ACADEMIC CALENDAR

DEPARTMENT OF GEOGRAPHY

Session: 2017- 2018

Year	(Hons/General)	Syllabus Module/Unit	Topic	Teachers	Distribution	Project/ Student Seminar (if any)
PART I	HONOURS	GROUP A: GEOTECTONICS	**PAPER- I**			
			1. Geological timescale	**D.B**	July-October	
			2. Structure of the earth: crust and interior.	**D.B**		
			3. Isostasy: concepts postulated by Pratt and Airy.	**D.B**		
			4. Continental Drift, Sea Floor Spreading.	**D.B**	November-December	
			5. Plate Tectonics as explanation of mountain building, volcanism and earthquakes.	**D.B**	January-March	
		GROUP B: GEOMORPHOLOGY				
			1. Processes of weathering and mass wasting and their impact on landforms	**A.S**	July-October	
			2. Influence of lithology on landforms: Granite and Basaltic landforms.	**A.S**		
			3. Definition and classification of folds and faults.	**A.S**		
			4. Evolution of landforms in Uniclinal, Folded and Faulted Structures.	**A.S**	November-December	
			5. Development of landforms: Fluvial, Glacial, and Coastal.	**A.S**	January-March	

			6. Cyclic and non-cyclic concepts of landscape evolution: Davis, Penck and Hack.	**A.S**		
		GROUP C: HYDROLOGY AND OCEANOGRAPHY				
			1. Global hydrological cycle and its significance.	**O.M**	July-October	
			2. Aspects of runoff, infiltration, evaporation and transpiration, Runoff cycle.	**O.M**		
			3. Factors influencing ground water movement and storage.	**O.M**		
			4. Ocean sediments: origin, classification.	**M.M**	November-December	
			5. Salinity and temperature of ocean water.	**M.M**	January-March	
		GROUP A: ECONOMIC GEOGRAPHY	PAPER- II			
			1. Resource: Concept and classification. Economic and environmental approaches of resource utilisation	**O.M**	July-October	
			2. Different sources of energy resources, production and consumption with special	**O.M**		
			reference to coal, petroleum, solar and wind.	**O.M**		
			3. Characteristic of economies:	**O.M**		
			a) Fishing, b) Agricultural, c) Manufacturing	**O.M**		
			4. Selected production systems:	**A.D.S**	November-December	
			a) Intensive rice farming: India and South East Asia.	**A.D.S**		
			b) Extensive wheat farming: USA and Canada.	**A.D.S**		

			c) Plantation farming: Tea in India and rubber in SE Asia.	**A.C**		
			d) Cotton textile industry: India and USA.	**S.K.D**	January-March	
			e) Iron and Steel industry: India and Japan.	**S.K.D**		
			f) Petrochemical industry: India and USA.	**S.K.D**		
			g) Paper industry: India and Canada.	**S.K.D**		
			5. Economic models:	**S.K.D**		
			a) Agricultural: Von Thunen	**D.B**		
			b) Industrial: A. Weber	**D.B**		
			c) Developmental: S. Myrdal	**D.B**		
		GROUP B: POPULATION GEOGRAPHY				
			1. Concept of Human resources.	**A.D.S**	July-October	
			2. Population structure — a) age and b) sex.	**A.D.S**		
			3. Population composition — a) economic and b) linguistic.	**A.D.S**		
			4. Population distribution and density: World and India.	**A.C**	November-December	
			5. Population growth and its related problems: India and China.	**A.C**	January-March	
			6. Fertility and Mortality.	**A.C**	July-October	
			7. Migration : Types, causes and consequences	**M.M**		
			8. Theories of population growth: a) Malthus, b) Marx, c) Demographic transition	**M.M**		
			9. Concept of optimum population, overpopulation and under-population. Population	**M.M**	November-December	
			explosion and its impact on physical and cultural environment	**M.M**	January-March	

PART II	HONOURS	GROUP A: CLIMATOLOGY	**PAPER III**			
			1. Nature, composition and layering of the atmosphere.	**O.M**	July-October	
			2. Factors affecting insolation & heat budget of the atmosphere.	**O.M**		
			3. Horizontal and vertical distribution of temperature, inversion of temperature.	**O.M**		
			4. Green house effect on global environment, importance of ozone layer.	**M.M**		
			5. Planetary wind system with special reference to tri-cellular model, Rossby Waves, Jet Streams	**M.M**		**January-March**
			6. Genesis of Monsoon and its relation with Jet Stream, El Nino and La Nina.	**M.M**	November-December	
			7. Processes of condensation and mechanism of precipitation: Bergereon-Fiendison, Collision-Coalescence theories. .	**S.K.D**		
			8. Tropical and mid latitude cyclones.	**A.C**	January-March	
			9. Climatic classification after Koppen and Thornthwaite.	**A.C**		
		GROUP B: SOIL GEOGRAPHY				
			1. Soil: Definition, factors and processes of formation.	**A.S**	July-October	
			2. Concept of zonal, azonal and intra-zonal soils, profile development under different conditions	**A.S**		
			– Podzols, Chernozems and Laterites.	**A.S**		
			3. Physical properties of soil: texture, structure, colour and moisture.	**D.B**	November-December	
			4. Chemical properties of soil: pH and organic matter.	**D.B**	January-March	
			5. Soil erosion: types, factors and management.	**D.B**		

			6. Principles of soil classification: Genetic and Taxonomical – with special reference to India.	**D.B**		
			7. Principles of land classification: USDA	**D.B**		
		GROUP C: BIO-GEOGRAPHY				
			1. Definitions of biosphere and biogeography. Concept of ecosystem – basic ecological	**A.D.S**	July-October	
			principles – ecotone, communities, niche, succession, and habitat.			
			2. Ecosystem and energy: Energy sources, laws of energy exchange, food chains and food web	**A.D.S**		
			3. Concept of Biomes: study of Tropical rainforest, Taiga, Savannah, Desert, Tundra and	**O.M**	November-December	
			Temperate grasslands.		January-March	
			4. Spatial distribution of world fauna.	**A.S**		
			5. Concept of Biodiversity and wildlife conservation in India, Projects and their importance	**A.S**		
			– Project Tiger and Man and Biosphere Programme.	**A.S**		
		APPLIED GEOGRAPHICAL TECHNIQUES	**PAPER IV**			
			1. Scales: Linear, diagonal and vernier, enlargement and reduction of map (10 Marks)	**D.B**	July-October	
			2. Megascopic analysis of minerals and rocks : (10 marks)	**A.D.S**		
			a) Rocks – Granite, Basalt, Dolerite, Shale, Sandstone, Limestone, Conglomerate,	**A.D.S**		
			Slate, Phyllite, Schist, Marble, Quartzite, Gneiss.	**A.D.S**		
			b) Minerals and ores – Talc, Gypsum, Calcite, Mica, Feldspar, Quartz,	**A.D.S**		

