

GEOGRAPHY DEPARTMENT
RAMAKRISHNA SARADA MISSION VIVEKANANDA VIDYABHAVAN
LESSON PLAN FOR SEMESTER – I, 2022

| CORE COURSE-1 : GEOTECTONICS & GEOMORPHOLOGY | NO. OF CLASSES |
|---|---------------------------|
| UNIT WISE DIVISION | |
| <u>THEORY</u> | |
| <u>UNIT-I (Geotectonics)</u> | |
| (KD) 1. Earth's tectonic and structural evolution with reference to geological time scale. | 10 |
| (AP) 2. Earth's interior with special reference to seismology, isostasy: models of Airy and Pratt. | 4 |
| (AP) 3. Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots. | 3 |
| (KD) 4. Folds & Faults – origin and types. | 5 |
| <u>UNIT-II (Geomorphology)</u> | |
| (SM) 5. Degradational Processes & landforms: Weathering & Mass Wasting. | 6 |
| (KD) 6. Development of river network & landforms on the Uniclinal and Folded structure. | 5 |
| (AP) 7. Development of landforms on Granite, Basalt & Limestone. | 6 |
| (SM) 8. Coastal Processes and landforms. | 3 |
| (ND) 9. Glacial and glacio-fluvial processes & landforms. | 4 |
| (ND) 10. Aeolian and Fluvial-aeolian processes & landforms. | 4 |
| (ND) 11. Models on landscape evolution: views of Davis, Penck. | 3 |
| (SM) >>> Views of Hack. | 2 |
| <u>PRACTICAL</u> | |
| (AP) 1. Megascopic identification of Rock & mineral samples. | 15 |
| (KD) 2. Interpretation of geological maps: Uniclinal & Folded structure. | 15 |
| Class test, Internal exam etc. | 2 |
| Remedial class. | 3 |
| | TOTAL CREDITS : 90 |

| CORE COURSE- 2 : CARTOGRAPHIC TECHNIQUES | NO. OF CLASSES |
|---|---------------------------|
| UNIT WISE DIVISION | |
| <u>THEORY</u> | |
| (AP) 1. Maps: classification and types. component of a map. | 7 |
| (SM) 2. Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps. | 6 |
| (AP) 3. Concept and application of scales: Plain, Comparative, Diagonal, Vernier. | 15 |
| (SM) 4. Polar & Rectangular Coordinate Systems : definition, concept & Mathematics. | 6 |
| (SM) 5. Grids - Angular & Linear system of measurement. | 4 |
| (ND) 6. Concept of generating globe and UTM Projection. | 4 |
| (ND) 7. Map Projections: Classification, Properties and uses. | 15 |
| Remedial Teaching. | 3 |
| | TOTAL=60 |
| <u>PRACTICAL</u> | |
| (AP) 1. Graphical construction of scales: | |
| Plain Scale. | 2 |
| Comparative Scale. | 2 |
| Diagonal Scale. | 2 |
| Vernier Scale. | 2 |
| (ND) 2. Construction of Projection: | |
| Polar Zenithal stereographic projection. | 2 |
| Simple Conical projection with two Standard parallel. | 2 |
| Bonne's projection. | 2 |
| Cylindrical Equal Area Projection. | 2 |
| Mercator's Projection. | 2 |
| (AP) 3. Construction & interpretation of Relief Profiles: | |
| Superimposed, Projected & Composite profile. | 2 |
| Relative Relief Map. | 2 |
| Slope Map (Wentworth method). | 2 |
| Stream Ordering. | 1 |
| (ND) 4. Correlation between physical & cultural features from topographical maps using Transect Chart. | 2 |
| Class test, Internal exam etc. | 3 = TOTAL = 30 |
| | TOTAL CREDITS : 90 |

