# B.A/B.SC. GEOGRAPHY HONOURS
# I, III & V SEMESTER
# SYLLABUS DISTRIBUTION

# SEMESTER I

## GEOGRAPHY

## COURSE 1

## Course title: Geotectonics and Geomorphology

## Theory Credits: 6

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **Unit 1: Geotectonics**<br>➢ Earth's tectonic and structural evolution with reference to geological time scale<br>➢ Earth's tectonic and structural evolution with reference to geological time scale<br>➢ Concept of Isostasy :Theories of Airy and Pratt | DR. SURAJIT LET |
| 2 | **Unit 2: Geomorphology**<br>➢ Types of rocks, mineralogical composition of igneous rocks; Landforms on igneous rockswith special reference to Granite and Basalt<br>➢ Development of river network and landforms on Uniclinal and Folded structures . | MR. SUBRATA DEWASI |
| 3 | **Unit 2: Geomorphology**<br>➢ Glacial and fluvio-glacial processes and landforms .<br>➢ Aeolian and fluvio - aeolian processes and landforms.<br>➢ Slope Development: Concept of Wood | MR. GOTISUNDAR MUKHERJEE |
| 4 | **Unit 1: Geotectonics**<br>➢ Degradational processes: Weathering, mass wasting and resultant landforms<br>➢ Models of landscape evolution: Views of Davis, Penck, and Hack | MR. RASHBIHARI GARAIN |
| 5 | **Unit 1: Geotectonics**<br>➢ Plate Tectonics: Processes at constructive, conservative, destructive boundariesand hotspots: resulting landforms<br>**Unit 2: Geomorphology**<br>➢ Karst landforms: Surface and sub-surface | MR. SANJAY MANDAL |

**SEMESTER I**

**GEOGRAPHY**

**COURSE 2**

**Course title: Cartographic Techniques and Geological map study**

**Theory Credits**: 4

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ Coordinate Systems: Polar and Rectangular. Concept of Geoid and Spheroid. Map Projections: Classification, Properties and Uses. Concept and Significance of UTM Projection<br>➢ Types of rocks and minerals. Characteristics of Granite, Basalt, Dolerite, Pegmatite, Gneiss, Shale, Sandstone, Slate, Marble, Quartzite, Quartz, Feldspar, Mica, Limestone,Calcite, Bauxite, Magnetite, Hematite, Galena | DR. SURAJIT LET |
| 2 | ➢ Maps: Classification and Types. Components of a Map<br>➢ Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement .<br>➢ Concept of Scales: Plain, Comparative, Diagonal and Vernier. | MR. SUBRATA DEWASI |
| 3 | ➢ Concept of Bedding Plane, Unconformity and Non-conformity, thickness of Bed, Dip,Throw, Hade, heave | MR. RASHBIHARI GARAIN |
| 4 | ➢ Survey of India Topographical Maps: Reference scheme of Old and Open series .<br>➢ Delineation of Drainage Basin from Survey of India Topographical Map. Concept ofRelief, Slope and Stream Order | MR. SANJAY MANDAL |

**SEMESTER I**

**GEOGRAPHY**

**COURSE 2**

**Course title: Cartograms, Survey and Thematic Mapping (Practical)**

**Theory Credits**: 2

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ **Construction of Projections: Polar Zenithal Stereographic, Simple Conic with twoStandard Parallels, Bonne's and Mercator's** | DR. SURAJIT LET |
| 2 | ➢ **Construction of Scales: Plain, Comparative**<br>➢ **Diagonal and Vernier** | MR. GOTISUNDAR MUKHERJEE |
| 3 | ➢ **Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure);Drawing ofGeological section and Interpretation of the Map** | MR. SANJAY MANDAL |
| 4 | ➢ **Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite),Preparation of Relative Relief Map, Slope map (Wentworth), and StreamOrdering(Strahler) on a Drainage Basin.** | MR. SUBRATA DEWASI |

