | SN | 10 |
| | | Area based approach to rural development: Drought prone area programmes, PMGSY, SJSY, MNRGA, Jan Dhan Yojana. | KB | 10 |
| | | Rural Governance: Panchayati Raj System and rural development policies and Programmes in India. | PG | 5 |

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| Fifth | Hons | CC – 11 Research Methodology and Fieldwork (Theory) | Research in Geography: Meaning, types and significance | PG | 5 |
| | | | Literature review and formulation of research design | PG | 5 |
| | | | Defining research problem, objectives and hypothesis | PG | 6 |
| | | | Research materials and methods | PG | 4 |
| | | | Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract, and keywords | PG | 6 |
| | | | Plagiarism: Classification and prevention | PG | 4 |
| | | | Fieldwork in Geographical studies: Role and significance. Selection of study area and objectives. | SN | 6 |

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| | | | Pre-field academic preparations. Ethics of fieldwork | | |
| | | | Field techniques and tools: Observation (participant, non-participant), questionnaires (open, closed, structured, non-structured). Interview | SN | 5 |
| | | | Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording | SN | 5 |
| | | | Positioning and collection of samples. Preparation of inventory from field data | SN | 4 |
| | | | Post - field tabulation, processing and analysis of quantitative and qualitative data | SN | 5 |
| | | | Fieldwork: Logistics and handling of emergencies | SN | 5 |
| | | CC –11 Research Methodology and Fieldwork Lab (Practical) | Each student will prepare a report based on primary data collected from field survey and secondary data collected from different sources. Students will select either one rural area (mouza) or an urban area (municipal ward) for the study, with the primary objective of evaluating the relation between physical and cultural landscape. A specific problem or a special feature should be identified based on which, the study area will be selected. The field work and post-field work will include: a. Collection of primary data on physical aspects (relief and soil) of the study area. Students should use survey instruments like prismatic compass, dumpy level, | KB | 60 |

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| | | | <p>Abney level or clinometer wherever necessary.</p> <p>b. Collection of soil samples from different land cover land use regions of the study area for determining pH and NPK values with help of a soil kit.</p> <p>c. Collection of socio economic data, at the household level (with the help of a questionnaire) in the selected study area.</p> <p>d. Plot to plot land use survey for preparation of a land use map, covering whole or part of the selected area.</p> <p>e. Visit to different organisations and departments for collection of secondary data.</p> <p>f. Any other survey relevant to the objective of the study.</p> <p>The Field Report should contain the following sections (a–e).</p> <p>a. Introduction: Study area extent and space relations, reasons for selection of the study area on the basis of a specific problem or special feature, objectives, methods of data collection, analyses and presentation, sources of information, etc.</p> <p>b. Physical aspects: Lithology and geological structure, relief, slope, drainage, climate, soil, vegetation, environmental issues, proneness to natural hazards, etc. c. Socio-economic aspects:</p> <p>i. Population attributes: Number, sex ratio, literacy, occupational structure, ethnic and religious composition, language, per capita income, etc.</p> | |
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| | | | <p>ii. Settlement characteristics: Number of houses, building materials, number and size of rooms, amenities, etc.</p> <p>iii. Agriculture: General land use, crop-combination, use of fertiliser and irrigational facilities, production and marketing etc.</p> <p>iv. Other economic activities: Fishing, horticulture, brick-making, household and other industries, etc.</p> <p>d. Conclusions: Relation between physical and cultural landscape. Evaluation of problems and prospects. General recommendations. e. Bibliography.</p> <p>The students will prepare (i) a chorochromatic land use land cover map on the basis of plot to plot survey; (ii) a profile of suitable length, surveyed and plotted, with different land use land cover superimposed on it.</p> <p>All sections of the report should contain relevant maps, diagrams and photographs using primary and secondary data, clearly citing sources.</p> | | |
| | | <p>CC –12 Remote Sensing, GIS and GNSS (Theory)</p> | Principles of Remote Sensing (RS): Types of RS satellites and sensors | PD | 5 |
| | | | Sensor resolutions and their applications with reference to IRS and Landsat missions | PD | 5 |
| | | | | Image referencing schemes and acquisition procedure of free geospatial data from NRSC / Bhuvan and USGS | PD |

