DEPARTMENT OF GEOGRAPHY LESSON PLAN GEOGRAPHY HONOURS (1+1+1 SYSTEM) 2017-2018 SESSION

PART-I

PAPER-I

GEOTECTONICS, GEOMORPHOLOGY & HYDROLOGY

<u>Course coordinator: Dr. Rajat Halder (RH)</u> <u>Teachers: Aditi Matilal (AM), Dr. Rajat Halder, Susmita Halder (SH)</u>

- 1. Describe geological timescale
- 2. Understand the structure of the earth, its crust and interior.
- 3. Elucidate isostasy in the light of the concepts postulated by Pratt and Airy.
- 4. Elucidate continental drift, sea floor spreading.
- 5. Describe Plate Tectonics as explanation of mountain building, volcanism and earthquake.
- 6. Describe the processes of weathering and mass wasting and their impact on landforms
- 7. Identify the influence of lithology on landforms with special reference to Granite and Basaltic landforms.
- 8. Classify folds and faults.
- 9. Understand the evolution of landforms in uniclinal, folded and faulted structures.
- 10. Develops deep understanding about development of landforms by fluvial, glacial and coastal processes.
- 11. Elucidate the cyclic and non-cyclic concepts of landscape evolution: Davis, Penck and Hack.
- 12. Explain global hydrological cycle, aspects of runoff, infiltration, evaporation and transpiration and runoff cycle.
- 13. Identify the factors influencing ground water movement and storage.
- 14. Classify ocean sediments.
- 15. Describe the salinity and temperature of ocean water.

| Phase | Teache | No of | Topic | Remark |
|-------|--------|---------|------------------------|---------|
| | r | classes | | S |
| | | | Group-A (Geotectonics) | |
| I | RH | 2 | Geological timescale | Lecture |

| | | 2 | Structure of the earth: crust and interior | series |
|----|----|---------|---|---------------------|
| | | 6 | Isostasy: concepts postulated by Pratt and Airy | with |
| | | 6 | Continental Drift, Sea Floor Spreading | extensiv |
| | | 7 | Plate Tectonics as explanation of mountain building, | e use of |
| | | | volcanism and earthquakes | black |
| | | (| Group-B:Geomorphology | board. |
| I | AM | 6 | Processes of weathering and mass wasting and their | Occasio |
| | | | impact on landforms | nal |
| | | 4 | Influence of lithology on landforms: Granite and Basaltic | power- |
| | | | landforms | point |
| | | 3 | Definition and classification of folds and faults. | presentat |
| | | 6 | Evolution of landforms in Uniclinal, Folded and Faulted | ions are |
| | | | Structures | given. |
| II | AM | 9 | Development of landforms: Fluvial, Glacial, and Coastal | Unit |
| | | 7 | Cyclic and non-cyclic concepts of landscape | tests will be taken |
| | | | evolution: Davis, Penck and Hack | for |
| | | Group (| C: Hydrology and Oceanography | evaluati |
| 1 | SH | 2 | Global hydrological cycle and its significance | |
| | | 5 | Aspects of runoff, infiltration, evaporation and | on |
| | | | transpiration, Runoff cycle | |
| | | 3 | Factors influencing ground water movement and | |
| | | | storage | |
| | | 3 | Ocean sediments: origin, classification | |
| II | SH | 2 | Salinity and temperature of ocean water | |

PAPER-II

ECONOMIC & POPULATION GEOGRAPHY

Course coordinator: Aditi Matilal

Teachers: Aditi Matilal, Dr. Rajat Halder & Susmita Halder

- 1. Understand the concept and classification resource with emphasis on economic and environmental approaches of resource utilization.
- 2. Identify different sources of energy resources, production and consumption with special reference to coal, petroleum, solar and wind.
- 3. Describe the characteristic of different types of economies viz. fishing, agricultural, manufacturing
- 4. Critically analyze economic models of Von Thunen, A. Weber and G. Myrdal
- 5. Describe the concept of human resources with special reference to population structure, population composition, population distribution and density, population growth and its related problems: India and China, fertility and mortality
- 6. Classify migration and causes and consequences

