Gokhale Memorial Girls' College

Department of Geography

Academic calendar 2017-18

Part I Hons.

Sl. No.	Paper/Module	Topic	No. of lectures	Faculty
1.	Paper I Module 1 (GEOTECTONICS AND GEOMORPHOLOGY (Th.) 50 Marks) Unit I: Geotectonic	1.1 Origin of the Earth with particular reference to Big Bang Theory; Geological time scale and related topographic and structural evolution 1.2 Isostasy: Airy and Pratt 1.3 Folds and Faults—origin, types and their topographic expressions 1.4 Plate Tectonics: plate tectonic processes--sea floor spreading, subduction, orogenesis, earthquake and vulcanicity	03 02 03 06	K.R
	Paper I Unit II: Geomorphology	2.1 General degradational processes: processes of rock weathering and their effects on landform 2.2 Fluvial processes and landforms 2.3 Glacial processes and landforms; fluvio-glacial landforms 2.4 Aeolian processes and landforms; fluvio-aeolian processes	03 03 03 03	K.R
	Paper I Unit III: Geomorphology and Structure	3.1 Basic concepts of Geomorphology as postulated by Thornbury 3.2 Landforms on granite and basalt 3.3 Landforms on limestone	03 02 02	Z.H

		3.4 Development of river network and landforms on uniclinal and folded structure	04	
	Paper I Unit IV: Theories of Geomorphology	4.1 Normal cycle of erosion by W.M.Davis 4.2 Views of W. Penck on normal cycle of erosion 4.3 Cycle of Pediplanation by L.C.King 4.4 Dynamic Equilibrium theory by J.T. Hack	04 03 03 03	Z.H
2.	Paper I Module 2 Hydrology and Oceanography (50) <u>Unit I: Surface Hydrology</u>	1.1 Definition, scope and content of Hydrology 1.2 Global hydrological cycle: its physical and biological role 1.3 Drainage basin as a hydrological unit 1.4 Run off: controlling factors-- infiltration, evaporation and transpiration; Run off cycle	02 03 03 04	I.S
	Unit II: Groundwater Hydrology	2.1 Physical properties of ground water 2.2 Chemical properties of ground water 2.3 Components, factors, and processes controlling storage and movement of ground water 2.4 Types of aquifers and issues related to their over utilization	02 02 04 03	I.S
	Unit III: Ocean Water	3.1 Physical properties of ocean water	02	

		3.2 Chemical properties of ocean water 3.3 Concept of water mass; Waves, Tides and their influence 3.4 Ocean currents and their influence	02 04 04	I.S
	Unit IV: Ocean Basins	4.1 Oceanic sediments: origin and classification 4.2 Coral reefs and atolls: types and factors, coral and volcanic islands 4.3 Major features of the ocean floor: formation explained by Plate Tectonics 4.4 Resource potential of the oceans	03 04 05 03	P.D.G
3.	Paper II Module 3 ECONOMIC GEOGRAPHY (Th.)50 Marks <u>Unit I: RESOURCES</u>	1.1Concept and classification of rēsources: Economic and Environmental approaches to resource utilization. 1.2Resource depletion and resource conservation; Forrester Meadows model on Limits to Growth; Sustainable use of resources 1.3Land as resource; Problems of land acquisition in developing countries; Development of EPZ and SEZ; Land reforms in India with special reference to West Bengal	02 03 04	K.D