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| | | | Preparation of False Colour Composites from IRS LISS-3 and Landsat TM / OLI data. | PD | 5 |
| | | | Principles of image interpretation. Preparation of inventories of land use land cover (LULC) features from satellite images | PD | 5 |
| | | | Acquisition and utilisation of free Digital Elevation Model data: CartoDEM, SRTM and ALOS | PD | 5 |
| | | | GIS data structures types: Spatial and non-spatial, raster and vector | KB | 5 |
| | | | Principles of preparing attribute tables, data manipulation, and overlay analysis | KB | 5 |
| | | | Principles and significance of buffer preparation | KB | 4 |
| | | | Principles and significance of overlay analysis | KB | 5 |
| | | | Principles of GNSS positioning and waypoint collection | PD | 5 |

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| | | | Principles of transferring of GNSS waypoints to GIS. Area and length calculations from GNSS data | PD | 5 |
| | | CC –12 Remote Sensing, GIS and GNSS Lab (Practical) | Image georeferencing and enhancement. Preparation of reflectance libraries of LULC features across different image bands of IRS L3 or Landsat OLI data | PD | 15 |
| | | | Supervised image classification, class editing, and post-classification analysis | PD | 15 |
| | | | Digitisation of features and administrative boundaries. Data attachment, overlay, and preparation of annotated thematic maps | PD | 20 |
| | | | Waypoint collection from GNSS receivers and exporting to GIS database . | PD | 10 |
| | | DSE-A2 Climate Change: Vulnerability and Adaptations (Theory) | The science of climate change: Origin, scope and trends . | PG | 5 |
| | | | Climate change with reference to the geological time scale. | PG | 6 |
| | | | Evidences and factors of climate change: The nature–man dichotomy. | PG | 4 |
| | | | Greenhouse gases and global warming. | PD | 5 |

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| | | | Electromagnetic spectrum, atmospheric window, heat balance of the earth. | KB | 5 |
| | | | Global climatic assessment: IPCC reports. | SN | 5 |
| | | | Climate change and vulnerability: Physical; economic and social. | PG | 5 |
| | | | Impact of climate change: Agriculture and water; flora and fauna; human health and morbidity. | PD | 5 |
| | | | Global initiatives to climate change mitigation: Kyoto Protocol, carbon trading, clean development mechanism, COP, climate fund. | SN | 5 |
| | | | Climate change vulnerability assessment and adaptive strategies with particular reference to South Asia | KB | 5 |
| | | | National Action Plan on climate change. | KB | 5 |
| | | | Role of urban local bodies, panchayats, and educational institutions on climate change mitigation: Awareness and action programmes. | KB | 5 |
| | | DSE-A2 Climate Change: Vulnerability and | Analysis of trends of temperatures (maximum and minimum of about three decades) of any India Meteorological Department (IMD) station. | SN | 10 |

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| | Adaptations Lab (Practical) | Comparative analysis of seasonal variability of rainfall on the basis of monthly data of any two IMD stations. | SN | 15 |
| | | Annual rainfall variability of about three decades for any two representative climatic regions of India. | SN | 15 |
| | | Preparation of an inventory of extreme climatic events and mitigation measure of any climatic region / country of South Asia for a period of one decade on the basis of secondary information. | PG | 20 |
| | DSE-B5 Cultural and Settlement Geography (Theory) | Definition, scope and content of cultural geography | KB | 5 |
| | | Development of cultural geography in relation to allied disciplines | KB | 5 |
| | | Cultural hearth and realm, cultural diffusion, diffusion of major world religions and languages | PD | 6 |
| | | Cultural segregation and cultural diversity, culture, technology and development. | PD | 5 |
| | | Races and racial groups of the world | PD | 5 |
| | | Cultural regions of India | PD | 4 |
| | | Rural settlement: Definition, nature and characteristics | SN | 3 |

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| | | | Morphology of rural settlement: Site, situation, layout-internal and external | SN | 5 |
| | | | Rural house types with reference to India, social segregation in rural areas. Census of India categories of rural settlements | SN | 7 |
| | | | Urban settlement: Census of India definition and categories | PG | 3 |
| | | | Urban morphology: Models of Burgess, Hoyt, Harris, and Ullman. | PG | 7 |
| | | | City-region and conurbation. Functional classification of cities: Schemes of Harris, Nelson, and McKenzie | PG | 5 |
| | | DSE-B5 | Mapping language distribution of India | PG | 10 |
| | | Cultural and Settlement Geography Lab (Practical) | CD block-wise housing distribution in any district of West Bengal using proportional square | PG | 20 |
| | | | Identification of rural settlement types from Survey of India 1:50k topographical maps | SN | 15 |
| | | | Social area analysis of a city (Shevky & Bell) | PG | 15 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
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| Sixth | Hons | CC – 13 Evolution of the Geographical Thought (Theory) | Development of pre-modern Geography: Contributions of Greek, Chinese, and Indian geographers | PG | 5 |
| | | | Impact of 'Dark Age' in Geography and Arab contributions | PG | 5 |
| | | | Geography during the age of 'Discovery' and 'Exploration' (contributions of Portuguese voyages, Columbus, Vasco da Gama, Magellan, Thomas Cook) | PG | 5 |
| | | | Transition from cosmography to scientific Geography (contributions of Bernard Varenius and Immanuel Kant). Dualism and Dichotomies (General vs. Particular, Physical vs. Human, Regional vs. Systematic, Determinism vs. Possibilism, Ideographic vs. Nomothetic) | PG | 7 |
| | | | Evolution of Geographical thoughts in Germany, France, Britain, and United States of America | PG | 5 |