7. Critically analyze the theories of population growth propounded by Malthus, Marx, Demographic transition Model

| Phase | Teacher | No of classes | Торіс | Remark s |
|-------|---------|---------------|---|----------------------|
| | | l . | A: ECONOMIC GEOGRAPHY | 5 |
| II | SH | 1 | Resource: Concept and classification | Lecture |
| | | 1 | Economic and environmental approaches of resource utilization | series with |
| | | 2 | Different sources of energy resources: coal, petroleum, solar & wind energy resources | extensiv e use of |
| | | 2 | Fishing, Agriculture and Manufacturing as an economic activity | black board. |
| | | 2 | Intensive rice farming: India and South East Asia & Extensive wheat farming: USA and Canada | Occasio nal |
| | | 1 | Plantation farming: Tea in India and rubber in SE Asia. | power- |
| III | SH | 2 | Cotton textile industry: India and USA | presentat |
| | | 2 | Iron and Steel industry: India and Japan | ions are given. |
| | | 3 | Petrochemical industry: India and USA & Paper industry: India and Canada | Unit tests will |
| | | 2 | Paper industry: India and Canada | be taken for |
| | | 3 | Economic Models: Agricultural: Von Thunen | evaluatio |
| III | AM | 3 | Industrial location theory: A. Weber | n |
| | | 3 | Theory of Cumulative causation: G.Myrdal | |
| | | GROUP F | B: POPULATION GEOGRAPHY | |
| II | RH | 1 | Concept of Human resources | |
| | | 2 | Population structure across age and sex. | |
| | | 2 | Age-sex Pyramid: types, characteristics | |
| | | 2 | Population composition across economic regions | 1 |
| | | 2 | Linguistic regions of India | |
| | | 4 | Population distribution and density: World and India: | |
| | | | Factors and nature of distribution | |
| | | 3 | Population growth and its related problems: India and China | |
| | | 3 | Fertility: Concept, measures, influencing factors and | - |
| | | | spatio-temporal trends | |
| III | RH | 3 | Mortality: Concept, measures, influencing factors and spatio-temporal trends | |

| | | 5 | Migration: Types, causes and consequences |
|-----|----|---|--|
| III | AM | 3 | Malthusian theory of population growth |
| | | 3 | Marxian theory of population growth |
| | | 4 | Demographic transition theory |
| III | RH | 6 | Concept of optimum population, overpopulation and under-population, overpopulation, under-population |
| | | 4 | Population explosion and its impact on physical and cultural environment |

PART-II

PAPER-III CLIMATOLOGY, SOIL GEOGRAPHY & BIOGEOGRAPHY

Course Coordinator: Dr. Rajat Halder Teachers: Dr.Rajat Halder, Dr. Aditi Matilal, Susmita Halder, Pinki Ghosh (PG)

- 1. Describe the nature, composition and layering of the atmosphere.
- 2. Identify the factors affecting insolation & heat budget of the atmosphere.
- 3. Identify the factors affecting horizontal and vertical distribution of temperature with emphasis on inversion of temperature
- 4. Describe greenhouse effect on global environment, importance of ozone layer.
- 5. Explain the planetary wind system with special reference to tri-cellular model, Rossby Waves, jet Streams
- 6. Understand the genesis of monsoon and its relationship with jet Stream, el Nino and la Nina.
- 7. Explain the processes of condensation and mechanism of precipitation in the light of Bergereon-Fiendison and Collision- Coalescence theories
- 8. Understand the tropical and mid latitude cyclones
- 9. Classify climate after Koppen and Thornthwaite
- 10. Understand the processes of formation of soil, concept of zonal, azonal and intra-zonal soils, profile development of podzols, chernozems and laterites under different conditions
- 11. Describe the physical and chemical properties of soil
- 12. Classify soil genetically and taxonomically and understand principles of land classification: USDA
- 13. Understand definitions of biosphere and biogeography along with the concept of ecosystem, basic ecological principles, ecotone, communities, niche, succession, and

- habitat, ecosystem and energy, energy sources, laws of energy exchange, food chains and food web.
- 14. Describe the concept of Biomes with special reference to tropical rainforest, taiga, savannah, Desert, tundra and temperate grasslands.
- 15. Explain the concept of biodiversity and wild life conservation in India, projects and their importance, project Tiger and Man and Biosphere Programme.