**SEMESTER III**
**GEOGRAPHY**
**COURSE : CC 5**
**COURSE TITLE : CLIMATOLOGY**
**THEORY CREDITS : 6**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification**<br>➢ Air mass: Typology, origin, characteristics and modification.<br>➢ Evidences and causes of climate change .<br>➢ Condensation: Processes and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation | DR. SURAJIT LET |
| 2 | **Unit 1: Elements of the Atmosphere**<br>➢ Nature, composition and layering of the atmosphere,<br>➢ Insolation : controlling factors. Heat budget of the atmosphere.<br>➢ Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences.<br>➢ Greenhouse effect and importance of ozone layer<br>➢ Weather: stability and instability; barotropic and baroclinic conditions | MR. GOTISUNDAR MUKHERJEE |
| 3 | **Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification**<br>➢ Fronts: warm and cold; frontogenesis and frontolysis.<br>. | MR. SUBRATA DEWASI |
| 4 | **Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification**<br>➢ Circulation in the atmosphere: Planetary winds, jet stream and monsoons<br>➢ Tropical and mid-latitude cyclones<br>➢ Climatic classification after Köppen, Thornthwaite (1948) | MR. SANJAY MANDAL |

**SEMESTER III**

**GEOGRAPHY**

**COURSE 6**

**COURSE TITLE : STATISTICAL METHODS IN GEOGRAPHY (THEORY)**

**THEORY CREDITS : 4**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **Unit 1**<br>➢ Importance and significance of Statistics in Geography. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio), sourcesof data<br>➢ Collection of data and formation of statistical tables<br>➢ Distribution: frequency, cumulative frequency<br>**Unit 2**<br>➢ Central tendency: Mean, median, mode, partition values<br>➢ Measures of dispersion range, mean deviation, standard deviation, coefficient of variation<br>. | Dr. GOUTAM CHATTERJEE |
| 2 | ➢ Sampling: Need, types, and significance and methods of random sampling<br>➢ Association and correlation: Rank correlation, product moment correlation<br>➢ Linear Regression and time series analysis | DR. SURAJIT LET |

**SEMESTER III**

**GEOGRAPHY**

**COURSE 6**

**COURSE TITLE : ENVIRONMENTAL GEOGRAPHY (PRACTICAL)**

**THEORY CREDITS : 2**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ Construction of data matrix with each row representing an aerial unit (districts / blocks /mouzas / towns) and corresponding columns of relevant attributes.<br>➢ Based on the above, a frequency table, measures of central tendency and dispersionwould be computed and interpreted. | Dr. GOUTAM CHATTERJEE |
| 2 | ➢ Histograms and frequency curve would be prepared on the dataset.<br>➢ Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be plotted and residual from regression would be mapped with a shortinterpretation. | DR. SURAJIT LET |

**SEMESTER III**
**GEOGRAPHY**
**COURSE : CC 7**
**COURSE TITLE : GEOGRAPHY OF INDIA**
**THEORY CREDITS : 6**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **UNIT -1 : GEOGRAPHY OF INDIA**<br>➢ Population: Distribution, growth, structure and policy<br>➢ Distribution of population by race, caste, religion, language, tribes<br><br>**Unit 2: Geography of West Bengal**<br>➢ Regional Development: Darjeeling Hills and Sundarban<br>➢ Resources: Mining, agriculture and industries | DR. SURAJIT LET |
| 2 | **UNIT -1 : GEOGRAPHY OF INDIA**<br>➢ Agricultural regions, Green revolution and its consequences<br>➢ Mineral and power resources distribution and utilisation of iron ore, coal, petroleum<br>➢ Geology and physiographic divisions<br>➢ Climate, soil and vegetation: Characteristics and classification | MR. GOTISUNDAR MUKHERJEE |
| 3 | **UNIT -1 : GEOGRAPHY OF INDIA**<br>➢ Industrial development since independence.<br>➢ | MR. SUBRATA DEWASI |
| 4 | **Unit 2: Geography of West Bengal**<br>➢ Physical perspectives: Physiographic divisions, forest and water resources<br>➢ Population: Growth, distribution and human development | MR. RASHBIHARI GARAIN |
| 5 | **UNIT -1 : GEOGRAPHY OF INDIA**<br>➢ Regionalisation of India: Views of Spate and Bhatt. | MR. SANJAY MANDAL |

**SEMESTER III**

**GEOGRAPHY**

**COURSE : SEC 1**

**COURSE TITLE : (PRACTICAL)**

**THEORY CREDITS : 2**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **COMPUTER BASICS AND COMPUTER APPLICATIONS**<br><br>➢ Numbering Systems; Binary Arithmetic<br>➢ Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation.<br>➢ Preparation of Annoted Diagrams and its interpretation: Scatter diagram and Histogram<br>➢ Internet Surfing: Generation and extraction of information | MR. RASHBIHARI GARAIN |