		1.4Global scenario of resource related problems and trend of management with reference to Iron Ore, Bauxite, Coal, Petroleum and Nuclear power	05	
	Unit II: PRIMARY ACTIVITIES	2.1 Primary activities: Concept, classification and importance. 2.2 World view of primary activities-- problems and trend of management with reference to forestry, fishing and livestock farming. 2.3 Critical appreciation of agricultural systems: Intensive agriculture (Rice), Extensive agriculture (Wheat), Plantation farming (Tea) and Mixed farming (NW Europe). 2.4 Land use and Agricultural models: L.D.Stamp ,Von Thunen and Weaver	01 03 04 02	K.D
	Unit III: SECONDARY ACTIVITIES	3.1 Secondary activities: concept, classification and importance 3.2 Factors of industrial location; industrial location and economic growth models: Weber, Losch and Gunner Myrdal . 3.3 Industries-- their resource base, distribution, potentials of growth and problems with reference to Iron and steel (UK, Japan,	01 03	Z.H

		and India), Cotton textile (USA and India), Petrochemicals (USA and India) and Food processing (India). 3.4 Industrial association, integration, infrastructure and problems with reference to Lake District, Kanto Plains, and Kolkata-Haldia.	08 04	
	Unit IV: TERTIARY ACTIVITIES	4.1 Tertiary activities and service: concept, classification and importance 4.2 Trade: as an engine and hindrance to growth, determinants, trade strategies – import substitution and export promotion. 4.3 International trade: Ricardian theory, international trade with reference to GATT and WTO. 4.4 Transport: concept of distance, accessibility and connectivity relative cost advantage of different modes of transport;	01 03 03 03	Z.H
4.	Paper II Module 4 Cartograms and Geological Maps (Pr.) 50 Marks	1.1 <u>Scale:</u> a) Linear b) Diagonal c) Vernier	12	K.R

		1.2 Cartograms: Representation of economic data a)Divided proportional circles b)Flow diagrams c)Bargraphs	12	I.S
		1.3 Interpretation of Geological maps (16 marks) a) Study of Horizontal, Vertical and tilted beds along with alignment of contours: Study of strike, dip and bedding plane		Z.H
		b) Drawing of sections on uniclinal and simple folded structures depicting unconformity, succession of beds and their thickness c) Interpretation of the section covering geological history and relation between topography and structure	20	
		1.4 Megascopic Identification of rocks and minerals (08 marks) a) Rocks: granite, basalt, dolerite, shale, sandstone, limestone, conglomerate, laterite, slate, phyllite, schist, marble, quartzite, gneiss b) Minerals: talc, gypsum, calcite, mica, feldsper, quartz, chalcopyrite, hematite, magnetite, bauxite, galena	16	K.D

Part II Hons.

Sl no.	Paper/Module	Topic	No. of lecture	Faculty
1.	Paper III Module 5 Climatology (Th.) 50 Marks	<u>Unit I: Atmospheric Layers and Thermal Variation</u> 1.1 Nature, composition and layered structure of the atmosphere 1.2 Factors controlling insolation ; heat budget of the atmosphere 1.3 Horizontal and vertical distribution of temperature; Inversion of temperature 1.4 Green house effect and importance of ozone layer <u>Unit II: Atmospheric Layers and Wind Circulation</u> 2.1 Global atmospheric pressure belts and their oscillation 2.2 General wind circulation 2.3Jet stream and index cycle 2.4Monsoon mechanism with reference to jet stream <u>Unit III: Precipitation and Air mass</u> 3.1 Processes and forms of condensation 3.2 Mechanism and forms of precipitation- Ice Crystal theory, Collision-	 02 03 02 04 02 03 04 04 02 04	 K.R P.D.G P.D.G

		coalescence Theory 3.3 Airmass: typology, origin and characteristics 3.4 Warm and cold fronts; frontogenesis and frontolysis Unit IV: Weather Disturbance and Climatic Classification 4.1 Tropical cyclone 4.2 Mid-latitude cyclone and anti-cyclone 4.3 Climatic classification after Koppen 4.4 Climatic Classification after Thornthwaite: 1931 and 1948	03 04 03 03 03 04	K.R
2.	Paper III Module 6 Soil and Bio-Geography (Th.) 50Marks	<u>Unit I : Soil Formation, Profile Characteristics and Properties</u> 1.1 Definition and factors responsible for soil formation 1.2 Concept of V.V. Dokuchaev-ektodynamomorphic and endodynamomorphic soils; Concept of N.M.Sibirtzev-Zonal, Azonal and Intra zonal soils 1.3 Profile characteristics of Pedalfer group :Laterite and Podzol; Profile characteristics of Pedocal group: Chernozem	02 03 06	I.S

