2018-2019

The University of Burdwan
B.A. /B.Sc. (Honours) in Geography
Semester-I
Hiralal Bhakat College

CC1: Geotectonics and Geomorphology
Unit-1: Geotectonics

Topic	Teachers' Name
1. Earth's tectonic and structural evolution with reference to geological time scale	CG
2. Earth's interior with special reference to seismology	CG
3. Concept of Isostasy: Theories of Airy and Pratt	IM
4. Plate Tectonics: Processes at constructive, conservative, destructive boundaries and hotspots: resulting landforms	IM

Unit- 2: Geomorphology

Topic	Teachers' Name
1. Degradational processes: Weathering, mass wasting and resultant landforms.	CG
2. Models of landscape evolution: Views of Davis, Penck, and Hack.	CG
3. Slope Development: Concept of Wood	BM
4. Development of river network and landforms on uniclinal and folded structures.	IM
5. Types of rocks, mineralogical composition of igneous rocks; Landforms on igneous rocks with special reference to Granite and Basalt.	IM
6. Karst landforms: Surface and sub-surface.	CG
7. Glacial and fluvio-glacial processes and landforms.	BM
8. Aeolian and fluvio-aeolian processes and landforms.	BM

CC2: Theory (Cartographic Techniques and Geological map study)

Topic	Teachers' Name
1. Maps: Classification and Types.	IM
2. Concept of Scales: Plain, Comparative, Diagonal and Vernier.	IM
3. Coordinate Systems: Polar and Rectangular. Concept of Geoid and Spheroid. Map Projections.	IC
4. Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement.	IC
5. Survey of India Topographical Maps: Reference scheme of Old and Open series.	BM
6.1 Delineation of Drainage Basin from Survey of India Topographical Map.	CG
6.2 Concept of Relief, Slope and Stream Order.	CG
7. 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.	SS
8. Concept of Bedding Plane, Unconformity and Non-conformity, thickness of Bed, Dip, Throw, Hade, heave.	SS

CC 2: Practical (Cartographic Techniques and Geological Map Study)

Topic	Teachers' Name
1. Construction of Scales: Plain, Comparative, Diagonal and Vernier.	IM
2. Construction of Projections: Polar Zenithal Stereographic, Simple Conic with two Standard Parallels, Bonne's and Mercator's.	IC
3.1 Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite), Preparation of Relative Relief Map.	BM
3.2 Slope map (Wentworth), and Stream Ordering (Strahler) on a Drainage Basin.	CG
4. Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure); Drawing of Geological section and Interpretation of the Map	SS

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Semester-III
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CC 5: Theory (Climatology)
Unit 1: Elements of the Atmosphere

Topic	Teachers' Name
1. Nature, composition and layering of the atmosphere.	IM
2. Insolation: controlling factors. Heat budget of the atmosphere.	IM
3. Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences.	SS
4. Greenhouse effect and importance of ozone layer.	BM

Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification

Topic	Teachers' Name
1. Condensation: Processes and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation.	CG
2. Air mass: Typology, origin, characteristics and modification.	CG
3. Fronts: warm and cold; frontogenesis and frontolysis.	IC
4. Weather: stability and instability; barotropic and baroclinic conditions.	IC
5. Circulation in the atmosphere: Planetary winds, jet stream and monsoons.	BM
6. Tropical and mid-latitude cyclones.	BM
7. Evidences and causes of climate change.	SS
8. Climatic classification after Köppen, Thornthwaite (1948).	SS

CC6: Theory (Statistical Methods in Geography)
Unit: 1

Topic	Teachers' Name
1. Importance and significance of Statistics in Geography. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio), sources of data.	IM
2. Collection of data and formation of statistical tables	IM
3. Sampling: Need, types, and significance and methods of random sampling.	IM
4. Distribution: frequency, cumulative frequency.	IM

Unit- 2

Topic	Teachers' Name
1. Central tendency: Mean, median, mode, partition values.	BM
2. Measures of dispersion range, mean deviation, standard deviation, coefficient of variation.	BM
3. Association and correlation: Rank correlation, product moment correlation.	SS
4. Linear Regression and time series analysis.	SS

CC 6: Practical (Statistical Methods in Geography)

Topic	Teachers' Name
1. Construction of data matrix with each row representing an aerial unit (Districts / Blocks / Mouzas / Towns) and corresponding columns of relevant attributes.	BM
2. Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted.	BM
3. Histograms and frequency curve would be prepared on the dataset.	SS
4. 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 short interpretation.	SS