			Chalcopyrite, Hematite, Magnetite, Bauxite, Galena.	**A.D.S**		
			3. Interpretation of topographical maps of Plateau region with R.F 1: 50,000: (20 marks)	**A.S**	November-December	
			a) Demarcation of drainage basin (not more than 4th order, based on Strahler)	**A.S**		
			b) Construction of profiles: superimposed, projected, composite and long profile of	**A.S**		
			river (length of the river not more than 10 km).	**A.S**		
			c) The morphometric analysis to be done in 10 X 12cm grid	**A.S**		
			i Drainage density (to be shown by isopleth)	**A.S**		
			ii Average slope (Wentworth's method to be shown by isopleth)	**A.S**		
			iii Relative Relief (to be shown by isopleth)	**A.S**		
			d) Road density (to be shown gridwise).	**A.S**		
			e) Interpretation of relief, drainage and vegetation characteristics.	**A.S**	January-March	
			f) Interpretation of settlement, transport and communication systems.	**A.S**		
			g) Relationship between physical and cultural elements (Transect Chart, not more	**A.S**		
			than 8 km).			
			4. Cartograms and thematic mapping : (10 Marks)			
			a) Choropleth showing density of population	**O.M**		
			b) Dots and Spheres diagram showing distribution of rural and urban population.	**O.M**		
			c) Proportional pie-diagrams representing economic data and landuse data.	**O.M**		

			5. Projections: (20 Marks)			
			a) Concept, classification, constructions and suitability	A.C	July-October	
			b) Construction and properties of:			
			Zenithal Gnomonic and Stereographic (Polar Case), Simple Conic (with one standard			
			parallel), Bonne's, Sinusoidal, Polyconic, Cylindrical Equal Area and Mercator's	A.S		
			Projections.			
			6. Survey: (20 Marks)		November-December	
			a) Closed traverse survey by Prismatic Compass.	D.B		
			b) Levelling by Dumpy Level with at least one change point: Drawing of profile and	D.B	January-March	
			determination of gradient.			

PART III	**HONOURS**	**GROUP A: SOCIAL, CULTURAL AND POLITICAL GEOGRAPHY**	**PAPER V**			
			Social and Cultural Geography			
			1. Concept of culture and its components with special emphasis on India: language, religion and	O.M	July-October	
			ethnicity.			
			2. Social geography of rural India: caste structure and social stratification; tribe – Santhals and	O.M		
			Lepcha.			
			3. Urban social Geography — Social ecology and social space.	M.M		
			4. Rural settlements – its forms, site and situations.	M.M	November-December	
			Urban settlement – morphology and hierarchy.	M.M		
			Political Geography			
			5. Concept of Political Geography and geo-politics; concept of frontier and boundary	D.B		

			6. Concept of cold war; bi-polarisation and unipolarisation.	**D.B**	January-March	
			7. Political geography of India: Administrative settings of India, problem of border states,	**A.S**		
			partition and its geo-political implications.	**A.S**		
		GROUP B: REGIONAL GEOGRAPHY				
			1. Concepts of regions; basis of regionalization with reference to India physical, economic and planning.	**A.C**	July-October	
			2. a) Physiographic Regions of India with special reference to Kashmir Himalaya	**A.C**	November-December	
			b) Agricultural Region of India of India with special reference to Punjab-Haryana			
			c) Industrial Region of India with special reference to Mumbai-Pune industrial belt	**S.K.D**	January-March	
			3. Regional disparities in India: causes and implications	**S.K.D**		
			PAPER VI			
		GROUP A: PHILOSOPHY OF GEOGRAPHY				
			1. Definition and nature of Geography.	**A.C**	July-October	
			2. Selected contributors in the evolution of geographical thought Humboldt, Vidal de la	**A.S**		
			Blache, Carl Sauer and David Harvey	**A.C**		
			3. Major postulates: Determinism, Possibilism, Regional differentiation, location, time and	**A.C**	November-December	
			space.	**A.C**		

			4. Changing approaches and methodology: Positivism, Quantitative Revolution, Welfare-	**A.C**	January-March	
			Behavioural approach, Structural and radical approach	**A.C**		
		GROUP B: CONTEMPORARY ISSUES IN GEOGRAPHY				
			Section -1: Natural hazards and their management in the Indian Sub-continent:		July-October	
			5. Concept of hazards and disasters: Natural, quasi-natural and man-made hazards, different	**A.S**		
			approaches in hazard management.	**A.S**		
			6. Climatic hazards: Flood, drought and cyclone mechanism – environmental impact and	**A.S**	November-December	
			management.	**A.S**		
			7. Geomorphic hazards: landslide, river bank erosion, coastal erosion environmental impact	**A.S**		
			and management.			
			8. Edaphic and biotic hazards: Deforestation, desertification, loss of bio-diversity — environmental impact and management.	**M.M**	January-March	
			Section-2: Economic and human development in the Third World		July-October	
			9. Concept of third world, concept of development and under development: Basic indicators of economic, human and gender development.	**A.C**		
			10. Problems of third world – Poverty, Population explosion, food security and hunger,	**A.C**	November-December	

			unemployment, malnutrition and child labour.			
			11. Globalization and sustainable development.	**A.C**	January-March	
			12. Problem of urbanization.			
		APPLIED GEOGRAPHICAL TECHNIQUES	**PAPER VII**			
			13. Interpretation of geological maps and drawing of sections: Uniclinal, folds with unconformity and igneous intrusions (20 marks)	**A.S**	July-October	
			14. Interpretation of Indian Daily Weather Maps – Monsoon and Post Monsoon. (15 marks)	**D.B**		
			15. Remote Sensing (15 marks)			
			a. Basic concept of remote sensing, EMR, Band	**S.K.D**		
			b. Types of satellites and sensors with special reference to IRS series of satellites;	**S.K.D**		
			types of resolutions and their applicability	**S.K.D**		
			c. Principles of preparing standard false colour composite, landuse and land cover	**S.K.D**		
			mapping from standard FCC with header information.	**S.K.D**		
			d. Interpretation of aerial photograph – basic principles of aerial photography, side	**D.B**	November-December	
			lap, end lap, flight line, air base, fudicial marks, .Principle Point, Nadir Point,	**D.B**		
			Conjugate Principal Point,	**D.B**		
			e. Preparation of aerial photo mosaics, demarcation of effective area, extraction of	**D.B**		