**SEMESTER V**
**GEOGRAPHY**
**COURSE : CC 11**
**COURSE TITLE : RESEARCH METHODOLOGY AND FIELD WORK**
**THEORY CREDITS : 4**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **Unit 1: Research Methodology**<br>➢ Research in Geography: Meaning, types and significance<br>➢ Significance of Literature review in research<br><br>**Unit 2: Field Work**<br>➢ Fieldwork in Geographical studies – Role and significance. Selection of study area and objectives. Pre-field preparations. Ethics of fieldwork<br>➢ Field techniques and tools: Questionnaires (open, closed, structured, non- structured). Interview with special reverence to focused group discussions. | DR. SURAJIT LET |
| 5 | **Unit 1: Research Methodology**<br>➢ Research in Geography: Meaning, types and significance<br>➢ Significance of Literature review in research<br><br>**Unit 2: Field Work**<br>➢ Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording.<br>➢ Collection of samples. Preparation of inventory from field data. Post-fieldtasks. | MR. SANJAY MANDAL |

**SEMESTER V**
**GEOGRAPHY**
**COURSE : CC 11**
**COURSE TITLE : RESEARCH METHODOLOGY AND FIELD WORK (PRACTICAL)**
**CREDITS : 2**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | 1. Students will prepare a field report based on primary data collected form field survey and secondary data collected from different sources for either a rural area (mouza) or an urban area (municipal ward) based on cadastral or municipal maps to study specific problems<br>2. The report should be typed in MS-Word in English language on A4 size paper in candidate's own words within 2500 words. The total number of pages in the Field Report should not exceed 25 pages including texts, figures, tables, photographs, maps,references (APA) and appendices<br>3. A copy of the bound report, duly signed by the concerned teacher, should be submitted<br>4. Preparation of maps (hand-drawn) with suitable scale and latitude and longitude<br>5. Preparation of charts/graphs in MS-Excel and duly labelled<br>6. The report should be typed in MS-Word. The font size is fixed at 12 in TimesNew Roman and the line spacing 1.5 | DR. SURAJIT LET<br>&<br>MR. SANJAY MANDAL |

**SEMESTER V**
**GEOGRAPHY**
**COURSE : CC 12**
**COURSE TITLE : REMOTE SENSING AND GIS**
**CREDITS : 4**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **Unit 1: Remote Sensing**<br>➢ Principles of False Colour Composites (FCC) from IRS LISS-III and Landsat Images(ETM+) data: Image Processing, Pre-processing; Enhancement; Classification.<br>➢ Principles of image interpretation for Forest, Water and Soil<br>**Unit 2: GIS and GNSS**<br>➢ Definition and Components of Geographical Information System (GIS) and raster andvector data structures<br>➢ Principles of preparing attribute tables and overlay analysis<br>➢ Principles of GNSS positioning - Uses and Waypoint Collection Methods | MR. RASHBIHARI GARAIN |
| 2 | **Unit 1: Remote Sensing**<br>➢ Definition, Concepts and Principles of Remote Sensing (RS): Types of Air Photo, RSsatellites, sensors and platforms.<br>➢ EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and theirapplications with reference to IRS<br>**Unit 2: GIS and GNSS**<br>➢ Applications of Geographical Information System in Flood Management and UrbanSprawl | MR. SUBRATA DEWASI |

**SEMESTER V**
**GEOGRAPHY**
**COURSE : CC 12**
**COURSE TITLE : REMOTE SENSING AND GIS (PRACTICAL)**
**CREDITS : 2**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **Note**: **QGIS version 3.0 or above** to be used<br>1. Georeferencing of Scanned Maps<br>2. Preparation of FCC using IRS LISS-III and/or Landsat (ETM+) data<br>3. Preparation of LULC Map by Supervised Image Classification (Maximum Likelihood) usingIRS LISS-IIIor Landsat (ETM+) data<br>4. Digitisation of Point. Line and Polygon Features and Preparation of Thematic Map (usingbar, pie and choropleth method) | MR. RASHBIHARI GARAIN |