CC 7 – Geography of India

Unit 1: Geography of India

Topic	Teachers' Name
1. Geology and physiographic divisions	IC
2. Climate, soil and vegetation: Characteristics and classification	BM
3. Population: Distribution, growth, structure and policy	BM
4. Distribution of population by race, caste, religion, language, tribes	IM
5. Agricultural regions, Green revolution and its consequences	IM
6. Mineral and power resources distribution and utilisation of iron ore, coal, petroleum	SS
7. Industrial development since independence.	SS
8. Regionalisation of India: Views of Spate and Bhatt.	CG

Unit 2: Geography of West Bengal

Topic	Teachers' Name
1. Physical perspectives: Physiographic divisions, forest and water resources	IC
2. Population: Growth, distribution and human development	BM
3. Resources: Mining, agriculture and industries	SS
4. Regional Development: Darjeeling Hills and Sundarban	CG

SEC 1 – Computer Basics and Computer Applications

Topic	Teachers' Name
1. Numbering Systems; Binary Arithmetic	IC
2. 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.	IC
3. Preparation of Annoted Diagrams and its interpretation: Scatter diagram and Histogram	IC
4. Internet Surfing: Generation and extraction of information	IC

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Part-III
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Paper-V: Nature of Geography

Topic	Teachers' Name
1.0 DEVELOPMENT OF GEOGRAPHY	
1,1 Definition, Scope and Content of Geography	IM
1.2 Development of Geography in the Ancient and Mediaeval Periods (up to 19th Century)	IM
1.3 Development of Modern Scientific Geography in the 19th Century with particular reference to the Contributions of Humboldt and Ritter	CG
1.4 Development of Geography in the 20th Century (upto 1970)	CG
2.0 DEVELOPMENT OF SCHOOLS OF THOUGHT IN MODERN GEOGRAPHY	
2.1 German School	SS
2.2 French School	SS
2.3 American School	SS
2.4 Indian School	SS
3.0 CONCEPTS AND TRENDS IN GEOGRAPHY	
3.1 Concepts of Determinism, Possibilism and Neo-Determinism	IM
3.2 Concepts of Empiricism and Positivism	IM
3.3 Approaches to Geographic Studies: Systematic vs Regional and Ecological	IM
3.4 Critique of Quantitative Revolution in Geography	IM
4.0 APPROACHES TO REGIONAL STUDIES	
4.1 Concepts and Types of Region	BM
4.2 Bases and Methods of Regionalisation	BM
4.3 Scale and Hierarchy of Region	BM
4.4 Region and Regionalism	BM
5.0 ENVIRONMENT AND DEVELOPMENT	
5.1 Relationship among Population Growth, Economic Development and Environmental Conservation	CG
5.2 Environmental Issues Related to Urban and Industrial Expansion	CG
5.3 Environmental issues of Large Dams	CG
5.4 Sustainable Development	SG

Paper - VI: Economic and Social Geography

Topic	Teachers' Name
1.0 RESOURCE	
1.1 Resource: Concept and Classification, Economic and Environmental Approaches of Resource Utilisation	IM
1.2 Different sources of Energy Resources, their Relative Importance, Production and Consumption	IM
1.3 Problems of Resource Depletion - Global Scenario (Forest, Water, Fossil Fuels),	IM
1.4 Necessity and Methods of Resource Conservation; Expanding Oceanic Resource Horizon.	IM
2.0 ECONOMIC ACTIVITY	
2.1 Agricultural Systems: Plantation Agriculture and Mixed Farming	BM

2.2 Models of Economic Activities: Von-Thunen, Weber, Losch	BM
2.3 Industrial Regions: Great Lakes, Mumbai-Pune, Asansol-Durgapur	BM
2.4 International Trade with Special Reference to WTO, EEC and SAARC	BM
3.0 SOCIETY AND CULTURE	
3.1 Nature and Content of Social Geography, Evolution of Social Geography	CG
3.2 Races and Ethnicity: Major Racial Groups of the World	CG
3.3 Concept of Culture and Its Components; Innovation, Diffusion and Convergence of Culture	CG
3.4 Cultural Realms of the World and their Characteristics	CG
4.0 SETTLEMENT	
4.1 Concept of Rural and Urban Settlement, Problems of Definition and Classification of Urban Settlement	SS
4.2 Types and Patterns of Rural Settlement	SS
4.4 Functional Hierarchy of Urban Settlement with Special Reference to Christaller's Central Place Theory	SS
5.0 POPULATION	
5.1 Determinants and Dynamics of Population Growth	IC
5.2 Growth of World Population; Demographic Transition Model	IC
5.3 Migration: Types and Impact on Place of Origin and Destination	IC
5.4 Population Policy: India and China	IC