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| | | | Contributions of Humboldt and Ritter | PG | 3 |
| | | | Contributions of Richthofen, Hartshorne–Schaeffer, Ratzel, La Blaché | PG | 6 |
| | | | Trends of geography in the post World War-II period: Quantitative revolution, systems approach | PG | 7 |
| | | | Structuralism and historical materialism | PG | 3 |
| | | | Changing concept of space with special reference to Harvey | PG | 5 |
| | | | Evolution of Critical Geography: Behavioural, humanistic, and radical | PG | 5 |
| | | | Towards post modernism: Geography in the 21st Century | PG | 5 |
| | | CC - 13 | Changing perception of maps of the world (Ptolemy, Ibn Batuta, Mercator) | PG | 20 |
| | | Evolution of the Geographical Thought Lab (Practical) | Mapping voyages; Columbus, Vasco da Gama, Magellan, Thomas Cook | PG | 20 |
| | | | Group Presentation of five to ten students on any selected school of geographical thought | PG | 20 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------------------|-------------------------------------------------------------------------------------------------------|---------|--------------|
| Sixth | Hons | CC – 14 Hazard Management (Theory) | Classification of hazards and disasters. Hazard continuum | KB | 4 |
| | | | Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms | KB | 6 |
| | | | Responses to hazards: Preparedness, trauma, and aftermath. Resilience, capacity building | KB | 5 |
| | | | Hazards mapping: Data and geospatial techniques (for hazards enlisted in Unit II and GEO-A-CC-6-14-P) | KB | 5 |
| | | | Earthquake: Factors, vulnerability, consequences, and management | KB | 5 |
| | | | Landslide: Factors, vulnerability, consequences, and management | KB | 5 |
| | | | Land subsidence: Factors, vulnerability, consequences, and management | KB | 5 |
| | | | Tropical cyclone: Factors, vulnerability, consequences, and management | KB | 5 |
| | | | Flood: Factors, vulnerability, consequences, and management | KB | 5 |
| | | | Riverbank erosion: Factors, vulnerability, | KB | 5 |

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| | | | consequences, and management | | |
| | | | Fire: Factors, vulnerability, consequences, and management | KB | 5 |
| | | | Biohazard: Classification, vulnerability, consequences, and management | KB | 5 |
| | | CC – 14 Hazard Management Lab (Practical) | A Group Project Report is to be prepared and submitted based on any one case study among the following hazards from West Bengal, incorporating a preparedness plan, preferably in the vicinity of the candidates' institution / district: <ol style="list-style-type: none"> 1. Earthquake 2. Landslide 3. Land subsidence 4. Thunderstorm 5. Flood 6. Riverbank / Coastal erosion 7. Fire 8. Industrial accident 9. Road / Railway accident 10. Structural collapse 11. Environmental pollution 12. Biohazard <p>One case study will be done by a group of five to ten students.</p> | KB | 60 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------|--------------|
| Sixth | Hons | DSE-A-6-04 Resource Geography (Theory) | Natural resources: Concept and classification | SN | 4 |
| | | | Approaches to resource utilization: Utilitarian, conservational, community based adaptive | SN | 6 |
| | | | Significance of resources: Backbone of economic growth and development | SN | 5 |
| | | | Pressure on resources. Appraisal and conservation of natural resources | SN | 5 |
| | | | Problems of resource depletion: global scenario (forest, water, fossil fuels) | SN | 7 |
| | | | Sustainable resource development | SN | 3 |
| | | | Distribution, utilisation, problems and management of metallic mineral resources: Iron ore, bauxite, copper | SN | 6 |
| | | | Distribution, utilisation, problems and management of non-metallic mineral resources: Limestone, mica, gypsum | SN | 6 |
| | | | Distribution, utilisation, problems and | SN | 6 |