		1.4 Physical properties of soil: Texture, Structure and Moisture; Chemical properties of soil: pH, Organic matter and NPK	03	
		Unit II: Soil and Land Management		
		2.1 Soil erosion: Processes and controlling factors	02 03	I.S
		2.2 Various measures of soil conservation		
		2.3 Principles of soil classification: Genetic School and USDA	06	
		Principles of land classification: UK and USDA	01	
		2.4Land capability classification by Storie		
		Unit III: Concepts in Bio -Geography	02	
		3.1 Scope and content of Bio Geography; Nature of Biosphere		K.R
		3.2 Concepts of Ecology, Ecosystem and major natural ecosystems: terrestrial	04 02	
		and marine; Trophic structure, Food chain and Food web	03	
		3.3 Laws of Thermodynamics	04	
		3.4 Energy flow in ecosystems		K.R
		Unit IV: Ecological Aspects of Bio - Geography	05	
		4.1 Bio-geo-chemical cycle	02	
		4.2 Concept of Biomes, Ecotone, and Community; study	02	

		of Tropical rain forest, Taiga and Grasslands 4.3 Deforestation: Causes and consequences 4.4 Significance of Biodiversity and controlling factors		
3.	Paper IV Module 7 Social, Cultural and Political Geography (Th.) 50 Marks	<u>Unit I: Concept in Social Geography</u> 1.1 Definition, scope and content of Social Geography 1.2 Evolution of Social Geography: Approaches- Possibilistic, Behavioral, Radical and Welfare 1.3 Social structure and Social processes: macro and micro; Social patterns 1.4 Concept of Space: Social space, Material space; Social wellbeing <u>Unit II:Components of Social Geography</u> 2.1 Region as a social unit 2.2 Social Elements; Class, caste and ethnicity with special reference to India 2.3 Social issues in urban areas: Social area analysis; Social ecology 2.4 Social Groups: Tribal, Traditional and Modern society <u>Unit III: Cultural Geography</u> <u>3.1</u> Concept of culture in Geography; definition,	02 03 03 04 02 03 04 04 02	Z.H Z.H

		scope and content of Cultural Geography 3.2 Cultural groups with reference to India: ethnic, linguistic and religious 3.3 Cultural regions, Cultural areas and Cultural landscape 3.4 Cultural assimilation, integration and diffusion <u>Unit IV: Political Geography</u> 4.1 Definition and scope of Political Geography 4.2 Approaches and Schools of thought in Political Geography (Landscape school, Functional school and Morphological school 4.3 Geo- strategic views of Mackinder and Spykeman 4.4 Political Geography of India: Impact of partition of India	03 03 03 01 05 04 04	Z.H K.D
4.	Paper IV Module 8 Map Interpretation and Survey with Instruments (Pr.) 50 Marks	<u>UNIT-1 : Topographical Sheet (22 Marks)</u> 1.1 Principles of toposheet numbering as followed by Survey of India; Thorough study of plateau region on toposheet of 1:50,000 scale 1.2 Morphometric techniques in 10 x 12 cm area : Relative relief (after Smith), Average slope	04 12	Z.H

		(after Wentworth), Drainage density and grid-wise Road density with interpretation 1.3 Drawing and analysis of profiles and transect chart with interpretation 1.4 Analysis of landforms and correlation between physical and cultural elements under the heads of: relief, drainage, natural vegetation, settlements and transport Unit II: Survey with instruments (20 Marks) 2.1 Contouring by leveling along radial line by a Dumpy Level: at least three radial lines to be set out from a common centre and their relative position to be obtained by measurement of magnetic bearing and/or included angle by Prismatic Compass 2.2 Preparation of Level Book 2.3 Longitudinal /profile leveling by Dumpy Level 2.4 Closed traverse survey by Prismatic Compass	08 10 08 04 08 10	K.D

Part III Hons.