			cultural and physiographic features within this area with preparation of interpretation key.	**D.B**		
			16. Geographical Information System. (15 marks)	**D.B**	January-March	
			a. Concept of GIS and its applicability: Spatial and attribute data, raster and vector	**D.B**		
			data structure and concept of information layers in GIS.	**D.B**		
			b. Georeferencing of scanned maps and ascribing projection (Polyconic/ UTM)	**D.B**		
			c. Digitisation of point, line and polygon layers; Attachment of appropriate attribute tables.	**D.B**		
			d. Preparation of thematic maps from attached data: choropleth, pie chart and bar graphs.	**D.B**		
			17. Field Report	**A.D.S A.S**	July-March	**Project**
			PAPER VIII			
		Group-A: Statistical Techniques	1. Nature of statistical data: discrete, continuous, parametric and non-parametric data.	**A.D.S**	July-October	
			2. Tabulation and classification of statistical data.	**A.D.S**		
			3. Frequency distribution: histogram, frequency polygon, ogive, normal and skewed	**A.D.S**		
			distribution, measures of skewness.	**A.D.S**		
			4. Measures of central tendency: mean, median, mode, partition values : quartile, decile, percentile.	**A.D.S**	November-December	

			5. Measures of dispersion: mean deviation, quartile deviation, semi-quartile range, standard	**A.D.S**	January-March	
			deviation and co-efficient of variation.	**A.D.S**		
		Group-B: Contemporary issues in Geography (50Marks)				
			Section-A : Representation of climatic and hydrological data of the Indian Sub-continent.			
			1. a) Preparation and Interpretation of a climatic chart showing relationship between rainfall,	**A.S**	July-November	
			temperature, pressure and relative humidity of a station for three months, preparation and	**A.S**		
			interpretation of Taylor's Climograph and Hythergraph.	**A.S**		
			b) Preparation of station models for different meteorological stations of India with the help of Synoptic chart.	**A.S**	December-March	
			2. Preparation and interpretation of rating curves, hydrographs and unit hydrographs of rivers flowing through the Indian Sub-continent.	**A.S**		
			Section-B: Economic and Human Development in Third World.			
			3. Computation of Human and Gender Development Index and ranking of	**A.C**	July-October	
			countries/states/districts based on HDI and GDI.	**A.C**		
			4. Preparation of questionnaire schedule for assessment of development and for perception survey.	**A.C**	November-December	
			5. Measures of Spatial and size-class distribution.	**A.C**	January-March	

			6. a) Dominant-distinctive function.	**A.C**		
			b) Rank-size rule.	**A.C**		
			c) Lorenz curve.	**A.C**		

Year	(Hons/General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
Part I			**Paper I**				
	General	**Group A: Geomorphology**	**1. Structure of the earth**		**SKD**	**July-August**	
			2. Influence of rocks on topography: Limestone and Granite		**SKD**	**July-August**	
			3. Broad outline of plate tectonics and major crustal formations – fold mountains, trenches and island arcs		**SKD**	**September**	
			4. Evolution of landforms under fluvial process, Normal Cycle of Erosion.		**SKD**	**October-November**	
			5. Processes of formation of erosional and depositional landforms: coastal and aeolian		**SKD**	**December - January**	
		Group B: Climatology	**1. Insolation and Heat Budget.**		**AC**	**July-August**	
			2. Horizontal and Vertical distribution of temperature and pressure.		**AC**	**July-August**	
			3. Greenhouse effect.		**AC**	**September**	

			4. Atmospheric disturbances: Tropical and Mid-latitude cyclones.		AC	October-November	
			5. Characteristics of Monsoonal rainfall		AC	December - January	
			6. Climatic classification after Kőppen.		AC	January	
		Group C: Biogeography	1. Factors of soil formation.		AC	July-August	
			2. Development of an ideal soil profile and eluviation and illuviation		AC	July-August	
			3. Properties of soil: Physical (texture, structure) and Chemical (pH, organic matter).		AC	September	
			4. Concept of zonal, azonal and intrazonal soils		AC	October-November	
			5. Concept of Ecosystem and Biomes – i) Tropical Rainforest, ii) Hot Desert		AC	December - January	
			6. Plant types and distribution (Halophite, Xerophytes, Hydrophite, Mesophite)		AC	January	
			Paper II				
Part II	**General**	Group A: Population and Social Geography	1. Factors of growth and distribution of world population.		DB	July-August	
			2. Fertility, mortality and age-sex structure of population with reference to India.		DB	July-August	
			3. Migration: Types, causes and consequences.		DB	September	
			4. Contemporary Social issues: Literacy and poverty.		DB	October-November	

		Group B: Economic Geography	1. Sectors of the economy: primary, secondary, tertiary and quaternary: Changing emphasis through time		AC	July-August	
			2. Types of agriculture:		AC	July-August	
			a) Shifting cultivation of India.		AC	September	
			b) Intensive subsistence rice farming in India.		AC	October-November	
			c) Plantation farming in India:Tea and Coffee		AC	October-November	
			3. Scales of production: cottage, small scale and large-scale industries — general characteristics and examples		AC	December - January	
			4. Location, problems and prospects of Indian industries		AC	December - January	
			a) Cotton textile industry.		AC	January	
			b) Heavy engineering industry: locomotive.		AC	January	
			c) Petroleum refining industry		AC	January	
		GROUP-C: Regional Geography And Environmental Issues Of India	1. Regions of India:		DB		
			a) Concept of regions: formal and functional		DB	July-August	
			b) Broad physiographic regions of India: special reference to Deccan Trappe		DB	July-August	
			c) Agricultural Regions of India: special reference to Punjab-Haryana wheat belt,		DB	September	
			d) Industrial Regions of India: special reference to Asansol-Durgapur industrial belt.		DB	October-November	
			2. Indian monsoon and its impact: problem of flood, drought and cyclone.		DB	October-November	