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| | | | management of energy resources: Conventional and non-conventional | | |
| | | | Contemporary energy crisis and future scenario | SN | 4 |
| | | | Politics of power resources | SN | 3 |
| | | | Limits to growth and sustainable use of resources. Concept of resource sharing | SN | 5 |
| | | DSE-A-6-04 Resource Geography Lab (Practical) | Mapping and area estimate of changes in forest or vegetation cover from maps and/or satellite images | SN | 15 |
| | | | Mapping and number estimate of changes in water bodies from maps and/or satellite images | SN | 15 |
| | | | Decadal changes in state-wise production of coal and iron ore | SN | 15 |
| | | | Computing Human Development Index: Comparative decadal change of top five Indian states | SN | 15 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|----------------------------------------------|--------------------------------------------------------------|---------|--------------|
| Sixth | Hons | DSE-B-6-08 Geography Of India (Theory) | Physiographic divisions with reference to tectonic provinces | PD | 5 |
| | | | Climate, soil and vegetation: | PD | 6 |

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| | | | Classification and interrelation | | |
| | | | Population: Distribution, growth, structure, and policy | PD | 4 |
| | | | Tribes of India with special reference to Gaddi, Toda, Santal, and Jarwa | PD | 5 |
| | | | Agricultural regions. Green revolution and its consequences | PD | 4 |
| | | | Mineral and power resources: Distribution and utilisation of iron ore, coal, petroleum, and natural gas | PD | 6 |
| | | | Industrial development: Automobile and information technology | PD | 3 |
| | | | Regionalisation of India: Physiographic (R.L. Singh) and economic (P. Sengupta) | PD | 7 |
| | | | Physical perspectives: Physiographic divisions, forest and water resources | PD | 6 |
| | | | Resources: Agriculture, mining, and industry | PD | 6 |
| | | | Population: Growth, distribution, and human development | PD | 4 |

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|--|--|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|----|
| | | | Regional issues: Darjeeling Hills and Sundarban | PD | 4 |
| | | DSE-B-6-08 Geography of India Lab (Practical) | Monthly temperature and rainfall graphs of five select stations from different physiographic regions of India | PD | 15 |
| | | | Crop combination: Comparison of any two contrasting districts from West Bengal | PD | 15 |
| | | | Annual trends of production: Mineral resources and manufacturing goods over two decades | PD | 20 |
| | | | Composite Index: Comparison of developed and backward states of India | PD | 10 |

LESSON PLAN: GENERAL

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------|
| First | General | CC 1/GE 1 Physical Geography (Theory) | Earth's interior with special reference to seismology | PG | 3 |
| | | | Plate Tectonics as a unified theory of global tectonics. Formation of major relief features of the ocean floor and continents according to Plate Tectonics | PG | 7 |
| | | | Folds and faults: Classification and surface expressions | PG | 6 |

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| | | | Degradational processes: Weathering, mass wasting, and resultant landforms | KB | 4 |
| | | | Principal geomorphic agents. Classification and evolution of fluvial, coastal, aeolian, and glacial landforms | KB | 12 |
| | | | Basic models of slope evolution: Decline, replacement, and retreat. Systems approach and its significance in geomorphology | PD | 6 |
| | | | Global hydrological cycle: Its physical and biological role | SN | 2 |
| | | | Run off: Controlling factors. Concept of ecological flow | SN | 3 |
| | | | Drainage basin as a hydrological unit. Principles of watershed management | KB | 3 |
| | | | Physical and chemical properties of ocean water. Distribution and determinants of temperature and salinity | PD | 4 |
| | | | Overview of air-sea interactions. Ocean circulation, wave, and tide | SN | 7 |
| | | | Marine resources: Classification and sustainable utilisation | PD | 3 |
| | | CC 1/GE 1 Physical Geography Lab (Practical) | Megascopic identification of mineral samples: Bauxite, calcite, chalcopyrite, | PG | 8 |

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| | | | feldspar, galena, hematite, mica, quartz, talc, tourmaline | | |
| | | | Megascopic identification of rock samples: Granite, basalt, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite | PG | 12 |
| | | | Extraction of physiographic information from Survey of India 1:50k topographical maps of plateau region: Construction and interpretation of relief profiles (superimposed, projected and composite), Construction and interpretation of relative relief map (c. 5'×5') | SS | 20 |
| | | | Extraction of drainage information from Survey of India topographical maps of plateau region: Extraction and interpretation of channel features and drainage patterns, Construction of channel profiles | SS | 20 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|--------------------------------------------|---------------------------------------------------------------------------------|---------|--------------|
| Second | General | CC 2/GE 2 Environmental Geography (Theory) | Insolation and Heat Budget. Horizontal and vertical distribution of atmospheric | PG | 5 |