Sl no.	Paper/Module	Topic	No. of lecture	Faculty
1.	Part III Module 9 Population and Settlement Geography (Th.) 50 Marks	<u>Unit I: Population Dynamics</u> 1.1 Factors influencing spatial distribution and density of population	04	

		1.2 Population growth: global trends and patterns 1.3 Population structure: Age and Sex specific 1.4 Population composition: Economic and Ethnic <u>Unit II: Demographic Attributes</u> 2.1 Determinants and Measures of Fertility, Morbidity and Mortality; Migration 2.2 Theories of Population Growth: Malthus and Marx 2.3 Demographic Transition Model 2.4 Population-Resource Region (as per Zelinsky) <u>Unit III: Rural Settlements</u> 3.1 Definition, nature and characteristics of rural settlements 3.2 Morphology of rural settlements: site and situation, layout- internal and external 3.3 Rural house types with reference to India 3.4 Social segregation in rural areas; Census categories of rural settlements Unit IV: Urban Settlements 4.1 Census definition and categories in India 4.2 Urban morphology: Classical models- Burgess, Homer	04 02 02 05 04 02 02 02 04 03 03 02 04 03	K.D K.D K.D

		Hoyt, Harris and Ullman 4.3 Metropolitan concept, City-region and Conurbation 4.4 Functional classification of cities: Harris, Nelson and McKenzie	04	K.D
2.	Paper III Module 10 Regional Geography of India (Th.) 50 Marks	<u>Unit I: Concepts and Bases</u> 1.1 Concept of regions, nature and types of regions 1.2 Approaches to regionalization--scale and dimension 1.3 Bases of regional division--physical 1.4 Bases of regional division – socio-economic Unit II:General Geography of India 2.1 Structure and Physiography 2.2 Drainage (Peninsular and Extra Peninsular) 2.3 Climatic, Edaphic and Biotic regions of India 2.4 Agricultural regions (as per ICAR) Unit III: Case Studies 3.1 Meghalaya Plateau as Physiographic Region 3.2 Damodar Valley as Planning Region 3.3 Western Rajasthan as Arid Region 3.4 Sundarbans as Biotic Region <u>Unit IV: Studies of Geographical Problems</u>	02 03 03 03 04 03 05 03 03 03 03 03 03 03	I.S I.S I.S I.S

		4.1 Problems of unreliability of rainfall 4.2 Problems of soil salinity and its mitigation 4.3 Problems of development of SEZ in India 4.4 Problems of slum and urban rehabilitation in India	03 03	
3.	Part III Module 11 Philosophy of Geography (Th.) 50 Marks	Unit I: Nature of Geography 1.1 Geography and its relation with other disciplines 1.2 Encyclopaedism, Geographical ideas during ancient period 1.3 Development of Geography during medieval period 1.4 Emergence of scientific ideas in Modern Geography <u>Unit II: Basic Concepts</u> 2.1 Ideographic and Nomothetic approaches 2.2 Man-Environment relation 2.3 Location, time and space 2.4 Areal differentiation and Spatial organization Unit III: Modern Thoughts 3.1 Empiricism 3.2 Positivism 3.3 Environmental determinism 3.4 Possibilism Unit IV: Contemporary Thoughts 4.1 Structuralism	02 03 03 04 03 03 03 04 02 02 05 03 02	K.R K.R K.R K.R

