Geography Honours

Syllabus Utilisation for the Academic Session 2018-2019

Part-I (1ST Year Honours)

Module -I	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Geotectonics	1.1. The Origin of the earth: Supernova and Big Bang Theory Geological Time scale: concept of geological history of the earth. 1.2. Structure of earth : Thermal and physical state of the earth interior with special reference to seismology 1.3. Sea- floor Spreading Continental Drift Theory : Evidences & mechanisms 1.4. Theories of Isostacy :Airy & Pratt ; Mountain building theories :Kober and Holmes 1.5. Plate Tectonics : Forces acting on Lithospheric plates, Plate motion, plate boundaries and resultant landforms ; Origin of Fold mountain (Particularly the Himalayan Mountain system), Volcanism and earthquakes in the light of Plate Tectonics 1.6. Surface expression of Earth movement: Different types of Folds and Faults.	1.1 (AR) 1.2 (AG) 1.3 (AR) 1.4 (AG) 1.5 – 1.6 (AR)	(5) (15) (8) (6) (8)
Module -II	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Oceanography	2.1. Ocean Floor: Characteristics and Features ;Physical Properties of SeaWater: Temperature , Salinity and Density 2.2. Ocean Currents :Causes and Significance: Currents Of Indian Ocean 2.3. Marine Deposit : Origin, Classification and Distribution 2.4. Coral Reefs and Atolls: Characteristics and theories of Origin (After Darwin) Resource potential of Oceans	2.1 – 2.2 (PG) 2.3 – 2.4 (SG &AG)	(10) (5)
Module -III	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Geomorphology	3.1.Fundamentals Concept in Geomorphology 3.2. Denudation: Weathering process & their topographic expressions, Processes of Mass wasting. 3.3. Process of erosion, deposition and resulting landforms : river ,wind glacier underground water and waves 3.4. Cycle of erosion and its interruption: Davis, Penck ; Dynamic Equilibrium theory of Hack. 3.5. Drainage development and landforms associated with uniclinal, folded and faulted structures with examples from India 3.6. Disasters associated with geomorphic processes and their management with special reference to landslide in Darjeeling Himalayas and left bank erosion of Ganga in Malda.	3.1 – 3.2 (ST) 3.3 -3.4 (DM) 3.5 (SG) 3.6 (ST)	**(10)** **(8)** **(12)** **(6)**
Module -IV	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers**

			Available
Hydrology	4.1. Modes of occurrence of water in the earth, Hydrological cycle; Basin characteristics and river basin morphometry : Slope, Hypsometric Curve ,Elongation Ratio, Long profile, Sinuosity 4.2. Run off: Factors affecting runoff; evaporation, transpiration and infiltration process 4.3. Ground Water: Concept and types of aquifers, movement, storage, utilization and related problems. 4.4. Conservation of water resource: special reference to rain water harvesting.	4.1 – 4.4 (SP)	(18)
Module –V	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Practical	5.1. Scale: 1. Principles & Types of scale 2. Drawing Linear, Comparative, diagonal & Vernier scale. 3. Scale Conversion. 5.2. Cartograms: 1. Choropleth, 2. Dot and Sphere, 3. Representation of agricultural & socio-economic data by Pie-chart & Proportional Divided Circles,4.Age-sex Pyramid, 5. Proportional Cubes, 6. Chorochromatic maps, 7. Representation of traffic and transport data by Flow Diagram. 5.3.Topographical maps: 1. Interpretation of SOI topographical maps of plateau areas. a. Representative profile and broad physiographic divisions. b. Serial, Superimposed, Composite and Projected profiles. c. Morphometric indices: Relative Relief (after Smith), Dissection Index (after Dov Nir), Average Slope (after Wentworth), Drainage Density, Stream Ordering (after Strahler) and Bifurcation Ratio, Road Density, Transect Chart for relating physical and cultural features.	5.1 (SP) 5.2 (PG & SG) 5.3 (SP & AG)	(10) (20) (25)

Part-II (2nd Year Honours)