			3. Forest resources of India: issues concerning deforestation and social forestry.		DB	December - January	
			4. Causes and consequences of soil erosion in India.		DB	December - January	
			Paper III				
		GROUP-A: CARTOGRAPHY	1. Scales: Concept of scales, drawing of linear scales.		AC	July-September	
			2. Projections: Concept and major classification. Construction may be done graphically or		AS	July-August	
			a) Simple conic with one standard parallel		AC	August	
			b) Cylindrical Equal Area		SKD	September	
			c) Polar Zenithal Gnomonic.		SKD	September	
			3. Cartograms: Choropleth, pie-graphs and square diagrams with proportional scales.		OM	October-November	
		GROUP-B: Map Interpretation	1. Basis of numbering and scale of Survey of India Topographical sheets.		OM	October-November	
			2. Interpretation of 1:50,000 topographical sheets under the following heads:		OM	November	
			I. Interpretation of relief and drainage from topographical maps with profiles and sketches.		OM	December - January	
			II. Interpretation of communication and settlement from topographical maps with sketches.		OM	December - January	

			III. Relationship between physical and cultural features with the help of transect chart.		OM	December - January	
		GROUP-C: Statistics	1. Nature and classification of data.		OM	July-September	
			2. Process of tabulation and graphical representation: histogram, frequency polygon, cumulative		OM	July-August	
			frequency curve.		OM	August	
			3. Measures of central tendency: mean, median and mode.		OM	September	
		GROUP-D: FIELD REPORT	Field Report on either a rural mouza or an urban ward (to be conducted during field excursion)		AS AC	October-November	Project

Part III	General		Paper IV				
			Section I: Land use and settlement Geography (30 Marks)				
		GROUP- A: THEORITICAL APPLIED GEOGRAPHY	1. Concept and attributes of land.		OM	July-September	
			2. Objectives and principles of land use.		OM	July-August	
			3. Factors influencing land use and land categories:		OM	August	
			a) Agricultural land use.		OM	September	
			b) Non-agricultural landuse.		OM	September	

			4. Rural settlements: evolution, nature and effect of physical environment,		OM	October-November	
			5. Urban settlements: definition, morphology and function.		OM	October-November	
			Section II: Remote Sensing and Geographical Information System		SKD	July-September	
			1. Concept of Remote Sensing, different methods of remote sensing – aerial photo and satellite imagery.		SKD	July-September	
			2. Aerial Photo: Types and interpretation keys; concept of principal point, fudicial marks, flight line, photo		SKD	December - January	
			overlap.				
			3. IRS images: Sensors, different types of resolution and their applicability.		SKD	December - January	
			4. Concept of GIS and its applicability: Spatial and attribute data, raster and vector data structure and concept of GIS		SKD	December - January	
		GROUP- A: PRACTICAL APPLIED GEOGRAPHY	1. Interpretation of Daily Weather Maps published by India Meteorological Department – Monsoon Season		DB	July-January	
			2. Preparation of thematic maps:				
			i) Flow diagram and ii) Determination of Detour Index		AC	September-October	

			3. Aerial photo interpretation for identification of broad physical and cultural features. (7 Marks)		**SKD**	**November-January**	

Semester	(Hons /General)	Internal Assessment (Tentative time)	University Examination
Part II	Hons./ General	Test Exam- 2nd week of January, 2019	May, 2019 (Tentative)
Part II	Hons./ General	Test Exam- 2nd week of January, 2019	April, 2019 (Tentative)
Part III	Hons./ General	Test Exam- 2nd week of January, 2019	March, 2019 (Tentative)

ACADEMIC CALENDAR

Department of GEOGRAPHY

Session: 2018- 2019

Semester	(Hons /General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
For ODD Semesters							
SEMESTER I	Honours	**Paper Code: GEOACOR01T**					
		Unit I: Geotectonic	Earth's tectonic and structural evolution with reference to geological time scale.	60	D.B	July- August	
			Earth's interior with special reference to seismology.		A.C	July- August	
			Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots.		O.M	August-September	
		Unit II: Geomorphology	Degradational processes: Weathering, mass wasting and resultant landforms.		A.S	August-September	
			Development of river network and landforms on folded structures.		A.D.S	September-October	
			Glacial and glacio-fluvial processes and landforms.		M.M	October-November	
			Aeolian and fluvio-aeolian processes and landforms.		A.D.S	October-November	
			Models on landscape evolution: Views of Davis and Hack		S.K	December-January	

		Paper Code: GEOACOR01P				
		Geotectonic& Geomorphology Lab.	Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, galena, hematite, mica, quartz, tourmaline; and (b) rock samples: Granite, basalt, laterite, sandstone, conglomerate, slate, phyllite, schist, gneiss, marble	60	A.D.S	July-January	
			Interpretation of geological maps with unconformity and intrusions on uniclinal structure		A.S	July-January	
		Paper Code: GEOACOR02T					
		Cartographic Techniques	Maps: Classification and types. Components of a map	60	M.M	July- August	
			Concept and application of scales: Plain, comparative and diagonal		D.B	Septembe rto November	
			Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps		A.S	Septembe rto November	
			Coordinate systems: Polar and rectangular		D.B	November -December	
			Concept of generating globe and UTM projection		A.D.S	December -January	
			Map projections: Classification, properties and uses		S.K & A.C	December -January	
		Paper Code: GEOACOR02P					
			Graphical construction of scales: Plain, comparative and diagonal		D.B	Septembe rto November	

		Cartographic Techniques	Construction of projections: Polar Zenithal Stereographic, Bonne's, Cylindrical Equal Area, and Mercator's	60	A.C, S.K & A.D.S	November-December	
			Delineation of drainage basin from Survey of India topographical map, relative relief map, slope map (Wentworth), and stream ordering (Strahler) on a drainage basin.		A.S	December-January	
			Correlation between physical and cultural features from Survey of India topographical maps using transect chart.		O.M	December-January	

		For EVEN Semesters					
		Paper Code: GEOACOR03T					
		Unit I: Nature and Principles	Nature, scope and recent trends. Elements of Human Geography	90	S.K	February	
			Approaches to Human Geography; Environmental		S.K	February	
			Concept and classification of race		S.K	March	
			Cultural regions (language and religion)		S.K	March	
		Unit II: Society, Demography and Ekistics	Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming and industrial society		M.M	February	
			Human adaptation to environment: Masai		M.M	February-March	

Semester II	**Honours**		Population growth and distribution, demographic transition		M.M, A.D. S	March	
			Types and patterns of rural settlements		O.M	March-April	
			Morphology of urban settlements		O.M	April	
		Paper Code: GEOACOR04T					
		Cartograms and Thematic Mapping	Concepts of rounding, scientific notation, logarithm and anti-logarithm, natural and log scales	60	D.B	February-March	
			Diagrammatic representation of data: Line, Bar, Isopleths		A.S	March	
			Representation of socio-economic data: Dots and spheres, proportional circles and Choropleth		A.S	March-April	
			Bearing: Magnetic and true, whole-circle and reduced		A.D. S	February	
			Basic concepts of surveying and survey equipment: Prismatic Compass, Dumpy Level, Theodolite		D.B	March-May	
		Paper Code: GEOACOR04P					
		Cartograms and Thematic Mapping lab	Thematic maps:	60			
			– Choropleth showing density of population		A.S	February	
			– Dots and Spheres diagram showing distribution of rural and urban population.		A.S	March	
			– Proportional pie-diagrams representing economic data and land use data		A.S	March	