Paper - VII Geography of India

Topic	Teachers' Name
1.0 INDIA: PHYSICAL ASPECTS	
1.1 Geology and Structure with Special Reference to Himalayan Structure and Evolution of the Peninsular India	SS
1.2 Drainage Systems: Evolution and Characteristics of Peninsular and Extra-Peninsular Rivers	SS
1.3 Climatic Characteristics: Seasonality, Unevenness and Unreliability of Rainfall, Drought and Floods	SS
1.4 Classification and Characteristics of Soils, Causes and Consequences of Deforestation	SS
2.0 ECONOMIC ASPECTS	
2.1 Agricultural Policy and Development since Independence	BM
2.2 Agro-Climatic Regions in India and Impact of Green Revolution	BM
2.3 Industrial Policy and Development since Independence	BM
2.4 Recent Trends of Industrialization with Special Reference to SEZs	BM
3.0 SOCIO - CULTURAL ASPECTS	
3.1 Population Growth and Human Development since Independence	IC
3.2 Languages Groups: Characteristics and Spatial Distribution	IC
3.3 Caste and Social Morphology in Rural India	IC
3.4 Characteristics and Recent Trends of Urbanisation	IC
4.0 WEST BENGAL	
4.1 Physiographic Region of West Bengal	CG
4.2 Problems of Flood and Drought and their Management	CG
4.3 Regional Problems of Darjeeling Hill Region and Sundarbans	CG
4.3 Regional Problems of Darjeeling Hill Region and Sundarbans	CG
4.4 Population Growth and Human Development	CG
5.0 REGIONAL ASPECTS	
5.1 Bases and Schemes of Regionalization of India into Geographical Regions	IM

5.2 Chotoanagpur Plateau	IM
5.3 West Bengal Delta	IM
5.4 Malabar Coast	IM

PAPER-VIII (PRACTICAL) APPLIED GEOGRAPHICAL TECHNIQUES AND FIELD REPORT

Topic	Teachers' Name
1.0 ANALYSIS OF GEOLOGICAL MAPS	
1.1 Construction of Geological Section of Horizontal, Uniclinal, Folded and Faulted Structures Along with Igneous Intrusions and Line of Unconformity	BM
1.2 Succession and Relation with Rock Groups	BM
1.3 Topography and its Relation with Underlying Structures	BM
1.4 Interpretation of Geological History	BM
2.0 ANALYSIS OF CLIMATIC DATA AND MAPS	
2.1 Rainfall Dispersion Diagram	IM
2.2 Construction of Station Model (Indian Context)	IM
2.3 Preparation of Synoptic Chart and Interpretation (Indian Context)	IM
2.4 Interpretation of Daily Weather Maps Prepared by Indian Meteorological Department	IM
3.0 COMPUTER APPLICATION, REMOTE SENSING AND GIS	
3.1 Data Entry: Arrangement into Ascending and Descending Order; Cartograms Using Excel: Bar, Pie, Line Graph and Doughnut Chart	SS
3.2 Calculation of Central Tendency and Standard Deviation Using Fomula	SS
3.3 Bivariate Techniques: Scatter Diagram and Fitting of Trend Lines	SS
3.4 Basic Concepts of Remote Sensing, GIS and GPS	IC
3.5 Location of a Place Using GPS; Georeferencing of Scanned Maps and Images (Using Software)	IC
3.6 Principles of Preparing and Interpretation of Standard FCC of Images; Digital Classification and Extraction of Physiographic and Cultural Features (Using Software)	IC
4.0 FIELD REPORT ON EITHER A RURAL MOUZA OR AT LEAST ONE WARD OF AN URBAN AREA TO BE CONDUCTED DURING FIELD EXCURSION	IM, BM, CG, IC, SS

NOTE:

1. IM- Indranil Mondal
2. BM- Biswajit Mondal
3. CG- Chandan Ghosh
4. SS- Subhasish Sytradhar
5. IC-Indrajit Chowdhuri

HEAD
DEPARTMENT OF GEOGRAPHY
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