		4.2 Quantitative Revolution 4.3 Radicalism 4.4 Humanistic and Behavioural Approaches	04 03 04	
4.	Part III Module 12 Contemporary Issues in Geography (Th.) 50 Marks	Unit I: Climatic and Biotic Hazards in the Indian Sub –continent 1.1 Concept of hazards and disaster: Natural, quasi-natural and man-made hazards 1.2 Seasonal climatic hazards: Flood, and drought—mechanism, environmental impact and management 1.3 Occasional climatic hazards: Hailstorm and tornadoes-mechanism, environmental impact and management 1.4 Biotic hazards: Deforestation and loss of bio-diversity-impact and conservation of biotic resource Unit II: Other Terrestrial Hazards in the Indian Sub-continent 2.1 Edaphic hazards: Salinization and Desertification-mechanism, impact and management 2.2 Geomorphic hazards: Landslide, River bank erosion and Coastal erosion--mechanism, impact and management	02 04 03 03 03 06 02	P.D.G P.D.G

		2.3 Tectonic hazards: Earthquake--impact and precautionary measures 2.4 Water related hazards: Contamination of ground water and fall of piezometric level Unit III :Human Development in the Third World 3.1 Concept of development and under development; Basic indicators of economic development 3.2 Economic disparity as constraint of development: per capita income, purchasing power and standard of living 3.3 Poverty: Poverty line, Unemployment, Dependency ratio, Work participation and Poverty alleviation 3.4 Economic impact of globalization Unit IV: Human Development in the Third World 4.1 Basic indicators of human and gender development 4.2 Social inequality as constraint of development: caste and religious fundamentalism; gender bias 4.3 Demographic constraint: Population growth, Malnutrition, Food security and Hunger, Morbidity and Mortality 4.5 Sustainable development	03 02 03 04 03 02 03 04 03	P.D.G P.D.G

5.	Part III Module 13 Mapping techniques (Pr.) 50	Unit I: Map Projection (20 Marks) 1.1 Concept, classification and suitability (04 Marks) 1.2 Construction and properties of Zenithal Stereographic Projection(Polar Case) 1.3 Non Perspective Projection: : Simple Conical with one standard parallel, Bonne's, Sinusoidal, Polyconic and Cylindrical Equal Area 1.4Mercator's Projection Unit II: Cartograms: Representation of Population Data (12 Marks) 2.1 Choropleth 2.2 Proportional squares 2.3 Dots and Spheres 2.4 Age-Sex Pyramid Unit III: Thematic Mapping with Climatic and Soil Data (10 Marks) 3.1 Climatic chart 3.2 Ternary diagram 3.3 Diagram with data on soil profile	04 04 12 04 12 10	P.D.G K.R I.S
6.	Part III Module 14 GIS and Remote Sensing (Pr.) 50 Marks	UNIT-1: GIS (10 Marks) 1.1 Georeferencing of scanned maps and satellite images applying reference spheroids (WGS-84 and Everest) and Projections (Universal Transverse Mercator's and Polyconic) 1.2 Digitization of point, line and polygon layers; Attachment of appropriate attribute tables 1.3 Digitization of administrative maps and	16	Z.H

		attachment of attribute tables 1.4 Preparation of thematic maps: Choropleths and maps with Bar and Pie diagrams Unit II: Remote Sensing (10 Marks) 2.1 Principles of Photogrammetry, Types of aerial photographs, Determination of scales of aerial photographs 2.2 Identification of physical and cultural features by fusing two overlapping photographs and their verification with topographical sheets with interpretation. 2.3 Preparation and interpretation of land use/land cover map using three overlapping aerial photographs 2.4 Resolution of satellite sensors with special reference to landsat and IRS series; Preparation of standard false colour composites from Landsat and IRS data; Preparation of land use/land cover map with interpretation. Unit IV: Field Report and Viva Voce (15+10)	14 20	K.D K.D, Z.H & P.D.G
7.	Part III Module 15 Statistical Techniques (Pr.) 50 Marks	UNIT-1: Basic Concepts 1.1 Significance of statistical techniques in Geography, nature of statistical data: discrete, continuous, parametric and non-parametric. 1.2 Sampling techniques : random,	06 02	 K.D