			Traverse survey using prismatic compass, Profile survey using dumpy Level		D.B	March-May	

Year	(Hons/General)	Syllabus Module/Unit	Topic	Teachers	Distribution	Project/ Student Seminar (if any)
PART II	HONOURS	GROUP A: CLIMATOLOGY	**PAPER III**			
			1. Nature, composition and layering of the atmosphere.	**O.M**	July-October	
			2. Factors affecting insolation & heat budget of the atmosphere.	**O.M**		
			3. Horizontal and vertical distribution of temperature, inversion of temperature.	**O.M**		
			4. Green house effect on global environment, importance of ozone layer.	**M.M**		
			5. Planetary wind system with special reference to tri-cellular model, Rossby Waves, Jet Streams	**M.M**	January-March	
			6. Genesis of Monsoon and its relation with Jet Stream, El Nino and La Nina.	**M.M**	November-December	
			7. Processes of condensation and mechanism of precipitation: Bergereon-Fiendison, Collision-Coalescence theories. .	**S.K.D**		
			8. Tropical and mid latitude cyclones.	**A.C**	January-March	
			9. Climatic classification after Koppen and Thornthwaite.	**A.C**		
		GROUP B:				

			1. Soil: Definition, factors and processes of formation.	**A.S**	July-October	
			2. Concept of zonal, azonal and intra-zonal soils, profile development under different conditions	**A.S**		
			– Podzols, Chernozems and Laterites.	**A.S**		
			3. Physical properties of soil: texture, structure, colour and moisture.	**D.B**	November-December	
			4. Chemical properties of soil: pH and organic matter.	**D.B**	January-March	
			5. Soil erosion: types, factors and management.	**D.B**		
			6. Principles of soil classification: Genetic and Taxonomical – with special reference to India.	**D.B**		
			7. Principles of land classification: USDA	**D.B**		
		GROUP C: BIO-GEOGRAPHY				
			1. Definitions of biosphere and biogeography. Concept of ecosystem – basic ecological principles – ecotone, communities, niche, succession, and habitat.	**A.D.S**	July-October	
			2. Ecosystem and energy: Energy sources, laws of energy exchange, food chains and food web	**A.D.S**		
			3. Concept of Biomes: study of Tropical rainforest, Taiga, Savannah, Desert, Tundra and Temperate grasslands.	**O.M**	November-December	
			4. Spatial distribution of world fauna.	**A.S**	January-March	
			5. Concept of Biodiversity and wildlife conservation in India, Projects and their importance	**A.S**		
			– Project Tiger and Man and Biosphere Programme.	**A.S**		

		APPLIED GEOGRAPHICAL TECHNIQUES	**PAPER IV**			
			1. Scales: Linear, diagonal and vernier, enlargement and reduction of map (10 Marks)	**D.B**	July-October	
			2. Megascopic analysis of minerals and rocks : (10 marks)	**A.D.S**		
			a) Rocks – Granite, Basalt, Dolerite, Shale, Sandstone, Limestone, Conglomerate,	**A.D.S**		
			Slate, Phyllite, Schist, Marble, Quartzite, Gneiss.	**A.D.S**		
			b) Minerals and ores – Talc, Gypsum, Calcite, Mica, Feldspar, Quartz,	**A.D.S**		
			Chalcopyrite, Hematite, Magnetite, Bauxite, Galena.	**A.D.S**		
			3. Interpretation of topographical maps of Plateau region with R.F 1: 50,000: (20 marks)	**A.S**	November-December	
			a) Demarcation of drainage basin (not more than 4th order, based on Strahler)	**A.S**		
			b) Construction of profiles: superimposed, projected, composite and long profile of	**A.S**		
			river (length of the river not more than 10 km).	**A.S**		
			c) The morphometric analysis to be done in 10 X 12cm grid	**A.S**		
			i Drainage density (to be shown by isopleth)	**A.S**		
			ii Average slope (Wentworth's method to be shown by isopleth)	**A.S**		
			iii Relative Relief (to be shown by isopleth)	**A.S**		
			d) Road density (to be shown gridwise).	**A.S**		
			e) Interpretation of relief, drainage and vegetation characteristics.	**A.S**	January-March	

			f) Interpretation of settlement, transport and communication systems.	**A.S**		
			g) Relationship between physical and cultural elements (Transect Chart, not more	**A.S**		
			than 8 km).			
			4. Cartograms and thematic mapping : (10 Marks)			
			a) Choropleth showing density of population	**O.M**		
			b) Dots and Spheres diagram showing distribution of rural and urban population.	**O.M**		
			c) Proportional pie-diagrams representing economic data and landuse data.	**O.M**		
			5. Projections: (20 Marks)			
			a) Concept, classification, constructions and suitability	**A.C**	July-October	
			b) Construction and properties of:			
			Zenithal Gnomonic and Stereographic (Polar Case), Simple Conic (with one standard			
			parallel), Bonne's, Sinusoidal, Polyconic, Cylindrical Equal Area and Mercator's	**A.S**		
			Projections.			
			6. Survey: (20 Marks)		November-December	
			a) Closed traverse survey by Prismatic Compass.	**D.B**		
			b) Levelling by Dumpy Level with at least one change point: Drawing of profile and	**D.B**	January-March	
			determination of gradient.			
PART III	**HONOURS**	**GROUP A: SOCIAL, CULTURAL AND POLITICAL GEOGRAPHY (60**	**PAPER V**			
			Social and Cultural Geography			
			1. Concept of culture and its components with special emphasis on India: language, religion and	**O.M**	July-October	

			ethnicity.			
			2. Social geography of rural India: caste structure and social stratification; tribe – Santhals and Lepcha.	**O.M**		
			3. Urban social Geography — Social ecology and social space.	**M.M**		
			4. Rural settlements – its forms, site and situations.	**M.M**	November-December	
			Urban settlement – morphology and hierarchy.	**M.M**		
			Political Geography			
			5. Concept of Political Geography and geo-politics; concept of frontier and boundary	**D.B**		
			6. Concept of cold war; bi-polarisation and unipolarisation.	**D.B**	January-March	
			7. Political geography of India: Administrative settings of India, problem of border states,	**A.S**		
			partition and its geo-political implications.	**A.S**		
		GROUP B: REGIONAL GEOGRAPHY (40 Marks)				
			1. Concepts of regions; basis of regionalization with reference to India physical, economic and planning.	**A.C**	July-October	
			2. a) Physiographic Regions of India with special reference to Kashmir Himalaya	**A.C**	November-December	
			b) Agricultural Region of India of India with special reference to Punjab-Haryana			
			c) Industrial Region of India with special reference to Mumbai-Pune industrial belt	**S.K.D**	January-March	
			3. Regional disparities in India: causes and implications	**S.K.D**		