| CORE COURSE-5 : CLIMATOLOGY | NO. OF CLASSES |
|---|-----------------------|
| UNIT WISE DIVISION | |
| (THEORY) | |
| UNIT : I | |
| (KD) 1. Nature, composition & Layering of the atmosphere. | 4 |
| (KD) 2. Insolation - controlling factors & Heat budget..... | 4 |
| (SM) 3. Temperature : Horizontal & vertical distribution of temperature. | 2 |
| Inversion of temperature : Types, causes & consequences | 3 |
| | 3 |
| (AP) 4. Greenhouse effect – cause & effects, Importance of ozone layer ... | 3 |
| UNIT : II | |
| (ND) 5. Condensation : Process & Forms..... | 4 |
| Mechanism of Precipitation : Bergeron-Findeisen & Collision-Coalescence | 4 |
| Theory. | 5 |
| (ND) 6. Air mass : Concept, Origin, Types & its characteristics. | 2 |
| (ND) 8. Weather : stability & instability; | 6 |
| | 3 |
| (AP) 7. Fronts : warm & cold : Frontogenesis & Frontolysis. Barotropic & | 3 |
| baroclinic conditions. | 3 |
| (SM) 9. Circulation in the atmosphere : | 6 |
| Planetary winds, Pressure Belts & Tri-cellular Model. | 3 |
| | 3 |
| Jet stream- Types & characteristics, Index cycle & Rosby wave | 4 |
| | 2 |
| (AP) 10. Tropical & mid-latitude cyclones. | 3 TOTAL=60 |
| | |
| (SM) 11. Monsoon circulation : Mechanism, Relation of monsoon with Jet | 16 |
| stream | 3 |
| (KD) 12. Climatic classification after Koppen, Thornthwaite classification | 3 |
| (1955). | 3 |
| Class test, Internal exam etc. | 3 |
| Remedial class. | 5 TOTAL=30 |
| (PRACTICAL) | |
| (AP) 1. Interpretation of weather map : Pre-Monsoon & | |
| Monsoon..... | |
| 2. Construction & interpretation of Climograph..... | |
| 3. Construction & interpretation of Hythergraph..... | |
| 4. Construction & interpretation of Windrose..... | |
| 5. Remedial class. | |

LESSON PLAN FOR SEMESTER – 3, 2022

| CC-6 : GEOGRAPHY OF INDIA (ONLY THEORY) UNIT WISE DIVISION | NO. OF CLASSES |
|--|-----------------------|
| <u>UNIT : I (GEOGRAPHY OF INDIA)</u> | |
| (SM) 1. Tectonic & stratigraphic provinces & Physiographic divisions | 9 |
| (AP) 2. Climate, Soil & Vegetation : characteristics & classification | 6 |
| (SM) 3. Population : Distribution, Growth, Structure & Population policy of India | 7 |
| (AP) 4. Tribes of India w.r.t Gaddi, Toda, Santhal & Jarwa. | 8 |
| (KD) 5. Agricultural regions of India. Green Revolution : Cause & Consequence | 3 |
| (KD) 6. Minerals & Power resources : Distribution & utilization | 5 |
| (MH) 7. Industrial development : Automobile & Information Technology | 4 |
| (AP) 8. Regionalisation of India - Physiographic Division (R. L. Singh) & Economic Division (P. Sengupta). | 5 |
| <u>UNIT : II (GEO. OF WEST BENGAL)</u> | |
| (ND) 9. Physical Perspectives : Physiographic divisions, Forest, water resources. | 6 |
| (ND) 10. Resources : Agriculture, Mining & Industry. | 6 |
| (MH) 11. Population : Growth, Distribution, Human development | 7 |
| (AP) 12. Regional issues : Darjeeling Hills & Sundarban..... | 4 |
| 13. Tutorial Classes : 5(AP)+5(ND)+3(KD)+2(MH)..... | 15 |
| 14. Remedial Class. | 3 |
| 15. Class Test & Internal exam. | 2 |
| | TOTAL = 90 |

| CC7 : STATISTICAL METHOD IN GEOGRAPHY UNIT WISE DIVISION | NO. OF CLASSES |
|---|-----------------------|
| <u>(THEORY)</u> | |
| <u>UNIT : I (FREQUENCY DISTRIBUTION & SAMPLING)</u> | |

| | | |
|--|--------|----------|
| (AP) 1. Importance & significance of statistics in geography. | 3 1 | |
| (AP) 2. Discrete & continuous data, | 3 | |
| Population & samples, | 3 | |
| Scales of measurement (nominal, ordinal, interval & ratio)..... | 2 | |
| (AP) 3. Sources of geographical data for statistical analysis. | 1 2 | |
| (KD) 4. Concept of Collection of statistical data. | 2 | |
| Formation of statistical tables. | 2 | |
| (KD) 5. Sampling : Need and uses in statistics. | 2 | |
| Types of sampling. | 2 | |
| Significance of sampling. | | |
| Methods of random sampling | | |
| (ND) 6. Theoretical distribution : | 1 | |
| Frequency Distribution. | 1 | |
| Cumulative frequency Distribution. | 1 | |
| Normal Distribution. | | |
| Probability Distribution. | | |
| UNIT : II (NUMERICAL DATA ANALYSIS) | 5 | |
| (ND) 7. Central tendency : Concept & classification characteristics, merits, demerits, calculation. | 5 | |
| (ND) 8. Measures of Dispersion - characteristics, merits, demerits, calculation | 6 | |
| (SM) 9. Association & correlation : Rank correlation & Product moment correlation - characteristics, merits, demerits, calculation | 5 6 | |
| (SM) 10. Regression : Linear & non-linear Regression | 2 | |
| (SM) 11. Time series analysis : Concept of Moving Average & calculation. ... Class test, Internal exam etc. | 4 | TOTAL=60 |
| Remedial class. | 2 | |
| (PRACTICAL) | 2 | |
| (ND) 1. Construction of data matrix. | 4 4 | |
| 2. Construction of the frequency table | | |
| 3. Drawing of Histogram, Polygon, Frequency Curve | 4 | |
| 4. Measures of central Tendency (Mean, Median, Mood) | 5 | |
| 5. Measures of Dispersion | 4 | |
| (SM) 6. Using Random, Systematic and Stratified sampling methods , a sample set would be drawn from data matrix & should be located on a map | 3 | TOTAL=30 |
| 7. Construction of Scatter diagram and Regression line | | TOTAL=90 |
| 8. Residual Mapping | | |
| Remedial Class. | | |