		stratified random and purposive 1.3 Frequency Distribution : Histogram, frequency polygon, ogive, normal and skewed distribution 1.4 Measures of central tendency : mean, median, mode; partition values – quartile, decile and percentile Unit II: Dispersion and Regression 2.1 Measures of dispersion: mean deviation, quartile deviation, standard deviation and Co-efficient of variation. 2.2 Bivariate scatter diagram and regression trend line 2.3 Coefficient of correlation after Karl Pearson 2.4 Time series analysis: Moving average, semi average and least square method	10 10 08 04 04 06	K.D
8.	Part III Module 16 Contemporary Techniques in Geography (Pr.) 50 Marks	Unit I: Natural Hazards and their Management in the Indian Sub-continent (20 Marks) 1.1 Preparation and interpretation of Ombrothermic charts and Rainfall dispersion diagram (based on IMD data) 1.2 Preparation of Station models for different meteorological stations of India with the help of synoptic chart 1.3 Preparation and interpretation of Rating curves, Hydrographs and	06 10 10	K.R I.S P.D.G

		Unit hydrographs of rivers flowing through the Indian sub-continent 1.4 Hazard Mapping: Identification and zoning of the following hazards, collation of maps and their interpretation: i) Meteorological drought ii) Flood iii) River bank erosion Unit II: Economic and Human Development in Third World (20 Marks) 2.1 Computation of Human and Gender Development Index and ranking of countries/states/districts based on HDI and GDI 2.2 Preparation of Questionnaire and Survey schedule for assessment of development and for perception study 2.3 Measures of spatial and size class distribution: i) Dominant distinctive functions ii) Rank size rule iii) Lorenz curve	08 08 04 08	I.S I.S K.R P.D.G

Part I General

Sl no.	Paper/Module	Topic	No. of lecture	Faculty
1.	Part I Module 1 GEOTECTONICS AND GEOMORPHOLOGY (50 Marks)	1.1 Structure of the earth's crust 1.2 Influence of rocks on topography 1.3 Broad outline of plate tectonics and major crustal formations: fold mountains, trenches, island arcs	03 05 12	K.R

		1.4 Development of landforms: Fluvial, Aeolian, glacial, coastal and karst; cycles of erosion	12	Z.H
2.	Part I Module 2 SOCIAL AND ECONOMIC GEOGRAPHY (50 Marks)	2.1 Growth and distribution of world population; Migration: Types, causes and consequences 2.2 Contemporary social issues: literacy, poverty, gender issues 2.3 Sectors of economy: primary, secondary tertiary and quaternary: Changing emphasis through time ; Forms of economy i) Tribal economies: hunting, gathering, shifting cultivation of India. ii) Traditional economies: Intensive subsistence rice farming in India iii) Modern Economies: Commercial grain farming and mixed farming 2.4 Scales of production, small-scale and large scale industries-general characteristics and examples. 2.5 Location, problems and prospects of Indian industries i) Agro-based: Cotton textile industry ii) Forest- based: Paper industry iii) Mineral based: Iron and steel industry	05 05 10 10	K.D P.D.G

Part II General

Sl no.	Paper/Module	Topic	No. of lecture	Faculty
1.	Part II Module 3 CLIMATOLOGY, SOIL AND BIOGEOGRAPHY (50 marks)	4.1 Insolation and Heat Budget; Horizontal and vertical distribution of temperature and pressure; Greenhouse effect 4.2 Monsoon system: its origin and mechanism; Tropical disturbances: thunderstorm and cyclone 4.3 Climatic classification after Koppen 4.4 Origin of soils; Profile development; Concept of zonal, azonal and intrazonal soils 4.5 Properties of soil: Physical and chemical 4.6 Definition of ecosystem and Biomes; Tropical rainforest; Savannah; Hot desert; 4.7 Plant types and distribution (halophyte, xerophytes, hydrophytes and mesophyte); animal communities	05 06 05 05 03 08 03	I.S K.D K.D Z.H Z.H I.S I.S
2.	Part II Module 4 REGIONAL GEOGRAPHY OF INDIA (50 marks)	5.1 Concept of region: formal and functional; scale macro, meso and micro 5.2 Broad physiographic regions of India with special reference to Western Himalayas 5.3 Vagaries of Indian Monsoon and its impact; problems of flood and drought; Forest resources of India: issues concerning deforestation and bio-diversity; Problems of soil erosion and conservation in India 5.4 Regions of India	04 04 06 10	I.S I.S Z.H K.D