**SEMESTER V**
**GEOGRAPHY**
**COURSE : DSE 1**
**COURSE TITLE : CULTURAL AND SETTLEMENT GEOGRAPHY**
**THEORY CREDITS : 6**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1. | **Unit 1: Cultural Geography**<br>➢ Definition, Scope and Content of Cultural Geography<br>➢ Development of Cultural Geography<br>➢ Concept of Cultural Hearth, Realm; Cultural Landscape<br>➢ Cultural Innovation and Diffusion; Diffusion of Major World Religions.<br>➢ Cultural Segregation, Cultural Diversity, and Acculturation<br>➢ Major Races of the World: Distribution and Characteristics | MR. GOTISUNDAR MUKHERJEE |
| 2. | **Unit 2: Settlement Geography**<br>➢ Scope and Content of Settlement Geography<br>➢ Definition and Characteristics of Rural Settlement<br>➢ Rural Settlements: Site and Situation<br>➢ Urban Settlements:Census Definition, Urban Outgrowth, Urban Agglomeration<br>➢ Urban Morphology: Classical Models of Burgess, Hoyt, Harris and Ullman<br>➢ Functional Classification of Cities: Harris and Nelson | MR. SUBRATA DEWASI |

**SEMESTER V**
**GEOGRAPHY**
**COURSE : DSE 2**
**COURSE TITLE : POPULATION GEOGRAPHY**
**THEORY CREDITS : 6**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1. | **Unit 1: (2 Credits)**<br>➢ Development of Population Geography; Relation between Population Geography&Demography<br>➢ Determinants of Population Dynamics; Concept of Optimum Population<br>➢ Theories of population growth: Malthusian Theory and MarxianApproach, Demographic Transition Model<br>➢ Distribution, Density and Growth of Population in India since 1951<br>**Unit 2 : (4 Credits)**<br>➢ Measures of Fertility and Mortality<br>➢ Concept of Human Development Index<br>➢ Population policies in Selected Countries: Sweden and China<br>➢ Contemporary Issues in Population: Health and Unemployment | DR. SURAJIT LET |
| 2 | **Unit 2 : (4 Credits)**<br>➢ Population Composition and Characteristics: Age-Sex; Female-Male Ratio.<br>➢ Population Composition of India: Rural and Urban, Occupational Structure asper Census of India<br>➢ Migration: Theories, Causes and Types<br>➢ Population and development: population-resource regions, | MR. SUBRATA DEWASI |

# B.A/B.SC. GEOGRAPHY GENERAL

## I, III & V SEMESTER

## SYLLABUS DISTRIBUTION

**SEMESTER I**

**GEOGRAPHY**

**COURSE – CC1A**

**COURSE TITLE: GEOTECTONICS AND GEOMORPHOLOGY**

**Theory Credits**: 4

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ Lithosphere – Internal Structure of Earth based on Seismic Evidence,<br>➢ Plate Tectonics and its associated landforms. | DR. SURAJIT LET |
| 2 | ➢ Landform development in glaciated regions.<br>➢ Hydrological Cycle and ground water<br>➢ | MR. GOTISUNDAR MUKHERJEE |
| 3 | ➢ Weathering: Types and related landforms<br>➢ Landform development in arid regions. | MR. SUBRATA DEWASI |
| 4 | ➢ Development of fluvial landforms .<br>➢ Fluvial Cycle of Erosion – Davis and Penck. | MR. SANJAY MANDAL |

**SEMESTER I**

**GEOGRAPHY**

**COURSE CC1A**

**COURSE TITLE: SCALE AND CARTOGRAPHY (PRACTICAL)**

**Theory Credits**: 2

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ **Composite bar diagram and age-sex pyramid.**<br>➢ **Taylor's Climograph** | DR. SURAJIT LET |
| 2 | ➢ **Linear and Comparative scale.** | MR. SUBRATA DEWASI |
| 3. | ➢ **Taylor's Hythergraph.**<br>➢ **Proportional diagrams: Circles and squares .** | MR. SANJAY MANDAL |