LESSON PLAN FOR SEMESTER – V, 2022

| | |
|--|-----------------------|
| CC- 11 : RESEARCH METHODOLOGY & FIELD WORK) UNIT WISE DIVISION | NO. OF CLASSES |
|--|-----------------------|

THEORY

UNIT-I (Research Methodology)

| | |
|---|---|
| (AP) 1. Research in geography : Meaning & Concept | 1 |
| Types of Research | 1 |
| Objectives & significance. | 1 |
| (SM) 2. Literature review : | |
| Concept, objectives & significance | 1 |
| Types of Literature Review | 1 |
| Formulation of research design : | |
| Concept, objectives & importance of Research Design. | 1 |
| Characteristics of Research Design. | 2 |
| Steps in Research Design. | 1 |
| Errors in Research Design. | 1 |
| (AP) 3. Defining research problems & its importance | 1 |
| Types of Research Problem | 1 |
| Concept of Research objectives | 1 |
| How to write research objectives | 1 |
| Developing a hypothesis. | 1 |
| Characteristics, types, source, function | 1 |
| (ND) 4. Research materials and methods : | |
| How to collect Research material | 1 |
| Sources of Research material | 1 |
| Types of Research methods. | 1 |
| (ND) 5. Techniques of writing scientific reports : | |
| Preparing notes | 1 |
| References | 1 |
| Bibliography | 1 |
| Abstract | 1 |
| Keywords..... | 1 |

UNIT-II (Field Work)

| | |
|---|---|
| (KD) 6. Fieldwork in geographical studies: | |
| Role & significance. | 1 |
| Selection of study area & objectives. | 2 |
| Pre- field academic preparations. | 2 |
| Ethics of fieldwork. | 2 |
| (KD) 7. Field techniques and tools : | |
| Observation (participant, non- participant) | 2 |
| Questionnaires (open, closed, structured, non-structured) | 2 |
| Interview. | 2 |
| (SM) 8. Field techniques & tools : Landscape survey using transects | 2 |
| Landscape survey using Quadrants | 2 |
| Construction of sketches, photo and video recording | 3 |
| (SM) 9. Positioning and collection of samples. | 3 |
| Preparation of inventory from field data. | 3 |
| (AP) 10. Post-field tabulation - Types | 1 |
| Data processing and evaluation | 2 |
| Analysis of quantitative and qualitative data. | 2 |
| Remedial class. | 3 |
| | 2 |

TOTAL=60

| | |
|---|--|
| Class test & Internal exam. PRACTICAL (SM & KD) Socioeconomic data collection..... Preparation of Maps Interpretation | 10 14 6 TOTAL=30 TOTAL=90 |
| CC12 : REMOTE SENSING & GIS (THEORY) | NO. OF CLASSES |
| Unit I: Remote Sensing 1. Principles of Remote Sensing (RS): Types of RS satellites and sensors. 2. Sensor resolutions and their applications with reference to IRS and Landsat missions. 3. Remedial class. 4. Preparation of False Colour Composites from IRS LISS-3 and Landsat TM and OLI data. 5. a) Principles of image correction and interpretation. b) Preparation of inventories of land use land cover (LULC) features from satellite images. 6. Remedial class. | 6 (KD) 6 (KD) 1 (KD) 4 (SM) 4 (SM) 4 (SM) 1 (SM) 5 (AP) 5 (AP) |
| Unit II: GIS & Global Navigation Satellite System 7. Concept of GIS and its applicability. GIS data structures: types: spatial and non-spatial, raster & vector. 8. Principles of preparing attribute tables and data manipulation and overlay analysis. 9. Remedial class. 10. Principles of GNSS positioning and waypoint collection. 11. Transferring waypoints to GIS. Area and length calculation from GNSS data. 12. Remedial class. Class Test & Internal exam. | 5 (AP) 2 (AP) 6 (ND) 6 (ND) 1 4 TOTAL=60 8 5 12 5 TOTAL = 30 |
| AP - PRACTICAL –25 Marks (30 classes) 1. Georeferencing of maps and images using open source software. 2. Preparation of FCC and identification of features using standard FCC and other band combinations. 3. Digitisation of features. Data attachment and preparation of annotated thematic maps (choropleth, pie chart and bar graphs). Remedial class. | TOTAL=90 |