		i) Agricultural regions of India: with special reference to Punjab- Haryana wheat belt ii) Industrial regions of India: with special reference to Hooghly Industrial Belt iii) Planning regions of India; with special reference to DVC Region		
3.	Part II Module 5 APPLIED GEOGRAPHICAL TECHNIQUES-I (Pr.) (50 marks)	3.1 Scale: Concept of scale; drawing of linear scale 5 marks 3.2 Statistics: 15 marks i) Nature and classification of data ii) Process of tabulation and graphical representation : histogram, frequency polygon, cumulative frequency curve iii) Measures of central tendency: mean, median and mode 3.3 Map interpretation 22 marks i) Basis of numbering and scale of topographical sheets ii) Interpretation of 1: 50,000 topographical sheets: plain and plateau region and extraction of geographical information from maps, interpretation and explanation with suitable sketches, profiles and transect chart.	04 12 18	I.S K.D Z.H
4.	Part II Module 6 APPLIED GEOGRAPHICAL TECHNIQUES-II (Pr.) (50 marks)	6.1 Map projections: Concept and classification; Simple Conic with One standard Parallel, Cylindrical Equal Area; Polar Zenithal Stereographic. 12 marks	10	P.D.G

		6.2 Cartograms: Bar graphs, simple and compound; proportional divided circles and choropleth. 10 marks 6.3 Project Report: Collection of secondary and primary data on the basis of questionnaire schedule (Mouza Wise/Ward Wise within West Bengal) which must be submitted along with the report. Maps, diagrams and photographs not to exceed 15 pages and text not to exceed 1500 words (Report + viva voce) 12+8= 20 marks	08 16	I.S K.D, Z.H & P.D.G

Part III General

Sl no.	Paper/Module	Topic	No. of lecture	Faculty
1.	Part III Module 7 LAND USE AND SETTLEMENT GEOGRAPHY (50 marks)	7.1 Concept and attributes of land 7.2 Objectives and principles of land use 7.3 Factors influencing land use and land categories i) Agricultural land use ii) Non agricultural land use 7.4 Rural and urban settlements: i) Rural settlements: evolution, nature and characteristics, effect of physical environment; ii) Urban settlements: definition, morphology and functions	02 02 06 12	 P.D.G
2.	Part III Module 8 REMOTE SENSING AND THEMATIC	8.1 Definition of remote sensing, different methods of remote sensing; air photo and satellite imagery	05	

	MAPPING (20 marks)	8.2 Air photo: characteristics, interpretation 8.3 Satellite imagery: Types of satellite imageries, characteristics of IRS imageries 8.4 Definition, objective and principles of thematic mapping (climatic, economic and population)	04 04 06	P.D.G
3.	Part III Module 9 APPLIED GEOGRAPHICAL TECHNIQUES – III (Pr.) (30 marks)	9.1 Preparation of land use maps from cadastral maps based on primary or secondary data 9.2 Preparation of thematic maps: flow diagram and accessibility maps 9.3 Air photo interpretation by pocket stereoscope for identification of broad features	06 08 08	P.D.G

(KD- Smt. Kamalini Dasgupta, ZH—Smt. Zupati Hembram, IS—Dr. Md. Iqbal Sultan, KR—Dr. Krishnakali Roy & PDG—Smt. Poushali Dasgupta)