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| | | | temperature and pressure | | |
| | | | Overview of planetary wind systems. Indian Monsoons: Mechanisms and controls | PG | 6 |
| | | | Atmospheric disturbances: Tropical and temperate cyclones. Thunderstorms | PD | 7 |
| | | | Overview of global climatic change: Greenhouse effect. Ozone depletion | PG | 5 |
| | | | Scheme of world climatic classification by Köppen | PD | 2 |
| | | | Factors of soil formation | KB | 4 |
| | | | Soil profile development under different climatic conditions: Laterite, Podsol, and Chernozem | KB | 6 |
| | | | Physical and chemical properties of soils: Texture, structure, pH, salinity, and NPK status | KB | 6 |
| | | | USDA classification of soils. Soil erosion and its management | PD | 4 |
| | | | Ecosystem and Biomes. Distribution and characteristics of tropical rainforest; Savannah, and hot desert biomes | SN | 6 |
| | | | Plant types, occurrence and ecological adaptations: Halophytes, | SN | 5 |

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| | | | xerophytes, hydrophytes, and mesophytes | | |
| | | | Biodiversity: Types, threats and management with special reference to India | SN | 4 |
| | | CC 2/GE 2 Environmental Geography Lab (Practical) | Interpretation of daily weather map of India (any one): Pre-Monsoon or Monsoon or Post-Monsoon | SS | 20 |
| | | | Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal) | SS | 20 |
| | | | Determination of soil type by ternary diagram textural plotting | SS | 10 |
| | | | Preparation of peoples' biodiversity register | PD | 10 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------|--------------|
| Third | General | CC 3/GE 3 Human Geography (Theory) | Sectors of the economy: Primary, Secondary, Tertiary and Quaternary. Factors affecting location of economic activities | PG | 5 |
| | | | Location of economic activities: Theories of von Thünen, Lösch, and Weber | PG | 5 |
| | | | Location of industries with special reference to India: Cotton, Iron and Steel | SN | 5 |
| | | | Globalisation and integration of world economies | PD | 5 |

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| | | | Human Society: Structure, functions, social systems. Population and migration: overview, causes and effects | SN | 5 |
| | | | Types and characteristics of social organisations: Primitive, hunting– gathering, agrarian, industrial | SN | 5 |
| | | | Race, Language and Religion: Origin, characteristics and spatial variations | KB | 6 |
| | | | Social Issues: Diversity, conflict and transformation | KB | 5 |
| | | | Carl Sauer: cultural landscape and its elements | PG | 6 |
| | | | Rural and urban settlements: Differentiation in cultural landscapes | KB | 5 |
| | | | Cultural regions and cultural realms | PD | 5 |
| | | | Diffusion of culture and innovations | PD | 4 |
| | | CC 3/GE 3 Human Geography Lab (Practical) | State-wise variation in occupational structure by proportional divided circles | SS | 15 |
| | | | Time series analysis of industrial production using any two manufactured goods from India | SS | 20 |
| | | | Measuring arithmetic growth rate of population comparing two datasets | SS | 15 |
| | | | Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps | SS | 10 |
| | | SEC A 2 Forest & | Forest and wildlife management: | PG | 7 |

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| | | Wildlife Management (Theory) | Importance and strategies. Role and significance of stakeholders. Tangible and intangible benefits of forest and wildlife management | | |
| | | | Legal framework of forest and wildlife protection in India: The Indian Forest Act 1927, Forest Conservation Act 1980, Wild Life Protection Act 1972, Biodiversity Act 2002 | SN | 5 |
| | | | Forests as common property resources. Forest rights: Tribals and forests. Gender dimension of forest management. Management of poaching and illegal logging. | PD | 8 |
| | | | Principles of community participation and joint forest management. Causes and management of human-wildlife conflicts with special reference to Jangal Mahal, Sundarban and Duars [| KB | 10 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|--------------------------------|-------------------------------------------------------------------------------------------------|---------|--------------|
| Fourth | General | CC 4/GE 4 Cartography (Theory) | Maps: Classification and types. Scales: Types, significance, and applications | PD | 3 |
| | | | Coordinate systems: Polar and rectangular. Bearing: Magnetic and true, whole-circle and reduced | SN | 3 |