| Phase | Teach | No of | Торіс | Remark |
|-------|-------|---------|---|--------------------------------|
| | er | classes | | S |
| | | G | ROUP A: CLIMATOLOGY | |
| I | RH | 1 | Nature, composition and layering of the atmosphere. | Lecture |
| | | 1 | Factors affecting insolation | series |
| | | 1 | Heat budget of the atmosphere | with . |
| | | 1 | Horizontal vertical distribution of temperature | extensiv e use of |
| | | 1 | Vertical distribution of temperature | _ black |
| | | 1 | Inversion of temperature | board. |
| | | 1 | Green house effect on global environment | Occasio nal |
| | | 1 | Importance of ozone layer. | power- |
| | | 5 | Planetary wind system with special reference to tri- cellular model, Rossby Waves, Jet Streams | point presentat ions are |
| | | 2 | Genesis of Monsoon and its relation with Jet Stream, El Nino and La Nina. | given. Unit |
| | | 2 | Genesis of Monsoon and its relation with El Nino and La Nina | tests will be taken for |
| | | 2 | Processes of condensation and mechanism of precipitation: Bergereon-Fiendison | evaluatio n |
| II | RH | 2 | Collision- Coalescence theories. | |
| | | 5 | Tropical and mid latitude cyclones | |
| | | 3 | Climatic classification after Koppen | |
| | | 2 | Climatic classification after Thornthwaite. | |
| | l | GR | OUP B: SOIL GEOGRAPHY | |
| 1 | SH | 2 | Soil: Definition, factors and processes of formation. | |
| | | 1 | Physical properties of soil: texture | |
| | | 1 | Physical properties of soil: structure. | |
| | | 1 | Physical properties of soil: colour and moisture. | |

| | | 1 | Chemical properties of soil: pH and organic matter | |
|---|----|----|---|--|
| | | 1 | Soil erosion: types, factors and management | |
| | | 1 | Principles of soil classification: Genetic and Taxonomical | |
| | | 1 | – with special reference to India | |
| | | | Principles of land classification: USDA | |
| | | 1 | Concept of zonal soils | |
| | | 1 | Concept of azonal soils | |
| | | 1 | Concept of intra-zonal soils | |
| | | 2 | Profile development under different conditions-Podzols | |
| | | 2 | Profile development under different conditions- | |
| | | | Chernozem | |
| | | 2 | Profile development under different conditions | |
| | | | Laterites | |
| | | GR | COUP C: BIO-GEOGRAPHY | |
| 1 | AM | 1 | Definitions of biosphere and biogeography: Concept of ecosystem | |
| | | 1 | Basic ecological principles | |
| | | 1 | Ecotone, Communities | |
| | | 1 | Ecological Niche, succession, and habitat | |
| | | 1 | Ecosystem and energy flow: laws of energy exchange | |
| | | 2 | Food chains and food web and concept of Biomes | |
| | | 2 | Study of Tropical rainforest | |
| | | 2 | Study of Taiga biome | |
| | | 1 | Study of Savannah biome | |
| | | 1 | Study of Desert biome | |
| | | 1 | Study of Tundra biome | |
| | | 1 | Study of Temperate grasslands. biome | |
| | | 1 | , , , | |
| | | 1 | Spatial distribution of world fauna | |
| | | 1 | Concept of Biodiversity and wildlife conservation in India | |
| | | 1 | Wild-life Projects and their importance | |
| | | 1 | Project Tiger and Man and Biosphere Programme | |

PAPER-IV

APPLIED GEOGRAPHICAL TECHNIQUES (PRACTICAL)

<u>Course Coordinator: Aditi Matilal</u> <u>Teachers: Aditi Matilal, Susmita Halder, Dr.Rajat Halder & Pinki Ghosh</u>

- 1. Compute and construct scales and perform enlargement and reduction of map
- 2. Perform megascopic analysis of minerals and rocks
- 3. Interpret physical and cultural parameters topographical maps of Plateau region with R.F 1: 50,000 and explain the man-nature interaction over the area.
- 4. Represent data through cartograms and thematic mapping
- 5. Understand the concept, classification, constructions and suitability of projections
- 6. Perform traverse Survey by Prismatic Compass and levelling by Dumpy Level.