			PAPER VI			
		GROUP A: PHILOSOPHY OF GEOGRAPHY (40 MARKS)				
			1. Definition and nature of Geography.	**A.C**	July-October	
			2. Selected contributors in the evolution of geographical thought Humboldt, Vidal de la	**A.S**		
			Blache, Carl Sauer and David Harvey	**A.C**		
			3. Major postulates: Determinism, Possibilism, Regional differentiation, location, time and	**A.C**	November-December	
			space.	**A.C**		
			4. Changing approaches and methodology: Positivism, Quantitative Revolution, Welfare-	**A.C**	January-March	
			Behavioural approach, Structural and radical approach	**A.C**		
		GROUP B: CONTEMPORARY ISSUES IN GEOGRAPHY (60 marks)				
			Section -1: Natural hazards and their management in the Indian Sub-continent:		July-October	
			5. Concept of hazards and disasters: Natural, quasi-natural and man-made hazards, different	**A.S**		
			approaches in hazard management.	**A.S**		
			6. Climatic hazards: Flood, drought and cyclone mechanism – environmental impact and	**A.S**	November-December	
			management.	**A.S**		
			7. Geomorphic hazards: landslide, river bank erosion, coastal erosion environmental impact	**A.S**		
			and management.			

			8. Edaphic and biotic hazards: Deforestation, desertification, loss of bio-diversity — environmental impact and management.	**M.M**	January-March	
			Section-2: Economic and human development in the Third World		July-October	
			9. Concept of third world, concept of development and under development: Basic indicators of economic, human and gender development.	**A.C**		
			10. Problems of third world – Poverty, Population explosion, food security and hunger, unemployment, malnutrition and child labour.	**A.C**	November-December	
			11. Globalization and sustainable development.	**A.C**	January-March	
			12. Problem of urbanization.			
		APPLIED GEOGRAPHICAL TECHNIQUES	**PAPER VII**			
			13. Interpretation of geological maps and drawing of sections: Uniclinal, folds with unconformity and igneous intrusions (20 marks)	**A.S**	July-October	
			14. Interpretation of Indian Daily Weather Maps – Monsoon and Post Monsoon. (15 marks)	**D.B**		
			15. Remote Sensing (15 marks)			
			a. Basic concept of remote sensing, EMR, Band	**S.K.D**		

			b. Types of satellites and sensors with special reference to IRS series of satellites;	**S.K.D**		
			types of resolutions and their applicability	**S.K.D**		
			c. Principles of preparing standard false colour composite, landuse and land cover	**S.K.D**		
			mapping from standard FCC with header information.	**S.K.D**		
			d. Interpretation of aerial photograph – basic principles of aerial photography, side	**D.B**		
			lap, end lap, flight line, air base, fudicial marks, .Principle Point, Nadir Point,	**D.B**		
			Conjugate Principal Point,	**D.B**	November-December	
			e. Preparation of aerial photo mosaics, demarcation of effective area, extraction of	**D.B**		
			cultural and physiographic features within this area with preparation of interpretation key.	**D.B**		
			16. Geographical Information System. (15 marks)	**D.B**		
			a. Concept of GIS and its applicability: Spatial and attribute data, raster and vector	**D.B**		
			data structure and concept of information layers in GIS.	**D.B**		
			b. Georeferencing of scanned maps and ascribing projection (Polyconic/ UTM)	**D.B**	January-March	
			c. Digitisation of point, line and polygon layers; Attachment of appropriate attribute tables.	**D.B**		
			d. Preparation of thematic maps from attached data:	**D.B**		

			choropleth, pie chart and bar			
			graphs.	**D.B**		
			17. Field Report	**A.D.S A.S**	July-March	**Project**
			PAPER VIII			
		Group-A: Statistical Techniques (50 Marks)				
			1. Nature of statistical data: discrete, continuous, parametric and non-parametric data.	**A.D.S**	July-October	
			2. Tabulation and classification of statistical data.	**A.D.S**		
			3. Frequency distribution: histogram, frequency polygon, ogive, normal and skewed	**A.D.S**		
			distribution, measures of skewness.	**A.D.S**		
			4. Measures of central tendency: mean, median, mode, partition values : quartile, decile, percentile.	**A.D.S**	November-December	
			5. Measures of dispersion: mean deviation, quartile deviation, semi-quartile range, standard	**A.D.S**	January-March	
			deviation and co-efficient of variation.	**A.D.S**		
		Group-B: Contemporary issues in Geography (50Marks)				
			Section-A : Representation of climatic and hydrological data of the Indian Sub-continent.			
			1. a) Preparation and Interpretation of a climatic chart showing relationship between rainfall,	**A.S**	July-November	
			temperature, pressure and relative humidity of a station for three months, preparation and	**A.S**		
			interpretation of Taylor's Climograph and Hythergraph.	**A.S**		

		b) Preparation of station models for different meteorological stations of India with the help of Synoptic chart.	**A.S**	December-March	
		2. Preparation and interpretation of rating curves, hydrographs and unit hydrographs of rivers flowing through the Indian Sub-continent.	**A.S**		
		Section-B: Economic and Human Development in Third World.			
		3. Computation of Human and Gender Development Index and ranking of	**A.C**	July-October	
		countries/states/districts based on HDI and GDI.	**A.C**		
		4. Preparation of questionnaire schedule for assessment of development and for perception survey.	**A.C**	November-December	
		5. Measures of Spatial and size-class distribution.	**A.C**	January-March	
		6. a) Dominant-distinctive function.	**A.C**		
		b) Rank-size rule.	**A.C**		
		c) Lorenz curve.	**A.C**		