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| | | | Map projections: Classification, properties and uses. Concept and significance of UTM projection | KB | 8 |
| | | | Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps | PG | 4 |
| | | | Representation of data by dots and proportional circles | PG | 4 |
| | | | Representation of data by isopleth and choropleth | SN | 4 |
| | | | Principal national agencies producing thematic maps in India: GSI, NATMO, NBSSLUP, NHO, and NRSC. Acquaintance with Bhuvan platform | PD | 5 |
| | | | Basics of Remote Sensing: Types of satellites, sensors, bands, and resolutions with special reference to 1the ISRO missions | PD | 10 |
| | | | Principles of preparing standard FCCs and classified raster images | KB | 5 |
| | | | Principles of Geographical Information System: Concepts of vector types, attribute tables, buffers, and overlay analysis | KB | 6 |
| | | | Basic concepts of surveying and survey equipment: Prismatic compass | SN | 6 |
| | | | Basic concepts of surveying and survey equipment: Dumpy level | KB | 6 |
| | | CC 4/GE 4 Cartography Lab (Practical) | Graphical construction of scales: Plain and comparative | SS | 10 |
| | | | Construction of projections: Simple | SS | 20 |

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| | | | Conic with one standard parallel, Cylindrical Equal Area., and Polar Zenithal Stereographic | | |
| | | | Construction of thematic maps: Proportional squares, proportional circles, choropleths, and isopleths | SS | 20 |
| | | | Preparation of annotated thematic overlays from satellite standard FCCs of 1:50k | SS | 10 |
| | | SEC B4 Sustainable Development (Theory) | Sustainable development: Concept, Historical background, components, limitations | PG | 5 |
| | | | Global goals for sustainable development: Domain, conflict, crisis and compromise | KB | 7 |
| | | | Challenges of sustainable development: Determinants, linkage among sustainable development, environment and poverty | PD | 10 |
| | | | Global environmental issues: Population, income and urbanization, health care, forest and water resources | SN | 8 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|--------------------------------------|--------------------------------------------------------------------------------------------------------------|---------|--------------|
| Fifth | General | DSE A1 Regional Development (Theory) | Definition of region. Types and need of regional planning | PG | 3 |
| | | | Choice of a region for planning; characteristics of an ideal planning region; delineation of planning region | PG | 7 |
| | | | Regionalization of India for planning (agro-ecological zones) | PG | 5 |
| | | | Strategies/models for regional planning: | PD | 6 |

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| | | | growth pole model of Perroux | | |
| | | | Growth centre model in Indian context. Concept of village cluster | PD | 4 |
| | | | Problem regions and regional planning. Backward regions and regional plans: special area development plans in India. Damodar Valley Corporation: Success and failure | PD | 5 |
| | | | Changing concept of development and underdevelopment; Efficiency-equity debate | SN | 5 |
| | | | Indicators of development: Economic, demographic, and environmental. Concept of human development | SN | 5 |
| | | | Regional development in India, regional inequality, disparity and diversity | SN | 5 |
| | | | Development and regional disparities in India since Independence: Disparities in agricultural development | KB | 5 |
| | | | Development and regional disparities in India since Independence: Disparities in industrial development | KB | 5 |
| | | | Development and regional disparities in India since independence : Disparities in human resource development in terms of education and health | KB | 5 |
| | | DSE A1 | Delineation of regions according to given | SS | 15 |

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| | | Regional Development Lab(Practical) | criteria using Weaver's method | | |
| | | | Determination of sphere of influence by gravity model | SS | 15 |
| | | | Measurement of inequality by Lorenz curve and location quotient | SS | 15 |
| | | | Preparation of Z-score and composite index from suitable data | SS | 15 |
| | | SEC A2 Forest & Wildlife Management (Theory) | Forest and wildlife management: Importance and strategies. Role and significance of stakeholders. Tangible and intangible benefits of forest and wildlife management | PG | 7 |
| | | | Legal framework of forest and wildlife protection in India: The Indian Forest Act 1927, Forest Conservation Act 1980, Wild Life Protection Act 1972, Biodiversity Act 2002 | SN | 5 |
| | | | Forests as common property resources. Forest rights: Tribals and forests. Gender dimension of forest management. Management of poaching and illegal logging. | PD | 8 |
| | | | Principles of community participation and joint forest management. Causes and management of human-wildlife conflicts with special reference to Jangal Mahal, Sundarban and Duars | KB | 10 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|
| Sixth | General | DSE B 4 Population Geography (Theory) | Development of Population Geography as a field of specialization. Relation between population geography and demography. Sources of population data, their level of reliability and problems of mapping | PG | 6 |
| | | | Population distribution: Density and growth. Classical and modern theories on population growth, Demographic transition model | PG | 6 |
| | | | World patterns and determinants of population distribution and growth. Concept of optimum population | PG | 4 |
| | | | Population distribution, density, and growth in India | PD | 4 |
| | | | Types of population composition: Age–sex. rural–urban, literacy and education | KB | 5 |
| | | | Measurements of fertility and mortality. Concept of cohort and life table | PD | 5 |
| | | | Population composition of India: Urbanisation and occupational structure | SN | 7 |
| | | | Migration: Causes and types | SN | 3 |
| | | | National and international patterns of migration with reference to India | SN | 5 |
| | | | Population and development: Population–resource regions (Ackerman). | PD | 5 |