| Phase | Teach | No of | Topic | Remark |
|-------|-------|---------|--|-------------------------------------|
| | er | classes | | S |
| I | SH | 2 | Scales: Introduction and, enlargement and reduction of | Lecture |
| | | | map | series |
| | | 2 | Linear scale: Computation, diagrammatic | with |
| | | | representation | extensiv |
| | | 3 | Diagonal scale: Computation, diagrammatic | e use of |
| | | | representation | black |
| | | 2 | Vernier scale : Computation, diagrammatic | board. |
| | | | representation | Occasio |
| II | RH | 2 | Megascopic analysis of Rocks – Granite, Basalt, Dolerite, Shale, Sandstone, Limestone, Conglomerate, Slate, Phyllite, Schist, Marble, Quartzite, Gneiss. | nal power- point presentat ions are |
| | | 2 | Megascopic analysis of Minerals and ores – Talc, Gypsum, Calcite, Mica, Feldspar, Quartz, Chalcopyrite, Hematite, Magnetite, Bauxite, Galena | given. Unit tests will |
| II | AM | 1 | Interpretation of topographical maps of Plateau region with R.F 1: 50,000 | be taken for evaluatio |
| | | 1 | Demarcation of drainage basin (not more than 4 th order, based on Strahler) | n evaluatio |
| | | 3 | Construction of profiles: superimposed, projected, composite and long profile of river (length of the river | |

| | | | not more than 10 km |
|-----|----|----|--|
| | | 2 | |
| | | | Morphometric analysis (10 X 12cm grid): Drainage density (to be shown by isopleth) |
| | | 2 | Morphometric analysis (10 X 12cm grid): Average slope (Wentworth's method to be shown by isopleth) |
| | | 2 | Morphometric analysis (10 X 12cm grid): Relative Relief (to be shown by isopleth) |
| | | 1 | Morphometric analysis (10 X 12cm grid): Road density (to be shown gridwise). |
| | | 4 | Interpretation of relief, drainage and vegetation characteristics |
| | | 3 | Interpretation of settlement, transport and communication systems |
| III | AM | 13 | Revision ,practice etc |
| II | SH | 1 | Cartograms and thematic mapping:Introduction |
| | | 3 | Choropleth map |
| | | 3 | Dots and Spheres diagram showing distribution of rural and urban population |
| | | 3 | Proportional pie-diagrams representing economic data and landuse data. |
| | | 4 | Projections: Concept, classification, constructions and suitability |
| | | 3 | Construction and properties of Zenithal Gnomonic and Stereographic (Polar Case), |
| | | 3 | Construction and properties of Bonne's projection |
| | | 3 | Construction and properties of Sinusoidal projection |
| III | SH | 3 | Construction and properties of Polyconic projection |
| | | 3 | Construction and properties of Cylindrical Equal Area projection |
| | | 3 | Construction and properties of Mercator's Projections |
| | | 5 | Revision and practice |
| III | RH | 2 | Survey: Closed traverse survey by Prismatic Compass |
| | | 3 | Levelling by Dumpy Level with at least one change point |
| | | 2 | Drawing of profile and determination of gradient |

PART-III

PAPER-V SOCIAL, POLITICAL AND REGIONAL GEOGRAPHY

COURSE COORDINATOR: Dr. Aditi Matilal

TEACHERS: Aditi Matilal, Susmita Halder, Dr.Rajat Halder

- 1. Understand the concept of culture and its components with special emphasis on India: language, religion and ethnicity.
- 2. Describe the social geography of rural and urban India with special reference to caste structure, social stratification, tribes, social ecology and social space
- 3. Identify the forms, pattern, types, features of rural and urban settlements
- 4. Understand the concept of political geography with emphasis on geo-politics, frontier and boundary, cold war, bi-polarisation and uni-polarisation.
- 5. Understand the regional disparities in India with emphasis on causes and implications
- 6. Elucidate the concepts of regions; basis of regionalization with reference to India physical, economic and planning

| Phase | Teach er | No of classes | Topic | Remark s |
|-------|-------------|---------------|--|-----------------------|
| | _ | | OCIAL AND CULTURAL GEOGRAPHY | |
| I | AM | 1 | Concept of culture and its components with special emphasis on India | Lecture series |
| | | 1 | Concept of language, linguistic diversity in India | with |
| | | 1 | Concept of religion, religious diversities of India | extensiv |
| | | 1 | Concept of ethnicity with special emphasis on India | e use of |
| | | 1 | Social geography of rural India: | black |
| | | 1 | Caste structure and social stratification | board. Occasio |
| | | 1 | Tribes of India: Santhals and Lepcha | nal |
| | | 1 | Urban social Geography | power- |
| | | 1 | Social ecology | point |
| | | 1 | Social space | presentat ions are |
| | | 2 | Rural settlements – its forms, site and situations | Tons are |