| DSE1 : SOIL & BIOGEOGRAPHY | ONLY THEORY |
|--|--------------------|
| <u>Soil Geography :</u> | |
| (AP) 1. Factors of soil formation | 3 |
| Man as an active agent of soil transformation | 1 |
| (AP) 2. Soil Profile : concept & general characteristics | 2 |
| Soil forming processes | 2 |
| Origin & Profile characteristics of Podzol, Laterite & Chernozem | 6 |
| (SM) 3. Definition & significance of soil properties : | |
| Texture : characteristics, role & significance | 2 |
| Structure : characteristics, role & significance | 2 |
| Moisture: characteristics, role & significance | 2 |
| (SM) 4. Definition & significance of soil properties : | |
| Soil PH : Role & significance | 2 |
| Organic Matter : Role & significance | 2 |
| NPK : Role & significance | 2 |
| (AP) 5. Soil erosion & degradation : concept | 2 |
| Factors & Processes of soil erosion | 2 |
| Consequences of soil erosion & its mitigation Measures. | 2 |
| Factors & Processes of soil degradation | 2 |
| Consequences of soil degradation & its mitigation Measures..... | 2 |
| (ND) 6. Principles of soil classification : Genetic classification | 2 |
| USDA classification | 2 |
| Concept of land capability & its classification. | 2 |
| <u>Biogeography :</u> | |
| (KD) 7. Concepts of biosphere, ecosystem | 2 |
| Concept of biome , ecotone | 1 |
| Concept of community, niche | 1 |
| Concept of succession and ecology. | 2 |
| (KD) 8. Concepts of trophic structure | 2 |
| Food chain & food web. | 2 |
| Energy flow in ecosystems | 2 |
| (KD) 9. Concept of Biome & its characteristics | 1 |
| Geographical extent & characteristics features of: | |
| Tropical rainforest Biome | 2 |
| Taiga Biome | 2 |
| Grassland Biome | 2 |
| (AP) 10. Biogeochemical cycles : concept and importance | 1 |
| CO ₂ cycle : process & importance | 1 |
| Nitrogen : process & importance | 1 |
| (ND) 11. Spatial distribution of world fauna | 2 |
| (ND) 12. Measures of conservation of biodiversity in India | 2 |
| Man & Biosphere Program.. | 2 |
| Tutorial Classes : 5(AP) + 5(KD) + 3(SM) + 2(ND). | 15 |
| Remedial class. | 3 |
| Class test & Internal exam. | 2 |
| | TOTAL - 70 |
| | TOTAL = 90 |

| DSE2 : SETTLEMENT GEOGRAPHY (ONLY THEORY) | NO. OF CLASSES |
|--|-----------------------|
| Rural Settlement : | |
| (KD) 1. Scope & content of Settlement Geography : rural, urban & semi-urban areas. | 10 |
| (KD) 2. Rural settlement : Definition, concept, Nature & characteristics of rural settlement. | 6 |
| (KD) 3. Morphology of Rural settlements : site & situation, types & patterns, Internal & External layout of rural settlement. | 7 |
| (ND) 4. Rural house types w.r.t. India | 3 |
| Social segregation in rural areas | 3 |
| Census categories of rural settlement | 2 |
| (ND) 5. Problems & policies related to rural infrastructure with reference to India. | 3 |
| Urban Settlement : | |
| (ND) 6. Urban settlement : census definition (Temporal) | 2 |
| Characteristics of urban settlements & its categories in India. | 3 |
| (AP) 7. Urban morphology : concept and characteristics | 3 |
| Classical models : Burgess metropolitan concept | 4 |
| (AP) 8. City region & conurbation, Functional classification of cities : Harris, Nelson, McKenzie. | 6 |
| (MH) 9. Aspects of urban places : Definition & hierarchy | 2 |
| Concept of Location, site & situation of urban settlement | 2 |
| Size & spacing of cities , The Rank size rule, The law of Primate City. | 5 |
| (MH) 10. Urban Hierarchies : Central Place Theory & August Losch's theory of market centres. | 8 |
| Tutorial Classes : 5(AP) + 5(KD) + 5(ND) | 15 |
| Remedial class. | 3 |
| | 3 |
| Class test & Internal exam. | TOTAL = 90 |
| | |