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| | | | Concept of human Development Index and its components | | |
| | | | Population policies in developed and less development countries. India's population policies. Population and environment, implication for the future | KB | 5 |
| | | | Contemporary issues: Ageing of population, declining sex ratio, population and environment dichotomy, impact of HIV/AIDS | KB | 5 |
| | | DSE B 4 Population Geography Lab (Practical) | Population projection by arithmetic method | SS | 15 |
| | | | Population density mapping: State-wise for India | SS | 15 |
| | | | Analysis of work participation rate: Total and gender-wise for India | SS | 15 |
| | | | Analysis occupation structure by dominant and distinctive functions: Districts of West Bengal | SS | 15 |
| | | SEC B4 Sustainable Development (Theory) | Sustainable development: Concept, Historical background, components, limitations | PG | 5 |
| | | | Challenges of sustainable development: Determinants, linkage among sustainable development, environment and poverty | PD | 10 |
| | | | Global environmental issues: Population, income and urbanization, health care, forest and water resources | SN | 8 |

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| | | | Global goals for sustainable development: Domain, conflict, crisis and compromise | KB | 7 |
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LESSON PLAN (MORNING)

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------|--------------------------------------------------|---------------------------------|--------------|
| 1 | GENERAL | CC 1/GE 1 THEORY | GEOTECTONICS | ALOKA MUKHOPADHYAY | 16 |
| | | | GEOMORPHOLOGY | ALOKA MUKHOPADHYAY | 21 |
| | | | HYDROLOGY | ALOKA MUKHOPADHYAY | 10 |
| | | | OCEANOGRAPHY | ALOKA MUKHOPADHYAY | 14 |
| 1 | GENERAL | CC 1/ GE 1 PRACTICAL | PHYSICAL GEOGRAPHY LAB | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| 2 | GENERAL | CC-2/ GE2 THEORY | CLIMETOLOGY | ALOKA MUKHOPADHYAY | 25 |
| | | | SOIL GEOGRAPHY | ALOKA MUKHOPADHYAY | 20 |
| | | | BIOGEOGRAPHY | ALOKA MUKHOPADHYAY | 15 |
| 2 | GENERAL | CC-2/ GE2 PRACTICAL | ENVIRONMENTAL GEOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| | GENERAL | CC-3 THEORY | ECONOMIC GEOGRAPHY | ALOKA MUKHOPADHYAY | 20 |
| | | | SOCIAL GEOGRAPHY | ALOKA MUKHOPADHYAY | 21 |
| | | | CULTURAL GEOGRAPHY | ALOKA MUKHOPADHYAY | 20 |
| 3 | GENERAL | CC 3 PRACTICAL | HUMAN GEOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| 3 | GENERAL | CC 3 SEC A2 | FOREST & WILDLIFE MANAGEMENT | ALOKA MUKHOPADHYAY | 30 |
| 4 | GENERAL | CC 4 THEORY | SCALE & PROJECTION | ALOKA MUKHOPADHYAY | 14 |
| | | | TOPOGRAPHIC & THEMATIC MAPS | ALOKA MUKHOPADHYAY | 17 |
| | | | REMOTE SENCING & GEOGRAPHICAL INFORMATION SYSTEM | ALOKA MUKHOPADHYAY | 21 |