| | | 3 | Urban settlement – morphology and hierarchy. | given. |
|----------|----|-------|---|-------------------------------|
| | • | GRO | DUP B: POLITICAL GEOGRAPHY | Unit |
| I | RH | 1 | Concept of Political Geography | tests will be taken for |
| | | 1 | Concept of geo-politics | evaluatio |
| | | 2 | concept of frontier and boundary | n |
| | | 2 | Concept of cold war | |
| | | 1 | Bi-polarisation and unipolarisation | |
| | | 1 | Political geography of India: Administrative settings of India | |
| | | 1 | Problem of border states | |
| | | 2 | Partition and its geo-political implications | |
| | | GROUI | P B: REGIONAL GEOGRAPHY | |
| <u>I</u> | RH | 2 | Concepts of regions; basis of regionalization with reference to India physical, economic and planning | |
| II | SH | 2 | Physiographic Regions of India with special reference to Kashmir Himalaya | |
| | | 2 | Agricultural Region of India of India with special reference to Punjab-Haryana | |
| | | 2 | Industrial Region of India with special reference to | |
| | | 2 | Mumbai-Pune industrial belt | |
| | | 2 | Regional disparities in India: causes and implications | |

PAPER-VI PHILOSOPHY OF GEOGRAPHY AND CONTEMPORARY ISSUES

Course Coordinator: Dr. Rajat Halder Teachers: Dr.Rajat Halder, Dr. Aditi Matilal, Susmita Halder, Pinki Ghosh

Course Outcome:

1. Understand the definition, nature and evolution of Geography in the perspective of changing paradigms viz. determinism, possibilism, positivism, quantitative revolution, behaviouralism, humanistic approach, structural approach.

- 2. Trace the evolution of geography across different space and time from the contribution of philosophers and geographers of different ages like Aristotle, Strabo, Humboldt, Ritter, Vidal de la Blache, Carl Sauer and David Harvey etc
- 3. Understand the trends of natural hazards and disasters and their occurrence, causes and management in the Indian Sub-continent
- 4. Classify hazards and disasters and describe their environmental impact and management
- 5. Describe the concept of third world, development and under development with special reference to basic indicators of economic, human and gender development
- 6. Understand the problems of third world Poverty, Population explosion, food security and hunger, unemployment, malnutrition and child labour with emphasis on globalization and sustainable development.

| Phase | Teach | No of | Topic | Remark |
|---------|-------|----------|---|------------------------------|
| | er | classes | - | S |
| | | GRO | UP A: PHILOSOPHY OF GEOGRAPHY | |
| I | RH | 1 | Definition and nature of Geography. | Lecture |
| | | 1 | Selected contributors in the evolution of geographical | series |
| | | | thought- Humboldt | with |
| | | 1 | Selected contributors in the evolution of geographical | extensiv |
| | | | thought-Vidal de la Blache | e use of |
| II | RH | 1 | Selected contributors in the evolution of geographical | black |
| | | | thought-Carl Sauer | board. |
| | | 1 | Selected contributors in the evolution of geographical | Occasio nal |
| | | 2 | thought- David Harvey | |
| | | 2 | Major postulates: Determinism | power- point |
| | | 2 | Major postulates: Possibilism, | presentat |
| II | AM | 1 | Major postulates: Regional differentiation | ions are |
| | | 1 | Major postulates: time and space. | given. Unit |
| | | 2 | Changing approaches and methodology: Positivism, | tests will |
| | | 2 | Changing approaches and methodology: Quantitative Revolution, | be taken for evaluatio |
| | | 2 | Changing approaches and methodology: Welfare-Behavioural approach, | n |
| | | 2 | Changing approaches and methodology: radical approach | |
| | (| GROUP B: | CONTEMPORARY ISSUES IN GEOGRAPHY | |
| Section | | | ds and their management in the Indian Sub-continent | |
| 1 | SH | 1 | Concept of hazards and disasters: Natural, quasi- natural and man-made hazards | |
| | | 1 | Concept of hazards and disasters: different approaches | |