Module –VI	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Economic geography	6.1. Resources: Definition, classification, functional theory. Significance and environmental aspects of resources. Resource Conservation 6.2. Natural resources. Land as a resource Forest as a resource; forest produce, environmental significance of forest 6.3. Power resources: (use, distribution world perspective and conservation) 1. Conventional: Coal, petroleum, hydel.	6.1 – 6.3 (PG) 6.4 – 6.5 (DM) 6.6 (AR)	(10) (12) (10)

	2. NonConventional(Potentiality and feasibility) Solar, Nuclear 6.4. Primary activities : Intensive Rice cultivation(Asia), Plantation agriculture, Tea (India) 6.5. Secondary Activities: Theory of industrial location, Weber, Petrochemicals and Food Processing: Location, Problems and prospects(India) 6.6. Tertiary activities : Transport and communication-types and importance		
Module –VII	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Region, Regional planning & Development	7.1.Concept of region (formal and functional) and regional development Regionalization and Schemes of regionalization in India: R.L. Singh 7.2.Indicators of development & underdevelopment: HDI & HPI (Indian scenario) 7.3.Theories: Growth pole and Myrdal; Regional Imbalances (Indian Scenario) and remedies 7.4. Regional Planning in India: Rural and Urban Planning, Centralized and decentralized planning.	7.1 – 7.4 (AR)	(20)
Module –VIII	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Climatology	8.1.Composition and structure of atmosphere.; Importance of Ozone layer, Ozone Depletion 8.2.Insolation and heat budget, Horizontal and vertical distribution of temperature, inversion of temperature. Global warming and green house effect 8.3. Atmospheric pressure: horizontal and vertical distribution.Pressure belts of the world and resulting wind systems. General circulation of the atmosphere, jet stream and Rossby Waves. 8.4.Atmospheric moisture: Processes and forms of condensation. Mechanisms of precipitation: Ice crystal Theory, Collision-Coalescence Theory and Types of precipitation 8.5. Tropical cyclones and mid-latitude cyclones: genesis and characteristics. 8.6Indian Monsoon: Mechanisms (Koteswaram and Jet Stream) and variations (El Nino and La Nina). Classification of world climates: Koppen and Thornthwaite. Concept of Microclimate	8.1 (SG) 8.2 (AG) 8.3 – 8.4 (ST)	(5) (15) (18)
Module –IX	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Soil Geography and Bio-geography	9.1.0. Soil Geography 9.1.1.Factors of soil formation: Soil profile development: Laterite 9.1.2Soil physical properties: Texture, Structure and their influence on soil fertility. 9.1.3. Chemical properties of Soil: PH ,NPK and their	9.1 (PG) 9.2 (SP)	(18) (18)

	influence on soil fertility 9.2.0. Bio-geography 9.2.1. Concept of Ecology, ecosystem, Biome, ecotone, and community(definition and components) 9.2.2. Laws of thermodynamics and energy flow in ecosystem. Concept of Trophic levels, food chain, food web and bio-		
	geochemical cycles (Carbon, Nitrogen) 9.2.3.Concept of Biodiversity with illustrations from India Wetlands: Definition, characteristics, degradation and need for conservation of wetland.		
Module –x	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
practical	**10.1.0Area Measurement** by graphical method. **10.2.0.Map Projections:** (depiction of area, definition, principles, classification, choice, properties, limitations, and uses of the followings projections) a) Polar Zenithal Gnomonic, b) Simple Conical (one standard parallel) c)Bonne's projection, d) Polyconic projection, e) Sinusoidal projection, f) Cylindrical Equal Area Projection g) Mercator's projection 10.3.0. **Surveying**: 10.3.1. Concept of surveying & map making. 10.3.2.Prismatic Compass Survey (closed traverse) 10.3.3.Plane Table Survey (Radiation method) 10.3.4 Leveling by Dumpy Level along a given line with at least one change point (plotting by rise & fall and also collimation method) 10.3.5. Contouring (radial method using Dumpy level and Plane Table with at least four radial lines and at least four points along each line). 10.3.6. Determination of height of an object with accessible [distance unknown following stadia/low degree (1°) method] and inaccessible base (instrument and object located in the same vertical plane) by Theodolite.	10.1 (SP) 10.2 (AG & SG) 10.3 – 10. 6 (SP, PG, DM, ST)	(4) (20) (30)