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| | | | SURVEYING | ALOKA MUKHOPADHYAY | 12 |
| 4 | GENERAL | CC 4 PRACTICAL | CARTOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| | GENERAL | CC-4 SECB2 | SUSTAINABLE DEVELOPMENT | ALOKA MUKHOPADHYAY | 30 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------|---------------------------------|---------------------------------------|--------------|
| 5 | GENERAL | DSE A1 THEORY | REGIONAL DEVELOPMENT | ALOKA MUKHOPADHYAY | 57 |
| 5 | GENERAL | DSE A1 PRACTICAL | REGIONAL DEVELOPMENT LAB | ALOKA MUKHOPADHYAY | 60 |
| 5 | GENERAL | SEC A2 THEORY | FOREST & WILDLIFE MANAGEMENT | ALOKA MUKHOPADHYAY | 30 |
| 6 | GENERAL | DSE B THEORY | POPULATION GEOGRAPHY | ALOKA MUKHOPADHYAY | 60 |
| 6 | GENERAL | DSE B PRACTICAL | POPULATION GEOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| | GENERAL | DSE SEC B2 | SUSTAINABLE DEVELOPMENT | ALOKA MUKHOPADHYAY | 30 |

LESSON PLAN (MORNING)

2022-23

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------|--------------------------------------------------|---------------------------------|--------------|
| 1 | GENERAL | CC 1/GE 1 THEORY | GEOTECTONICS | ALOKA MUKHOPADHYAY | 16 |
| | | | GEOMORPHOLOGY | ALOKA MUKHOPADHYAY | 21 |
| | | | HYDROLOGY | ALOKA MUKHOPADHYAY | 10 |
| | | | OCEANOGRAPHY | ALOKA MUKHOPADHYAY | 14 |
| 1 | GENERAL | CC 1/ GE 1 PRACTICAL | PHYSICAL GEOGRAPHY LAB | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| 2 | GENERAL | CC-2/ GE2 THEORY | CLIMETOLOGY | ALOKA MUKHOPADHYAY | 25 |
| | | | SOIL GEOGRAPHY | ALOKA MUKHOPADHYAY | 20 |
| | | | BIOGEOGRAPHY | ALOKA MUKHOPADHYAY | 15 |
| 2 | GENERAL | CC-2/ GE2 PRACTICAL | ENVIRONMENTAL GEOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| | GENERAL | CC-3 THEORY | ECONOMIC GEOGRAPHY | ALOKA MUKHOPADHYAY | 20 |
| | | | SOCIAL GEOGRAPHY | ALOKA MUKHOPADHYAY | 21 |
| | | | CULTURAL GEOGRAPHY | ALOKA MUKHOPADHYAY | 20 |
| 3 | GENERAL | CC 3 PRACTICAL | HUMAN GEOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| 3 | GENERAL | CC 3 SEC A2 | FOREST & WILDLIFE MANAGEMENT | ALOKA MUKHOPADHYAY | 30 |
| 4 | GENERAL | CC 4 THEORY | SCALE & PROJECTION | ALOKA MUKHOPADHYAY | 14 |
| | | | TOPOGRAPHIC & THEMATIC MAPS | ALOKA MUKHOPADHYAY | 17 |
| | | | REMOTE SENCING & GEOGRAPHICAL INFORMATION SYSTEM | ALOKA MUKHOPADHYAY | 21 |

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| | | | SURVEYING | ALOKA MUKHOPADHYAY | 12 |
| 4 | GENERAL | CC 4 PRACTICAL | CARTOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| | GENERAL | CC-4 SECB2 | SUSTAINABLE DEVELOPMENT | ALOKA MUKHOPADHYAY | 30 |

| Semester | Programme | Course and Name of the Paper | Topic | Teacher | No. Of hours |
|----------|-----------|------------------------------|---------------------------------|---------------------------------------|--------------|
| 5 | GENERAL | DSE A1 THEORY | REGIONAL DEVELOPMENT | ALOKA MUKHOPADHYAY | 57 |
| 5 | GENERAL | DSE A1 PRACTICAL | REGIONAL DEVELOPMENT LAB | ALOKA MUKHOPADHYAY | 60 |
| 5 | GENERAL | SEC A2 THEORY | FOREST & WILDLIFE MANAGEMENT | ALOKA MUKHOPADHYAY | 30 |
| 6 | GENERAL | DSE B THEORY | POPULATION GEOGRAPHY | ALOKA MUKHOPADHYAY | 60 |
| 6 | GENERAL | DSE B PRACTICAL | POPULATION GEOGRAPHY | ALOKA MUKHOPADHYAY & SMRITI DAS | 60 |
| | GENERAL | DSE SEC B2 | SUSTAINABLE DEVELOPMENT | ALOKA MUKHOPADHYAY | 30 |