| | | | in hazard management | |
|----|----|----------------------------|---|--|
| l | | 2 | Climatic hazards: Flood – environmental impact and | |
| | | | management | |
| | | 2 | Climatic hazards: drought– environmental impact and management | |
| | | 2 | Climatic hazards: cyclone mechanism— environmental impact and management | |
| | | 2 | Geomorphic hazards: landslide- environmental impact and management | |
| | | 2 | Geomorphic hazards: river bank erosion- environmental impact and management | |
| | | 2 | Geomorphic hazards: coastal erosion -environmental impact and management | |
| | | 2 | Edaphic and biotic hazards: Deforestation—environmental impact and management. | |
| | | 2 | Edaphic and biotic hazards: desertification—environmental impact and management. | |
| | | 2 | Edaphic and biotic hazards: loss of bio-diversity — environmental impact and management. | |
| | | | | |
| II | SH | 1 | Consent of third would. Design diseases of consenie | |
| | | | Concept of third world: Basic indicators of economic development | |
| | | 1 | - | |
| | | 1 2 | development Concept of third world: human and gender | |
| | | | development Concept of third world: human and gender development Concept of development and under development: | |
| | | 2 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development | |
| | | 2 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development Problems of third world – Poverty | |
| | | 2 2 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development Problems of third world – Poverty Problems of third world – Population explosion, | |
| | | 2 2 1 1 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development Problems of third world – Poverty Problems of third world – Population explosion, Problems of third world – food security and hunger | |
| | | 2 2 1 1 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development Problems of third world – Poverty Problems of third world – Population explosion, Problems of third world – food security and hunger Problems of third world - unemployment | |
| | | 2 2 1 1 1 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development Problems of third world – Poverty Problems of third world – Population explosion, Problems of third world – food security and hunger Problems of third world – unemployment Problems of third world – malnutrition | |
| | | 2 2 1 1 1 1 | development Concept of third world: human and gender development Concept of development and under development: Basic indicators of economic development Concept of development and under development: Human and gender development Problems of third world – Poverty Problems of third world – Population explosion, Problems of third world – food security and hunger Problems of third world - unemployment | |

| 1 | Problem of urbanization | |
|---|-------------------------|--|
|---|-------------------------|--|

PAPER VII

APPLIED GEOGRAPHICAL TECHNIQUES (PRACTICAL)

Course Coordinator: Dr. Rajat Halder Teachers: Dr. Rajat Halder, Dr. Aditi Matilal, Susmita Halder

- 1. Ability to draw and interpret geological maps, weather Maps (monsoon and Post Monsoon)
- 2. Understand the basic concepts of remote sensing and Geographical information System.
- 3. Ability to interpret aerial photograph and prepare aerial photo mosaics
- 4. Ability to geo-reference scanned maps, ascribe projection (Polyconic/ UTM), perform digitisation of point, line and polygon layers and preparation of thematic maps from attached data.
- 5. Preparation of field report over a rural mouza or ward through proper fiend survey, data collection, tabulation, analysis, graphical representation and interpretation thereby depicting the man-nature interaction across space.

| Phase | Teacher | No of | Topic | Remark |
|---|---------|--------|---|-------------------------------|
| | | classe | | S |
| | | S | | |
| APPLIED GEOGRAPHICAL TECHNIQUES (PRACTICAL) | | | | |
| II | AM | 4 | Interpretation of geological maps and drawing of sections: Uniclinal with unconformity and igneous intrusions | Lecture series with |
| | | 4 | Interpretation of geological maps and drawing of sections: folds with unconformity and igneous intrusions | extensiv e use of black |
| III | SH | 2 | Interpretation of Indian Daily Weather Maps – Monsoon | board. Occasio |
| | | 2 | Interpretation of Indian Daily Weather Maps –Post Monsoon. | nal power- |
| II | RH | 1 | Remote Sensing: Basic concept of remote sensing, EMR, Band | point presentat |