Part-III (3nd Year Honours)

	Part of The Syllabus Covered In	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Module –XI Population Geography	1. Definition, scope and content of population geography: Basic sources of data. 2. Factor influencing spatial distribution and density of population, concept of under population, optimum population and over population. Population growth in india. Trends, causes and consequences. 3. Theories of population growth: Mathus, Demographic Transition Theory, Population resource relationship, population resource region after Ackerman. 4. Population structure and composition, Age-sex	1 – 4 (AR)	**(18)**

	structure, rural-urban, economic composition of population with special reference to India. 5. Demographic attributes, determinants and measures of fertility and mortality, migration: types, causes and consequences. **6.** Population policy in India (post independence: objectives, success and challenges)		
Module –XII Settlement Geography	1. Definition, scope and content of settlement geography 2. Rural settlements: Origin, type and morphology, effects of physical and cultural environment on location, morphology and patterns with special reference to India 3. Urban settlements: Origin, Census definition and size classification of Indian	1 – 8 (ST)	(18)
	4. Cities, Concept of urban agglomeration. 5. Functional classification of cities (A. Mitra & C.D. Harris) 6. Hierarchy of settlements and Central Place Theory. 7. Morphology & internal structure of urban centers (Burgess, Hoyt and Harris & Ullman) 8. Basic concepts of rural urban fringe and slums		
	Part of The Syllabus Covered In	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Module –XIII Geographical Thought	1. Definition, scope and evolution of geography as a discipline: a. ancient, medieval and modern period, b. contributions of British (Peter Haggett), French (Vidal de la Blache), German (Ferdinand von Richtofen) and American (Hartshorne) schools, c. relation of geography to other sciences 2. Man-environment relationship: a. Determinism, b. Possibilism, c. neo-determinism and 3. ecological approach Conceptualizing Location, Space and Time. 4. Regional Differentiation. 5. Dualism and dichotomy in geography: Regional versus Systematic and Physical versus Human. 6. Concept of Paradigm shift in geography: Quantitative Revolution, Radical Geography, Humanistic and Behavioral Geography.	1-3 (SP) 3-6 (AG)	(20) (14)
	Part of The Syllabus Covered In	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Module –XIV Social & Cultural Geography	1. Scope and content of social and cultural geography 2. Social processes, 3. social space, 4. social groups, 5. social structure, 6. social distance, 7. social well-being, 8. social inequality,	1 – 14 (ST)	(30)

	9. intra-urban mobility 10. Social elements: Caste, class, religion, ethnicity, language, tribe with special reference to India. 11. Urban-industrial landscape. 12. Social problems of Indian villages, gender inequality and social exclusion. 13. Concepts of culture, community and society. a. Cultural groups, b. cultural region, c. cultural realm, d. cultural hearth, e. cultural landscape. 14. Emergence of regions as social entities with special reference to India		
Module –XV Political Geography	15.1. Definition, scope and content of political geography 15.2. Concept of state, nation, frontier, boundary and territory 15.3 Geostrategic ideas of Ratzel, Mackinder and Spykman 15.4 Concept of cold war: Bipolarisation an unipolarisation; Geopolitical importance of India(since 1947) and Indian ocean.	15.1 – 15.4 (PG)	(16)
Module –XVI Geography of India	1. The Land: a. major physiographic divisions of India, b. Origin and geomorphological characteristics of Himalayas, the Indo-Gangetic Plain and the Peninsular India. 2. Evolution and characteristics of Indian drainage systems (peninsular- Narmada, Extra-peninsular (antecedent- Brahmaputra) 3. Climate: Climatic zones of India, characteristics and significance of Indian Monsoon a. Soil: Soil zones of India (distribution, characteristics and significance) b. Depletion of forests and forest conservation c. Irrigation: major types of irrigation, distribution and associated problems 4. Population problems, population policy of India (Post Independence) 5. Agriculture: d. Agricultural regions of India, e. Modernization of agriculture and related problems. 6. Industries: a. Industrial regions of India with special emphasis on the Hoogly Industrial Region, b. Census classification of workers in India(1991 & 2001) c. Changing concepts of location of industry with special reference to automobile and electronics industry. 7. Processes of globalization and liberalization and their impacts on Indian economy with special reference to mining. 8. Non-conventional power resources: wind, hydel and biogas and problems associated with them	1 -4 (PG) 5 – 6 (SP)	(20) (22)
Module –XVII	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers**