**SEMESTER III**

**GEOGRAPHY**

**COURSE CC 1C**

**HUMAN GEOGRAPHY AND MAP STUDY**

**COURSE TITLE: HUMAN GEOGRAPHY**

**Theory Credits**: 4

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ Definition, Nature, Major Subfields, Contemporary Relevance.<br>➢ Eskimos: Adjustment to the environment and recent development . | DR. SURAJIT LET |
| 2 | ➢ Classification of Urban Settlements;<br>➢ | MR. SUBRATA DEWASI |
| 3 | ➢ Settlements: Types and Patterns of Rural Settlements;<br>➢ Space and Society: Cultural Regions; Race; Religion and Language | MR. GOTISUNDAR MUKHERJEE |
| 4 | ➢ Types of population migration with reference to India .<br>➢ World Population Distribution and Composition (Age, Gender and Literacy) | MR. RASHBIHARI GARAIN |
| 5 | ➢ Functional classification of towns. | MR. SANJAY MANDAL |

**SEMESTER III**

**GEOGRAPHY**

**COURSE CC 1C**

**HUMAN GEOGRAPHY AND MAP STUDY**

**COURSE TITLE: MAP PROJECTION AND MAP INTERPRETATION (PRACTICAL)**

**Theory Credits**: 4

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | ➢ Simple Conical projection with one standard parallel<br>➢ Cylindrical Equal Area projection | MR. SUBRATA DEWASI |
| 2 | ➢ Interpretation of weather maps | DR. SURAJIT LET |
| 3 | ➢ Interpretation of Topographical maps: Relation between Physiography, drainage and settlement | MR. RASHBIHARI GARAIN |

**SEMESTER III**

**GEOGRAPHY**

**COURSE : SEC 1**

**COURSE TITLE : COMPUTER BASICS AND COMPUTER APPLICATIONS (PRACTICAL)**

**THEORY CREDITS : 2**

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **COMPUTER BASICS AND COMPUTER APPLICATIONS**<br><br>➢ Numbering Systems; Binary Arithmetic<br>➢ Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation.<br>➢ Preparation of Annoted Diagrams and its interpretation: Scatter diagram and Histogram<br>➢ Internet Surfing: Generation and extraction of information | MR. RASHBIHARI GARAIN<br><br>&<br><br>MR. SUBRATA DEWASI |

**SEMESTER V**

**GEOGRAPHY**

**(GENERAL)**

**COURSE CC 1A**

**COURSE TITLE: : GEOGRAPHY OF INDIA**

**Theory Credits**: 4

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **UNIT: 1 – Geography of India**<br>➢ Population – Size and Growth since Independence<br>➢ Settlement – Rural and Urban Types | DR. SURAJIT LET |
| 2 | **UNIT: 1 – Geography of India**<br>➢ Agricultural Resource: Rice and Wheat and Cotton<br>➢ Mineral Resource - Iron ore and Bauxite | MR. GOTISUNDAR MUKHERJEE |
| 3 | **UNIT: 1 – Geography of India**<br>➢ Energy Resources: Coal and Petroleum<br>➢ Industries: Cotton Textile and Iron and Steel | MR. SUBRATA DEWASI |
| 4 | **UNIT: 1 – Geography of India**<br>➢ Physical Setting – Landforms, Drainage, Climate.<br>➢ Regional Account of Sunderban and Marusthali | MR. RASHBIHARI GARAIN |

**SEMESTER V**

**GEOGRAPHY**

**(GENERAL)**

**COURSE CC 1A**

**COURSE TITLE: : GEOGRAPHY OF INDIA (PRACTICAL)**

**Theory Credits**: 2

| SL. NO | SYLLABUS | TEACHER'S NAME |
|---|---|---|
| 1 | **UNIT: 2 – Field Work**<br>➢ Students will prepare a field report based on primary data collected form field survey and secondary data collected from different sources for either a rural area (mouza) or anurban area (municipal ward) based on cadastral or municipal maps to study specific problems<br>➢ The report should be hand written in candidate's own words (within 2000 words)<br>➢ The total number of pages in the Field Report should not exceed 30 pages includingtexts, figures, tables, photographs, maps, references (APA) and appendices<br>➢ A copy of the bound report, duly signed by the concerned teacher, should be submitted<br>➢ Preparation of maps (hand-drawn) with suitable scale and latitude-longitude | MR. SUBRATA DEWASI<br>&<br>MR. RASHBIHARI GARAIN |