| | | 2 | Types of satellites and sensors with special reference | ions are |
|-----|----|------|---|----------------|
| | | | to IRS series of satellites; | given. Unit |
| | | 2 | Types of resolutions and their applicability | tests will |
| | | 2 | Principles of preparing standard false colour composite, | be taken for |
| | | 1 | Landuse and land cover mapping from standard FCC with header information. | evaluatio n |
| III | AM | 4 | Interpretation of aerial photograph – basic principles of aerial photography, side lap, end lap, flight line, air base, fudicial marks, .Principle Point, Nadir Point, Conjugate Principal Point, | |
| | | 4 | Preparation of aerial photo mosaics, demarcation of effective area, extraction of cultural and physiographic features within this area with preparation of interpretation key. | |
| | | Geog | graphical Information System (GIS) | |
| III | SH | 1 | Concept of GIS and its applicability: Spatial and attribute data, raster and vector data structure | |
| | | 1 | Concept of information layers in GIS. | |
| | | 2 | Georeferencing of scanned maps and ascribing projection (Polyconic/ UTM) | |
| | | 2 | Digitisation of point, line and polygon layers; Attachment of appropriate attribute tables. | |
| | | 2 | Preparation of thematic maps from attached data: choropleth, | |
| | | 2 | Preparation of thematic maps from attached data: pie chart | |
| | | 2 | Preparation of thematic maps from attached data: bar graphs | |
| | | | Field Report: | |
| II | AM | 1 | Field Report: concept and introduction | |
| | | 1 | Landuse survey and preparation of landuse map | |
| | | 3 | Classification and tabulation of socio-economic and physical data | |
| III | AM | 8 | Preparation of maps and diagrams showing broad Physiography, drainage, settlement, demographic characteristics etc | |
| | | 2 | Preparation of report | |

PAPER-VIII

STATISTICAL TECHNIQUES AND CONTEMPORARY ISSUES IN GEOGRAPHY (PRACTICAL)

<u>Course Coordinator: Aditi Matilal</u> Teachers: Aditi Matilal, Susmita Halder, Dr.Rajat Halder

Course Outcome

- 1. Perform basic statistical calculations, graphical representations (histogram, frequency polygon, ogive), with emphasis on measures of dispersion, correlation, regression and time series analysis.
- 2. Ability to represent and interpret climatic and hydrological data through climatic chart, Taylor's Climograph and Hythergraph, station models, rating curves, hydrographs and unit hydrographs of rivers
- 3. Ability to compute Human and Gender Development Index
- 4. Preparation of questionnaire schedule for assessment of development and for perception survey.
- 5. Ability to compute, graphically represent and interpret different measures of spatial and size-class distribution like dominant-distinctive function, rank-size rule and Lorenz curve.

| Phase | Teach | No of | Topic | Remark | |
|-------|---------------------------------|---------|---|------------------------------|--|
| | er | classes | | S | |
| | GROUP-A: STATISTICAL TECHNIQUES | | | | |
| III | RH | 1 | Nature of statistical data: discrete, continuous, parametric and non-parametric data | Lecture series | |
| | | 1 | Tabulation and classification of statistical data | with | |
| | | 2 | Frequency distribution: histogram, frequency polygon | extensiv | |
| | | 1 | Ogive | e use of | |
| | | 1 | Normal and skewed distribution, measures of skewness | black | |
| | | 5 | Measures of central tendency: mean, median, mode, partition values: quartile, decile and percentile. | board. Occasio nal | |
| | | 4 | Measures of dispersion: mean deviation, quartile deviation, semi-quartile range, standard deviation and co-efficient of variation | power- point presentat | |
| | | 1 | Semi-quartile range, | ions are | |
| | | 2 | Standard deviation and co-efficient of variation | given. | |
| | | 3 | Simple bivariate correlation and regression trend line | Unit | |

| | | 2 | Time series analysis | tests will be taken for evaluatio |
|-----------|---------|-----------|--|---|
| | GR | OUP-B: | CONTEMPORARY ISSUES IN GEOGRAPHY | n |
| Section-A | | | of climatic and hydrological data of the Indian Sub-co | ontinent |
| I | SH | 4 | Preparation and Interpretation of a climatic chart showing relationship between rainfall, temperature, pressure and relative humidity of a station for three months, preparation and interpretation of Taylor's Climograph and Hythergraph | Lecture series with extensiv e use of black board. Occasio nal power- point presentat |
| | | 3 | Preparation of station models for different meteorological stations of India with the help of Synoptic chart. | |
| III | AM | 6 | Preparation and interpretation of rating curves, hydrographs and unit hydrographs of rivers flowing through the Indian Sub-continent. | |
| | Section | on-B: Eco | onomic and Human Development in Third World | ions are given. |
| Ī | AM | 3 | Computation of Human and Gender Development Index and ranking of countries/states/districts based on HDI and GDI | Unit tests will be taken |
| | | 1 | Preparation of questionnaire schedule for assessment of development and for perception survey | for evaluatio n |
| | | 3 | Dominant-distinctive function | |
| | | 3 | Rank-size rule | |
| | | 2 | Lorenz curve | |