			Available
Practical-50	**1. Statistical Techniques:** a. Basic concepts: data, variables, sampling techniques. b. Tabulation of statistical data and frequency distribution tables. c. Methods of data presentation: Histograms, Frequency Polygon, Frequency Curve, Cumulative Frequency Curve (Ogive) d. Measure of central tendencies: Mean(arithmetic), Median, Mode, Partitioned Values: Quartiles, Deciles and Percentiles e. Measure of dispersions: Range, Quartile Deviation, Mean Deviation (about Mean and Median), Standard Deviation, Coefficient of Variation, f. Study of relationships: Bivariate correlation (Karl Pearson's Correlation Coefficient) and Regression. 2. **Geological maps:** a. Drawing of section & interpretation of geological maps of a) horizontal, b. uniclinal structures b) folded with unconformities & intrusions. 3. **Rocks & minerals identification (Megascopic study):** **a.** Granite, Basalt, Dolerite, Pegmatite, Sandstone, Limestone, Conglomerate, Shale, Quartzite, Schist, Gneiss, Slate, Phyllite, Quartz, Feldsper, Mica, Talc, Graphite, Magnetite, Haematite, Chalcopyrite, Bauxite, Calcite, Galena and Laterite	1 (ST) 2-3 (PG)	(20) (16)
Module –XV	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Applied Geography Practical-50	1. Methods of data collection: a. Schedule and questionnaire. b. Preparation of model questionnaire and schedule for socio-economic and physical survey. 2. Applied geographical techniques: a. Lorenz's Curve & Gini's Coefficient, b. Rank Size Rule, c. Location Quotient, d. Hydrographs and Rating Curve, Climograph (after Taylor), e. Crop Combination (Weaver's method). 3. Concept and use of GPS, Remote Sensing & GIS: a. definition of remote sensing and GIS, basic principles and characteristics, b. Aerial Photogrammetry and satellite remote sensing c. . Interpretation of aerial photographs using mirror stereoscope. Visual interpretation of satellite imageries. 4. Preparation of cartograms using MS-Excel 2007 (Simple bar, pie-diagram, line, scatter, trend line. 5. **Use of GIS softwares:**	1 (ST) 2 (AR) 3 (AG) 4 (SP) 5 (AG)	(5) (10) (6) (8) (15)

	a. Georeferencing, Registration and digitization (point, line, area layers) d. Addition of attributes to the map and preparation of thematic maps (choropleth, bar, pie etc.)		
Module –XVI	**Part of The Syllabus Covered In**	**Name of The Teacher To whom assigned**	**Expected No. of Lecturers Available**
Practical-50	1. Weather Map: Interpretation of weather maps, a. pre-monsoon, b. monsoon and c. Post-monsoon. 2. Measurement of weather elements by meteorological instruments (Rain gauge, Hygrometer,Max. & Min. Thermometer, Fortin's Barometer) 3. **Field Report**	1 (ST) 2 (DM) 3 (SP and ST)	(18) (7) (34)

ST: Syffujjaman Tarafdar
SP: Satyajit Paul
DM: Dipankar Majumdar
AR: Avijit Roy
AG: Amiyo Gayen
PG: Paban Ghosh
SG: Sanjay Ghosh

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