			Paper II				
Part II	**General**	**Group A: Population and Social Geography**	**1. Factors of growth and distribution of world population.**		**DB**	**July-August**	
			2. Fertility, mortality and age-sex structure of population with reference to India.		**DB**	**July-August**	
			3. Migration: Types, causes and consequences.		**DB**	**September**	
			4. Contemporary Social issues: Literacy and poverty.		**DB**	**October-November**	
		Group B: Economic Geography	**1. Sectors of the economy: primary, secondary, tertiary and quaternary: Changing emphasis through time**		**AC**	**July-August**	
			2. Types of agriculture:		**AC**	**July-August**	
			a) Shifting cultivation of India.		**AC**	**September**	
			b) Intensive subsistence rice farming in India.		**AC**	**October-November**	
			c) Plantation farming in India:Tea and Coffee		**AC**	**October-November**	
			3. Scales of production: cottage, small scale and large-scale industries — general characteristics and examples		**AC**	**December - January**	
			4. Location, problems and prospects of Indian industries		**AC**	**December - January**	
			a) Cotton textile industry.		**AC**	**January**	
			b) Heavy engineering industry: locomotive.		**AC**	**January**	
			c) Petroleum refining industry		**AC**	**January**	
		GROUP-C:REGIONAL	**1. Regions of India:**		**DB**		
			a) Concept of regions: formal and functional		**DB**	**July-August**	

			b) Broad physiographic regions of India: special reference to Deccan Trappe		DB	July-August	
			c) Agricultural Regions of India: special reference to Punjab-Haryana wheat belt,		DB	September	
			d) Industrial Regions of India: special reference to Asansol-Durgapur industrial belt.		DB	October-November	
			2. Indian monsoon and its impact: problem of flood, drought and cyclone.		DB	October-November	
			3. Forest resources of India: issues concerning deforestation and social forestry.		DB	December - January	
			4. Causes and consequences of soil erosion in India.		DB	December - January	
			Paper III				
		GROUP-A:CARTOGRAPHY	1. Scales: Concept of scales, drawing of linear scales.		AC	July-September	
			2. Projections: Concept and major classification. Construction may be done graphically or		AS	July-August	
			a) Simple conic with one standard parallel		AC	August	
			b) Cylindrical Equal Area		SKD	September	
			c) Polar Zenithal Gnomonic.		SKD	September	
			3. Cartograms: Choropleth, pie-graphs and square diagrams with proportional scales.		OM	October-November	
		GROUP-B:MAP INTERPRET	1. Basis of numbering and scale of Survey of India Topographical sheets.		OM	October-November	

			2. Interpretation of 1:50,000 topographical sheets under the following heads:		OM	November	
			I. Interpretation of relief and drainage from topographical maps with profiles and sketches.		OM	December - January	
			II. Interpretation of communication and settlement from topographical maps with sketches.		OM	December - January	
			III. Relationship between physical and cultural features with the help of transect chart.		OM	December - January	
		GROUP-C: STATISTICS	1. Nature and classification of data.		OM	July-September	
			2. Process of tabulation and graphical representation: histogram, frequency polygon, cumulative		OM	July-August	
			frequency curve.		OM	August	
			3. Measures of central tendency: mean, median and mode.		OM	September	
		GROUP-D: FIELD REPORT	Field Report on either a rural mouza or an urban ward (to be conducted during field excursion)		AS AC	October-November	Project
Part III	General		Paper IV				
			Section I: Land use and settlement Geography (30 Marks)				

		GROUP- A: THEORITICAL APPLIED GEOGRAPHY	1. Concept and attributes of land.		OM	July-September	
			2. Objectives and principles of land use.		OM	July-August	
			3. Factors influencing land use and land categories:		OM	August	
			a) Agricultural land use.		OM	September	
			b) Non-agricultural landuse.		OM	September	
			4. Rural settlements: evolution, nature and effect of physical environment,		OM	October-November	
			5. Urban settlements: definition, morphology and function.		OM	October-November	
			Section II: Remote Sensing and Geographical Information System		SKD	July-September	
			1. Concept of Remote Sensing, different methods of remote sensing – aerial photo and satellite imagery.		SKD	July-September	
			2. Aerial Photo: Types and interpretation keys; concept of principal point, fudicial marks, flight line, photo		SKD	December - January	
			overlap.				
			3. IRS images: Sensors, different types of resolution and their applicability.		SKD	December - January	
			4. Concept of GIS and its applicability: Spatial and attribute data, raster and vector data structure and concept of GIS		SKD	December - January	

		GROUP- A: PRACTICAL APPLIED GEOGRAPHY	**1. Interpretation of Daily Weather Maps published by India Meteorological Department – Monsoon Season**		**DB**	**July-January**	
			2. Preparation of thematic maps:				
			i) Flow diagram and ii) Determination of Detour Index		**AC**	**September-October**	
			3. Aerial photo interpretation for identification of broad physical and cultural features. (7 Marks)		**SKD**	**November-January**	

Semester	(Hons /General)	Internal Assessment (Tentative time)	University Examination
I	Hons.	1st Internal Assessment- 2nd Week of September,2018 2nd Internal Assessment-2nd Week of November, 2018	January, 2022 (Tentative)
II	Hons.	1st Internal Assessment-3rd Week of April, 2019 2nd Internal Assessment-2nd Week of May, 2019	July, 2022 (Tentative)
Part II	Hons./ General	Test Exam- 2nd week of January, 2019	April, 2019 (Tentative)

Part III	Hons./ General	Test Exam- 2nd week of January, 2019	March, 2019 (Tentative)

ACADEMIC CALENDAR

DEPARTMENT OF GEOGRAPHY

Session: 2019- 2020

Semester	(Hons /General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
For ODD Semesters							
SEMESTER I	Honours	**Paper Code: GEOACOR01T**					
		Unit I: Geotectonic	Earth's tectonic and structural evolution with reference to geological time scale.	60	D.B	July- August	
			Earth's interior with special reference to seismology.		A.C	July- August	
			Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots.		O.M	August-September	
		Unit II: Geomorphology	Degradational processes: Weathering, mass wasting and resultant landforms.		A.S	August-September	
			Development of river network and landforms on folded structures.		A.D.S	September-October	
			Glacial and glacio-fluvial processes and landforms.		M.M	October-November	
			Aeolian and fluvio-aeolian processes and landforms.		A.D.S	October-November	
			Models on landscape evolution: Views of Davis and Hack		S.K	December-January	

		Paper Code: GEOACOR01P				
		Geotectonic& Geomorphology Lab.	Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, galena, hematite, mica, quartz, tourmaline; and (b) rock samples: Granite, basalt, laterite, sandstone, conglomerate, slate, phyllite, schist, gneiss, marble	60	A.D.S & O.M	July-January
			Interpretation of geological maps with unconformity and intrusions on uniclinal structure		A.S	July-January
		Paper Code: GEOACOR02T				
		Cartographic Techniques	Maps: Classification and types. Components of a map	60	M.M	July- August
			Concept and application of scales: Plain, comparative and diagonal		D.B	Septembe rto November
			Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps		A.S	Septembe rto November
			Coordinate systems: Polar and rectangular		D.B	November -December
			Concept of generating globe and UTM projection		A.D.S	December -January
			Map projections: Classification, properties and uses		S.K & A.C	December -January
		Paper Code: GEOACOR02P				
			Graphical construction of scales: Plain, comparative and diagonal		D.B	Septembe rto November

		Cartographic Techniques	Construction of projections: Polar Zenithal Stereographic, Bonne's, Cylindrical Equal Area, and Mercator's	60	A.C, S.K & A.D.S	November-December	
			Delineation of drainage basin from Survey of India topographical map, relative relief map, slope map (Wentworth), and stream ordering (Strahler) on a drainage basin.		A.S	December-January	
			Correlation between physical and cultural features from Survey of India topographical maps using transect chart.		O.M	December-January	

Paper Code: GEOACOR05T							
SEMESTER III	**Honours**	Unit I: Elements of the Atmosphere	Nature, composition and layering of the atmosphere		O.M	July-August	
			Insolation: controlling factors. Heat budget of the atmosphere		O.M	August-September	
			Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences		D.B	September-October	
			Greenhouse effect and importance of ozone layer		A.C	November-December	
		Unit II: Atmospheric Phenomena and Climatic Classification	Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisen theory		S.K	July-August	

			Air mass: Typology, origin, characteristics and modification		A.S	August-September	
			Weather: stability and instability; barotropic and baroclinic conditions		A.D.S	September-October	
			Circulation in the atmosphere: Planetary winds, jet stream, index cycle		A.D.S	November-December	
			Tropical and mid-latitude cyclones		M.M	November-December	
			Monsoon circulation and mechanism with reference to India		M.M	December - January	
			Climatic classification after Köppen		A.S	December - January	
		Paper Code: GEOACOR05P					
		Climatology	Interpretation of daily weather map of India: Monsoon		D.B	July-December	
			Construction and interpretation of hythergraph and climograph (G. Taylor)		A.S	September-November	
			Construction and interpretation of wind rose		A.D.S	December-January	
		Paper Code: GEOACOR06T					
		Unit I: Geography of India	Physiographic divisions				
			Climate and soil: Characteristics and classification		A.S	July-August	
			Population: Distribution, growth, structure and policy		A.S	August-September	
			Tribes of India with special reference to Toda and Jarwa		O.M	September-October	
			Agricultural regions. Green revolution and its consequences		A.D.S	November-December	

			Mineral and power resources distribution and utilisation of iron ore, coal and petroleum		A.D.S	December-January	
			Industrial development: Automobile and information technology		A.C	December-January	
			Regionalisation of India: Economic (P. Sengupta)		M.M	July-August	
		Unit II: Geography of West Bengal	Physical perspectives: Physiographic divisions, forest and water resources		A.D.S	November-December	
			Resources: Agriculture, mining, and industry		M.M	November-December	
			Population: Growth, distribution and human development		S.K	December - January	
			Regional Issues: Darjeeling Hills and Sundarban		A.C	December - January	
		Paper Code: GEOACOR07T					
		Unit I: Frequency Distribution and Sampling	Importance and significance of statistics in Geography		M.M	July-August	
			Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio)		M.M	August-September	
			Sources of geographical data for statistical analysis		S.K	September-October	
			Collection of data and formation of statistical tables		D.B	November-December	

			Sampling: Need, types, and significance and methods of random sampling		D.B	December-January	
			Theoretical distribution: frequency, cumulative frequency, normal and probability		A.D.S	December-January	
		Unit II: Numerical Data Analysis	Central tendency: Mean, median, mode, partition values		A.S	July-August	
			Measures of dispersion range, mean deviation, standard deviation, coefficient of variation		A.S	August-September	
			Association and correlation: Rank correlation, product moment correlation		A.D.S	September-October	
			Regression: Linear and non-linear		A.D.S	November-December	
			Time series analysis: Moving average		S.K	December - January	
		Paper Code: GEOACOR07P					
		Statistical Methods in Geography (Lab)	Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes		O.M	July- August	
			Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted using histogram and frequency curve		O.M	August-October	

			Based on of the sample set and using two relevant attributes, a scatter diagram and linear regression line would be plotted and residual from regression would be mapped with a short interpretation		A.D.S	November-December	
		Paper Code: GEOSSEC01M					
			Principles of Remote Sensing (RS): Classification of RS satellites and sensors		D.B	July-December	Students prepare a project report
			Sensor resolutions and their applications with reference to IRS image referencing schemes and data acquisition.		D.B		
			Concept of False Colour Composite from IRS LISS-3		D.B		
			Principles of image interpretation and feature extraction. Preparation of inventories of land use land cover features from satellite images.		D.B		

For EVEN Semesters

Paper Code: GEOACOR03T

		Unit I: Nature and Principles	Nature, scope and recent trends. Elements of Human Geography		S.K	February	
			Approaches to Human Geography; Environmental		S.K	February	
			Concept and classification of race		S.K	March	
			Cultural regions (language and religion)		S.K	March	

Semester II		Unit II: Society, Demography and Ekistics	Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming and industrial society	90	M.M	February	
			Human adaptation to environment: Masai		M.M	February-March	
			Population growth and distribution, demographic transition		M.M, A.D. S	March	
			Types and patterns of rural settlements		O.M	March-April	
			Morphology of urban settlements		O.M	April	
		Paper Code: GEOACOR04T					
		Cartograms and Thematic Mapping	Concepts of rounding, scientific notation, logarithm and anti-logarithm, natural and log scales	60	D.B	February-March	
			Diagrammatic representation of data: Line, Bar, Isopleths		A.S	March	
			Representation of socio-economic data: Dots and spheres, proportional circles and Choropleth		A.S	March-April	
			Bearing: Magnetic and true, whole-circle and reduced		A.D. S	February	
			Basic concepts of surveying and survey equipment: Prismatic Compass, Dumpy Level, Theodolite		D.B	March-May	
		Paper Code: GEOACOR04P					
		Cartograms and Thematic Mapping lab	Thematic maps:				

			– Choropleth showing density of population	60	A.S	February	
			– Dots and Spheres diagram showing distribution of rural and urban population.		A.S	March	
			– Proportional pie-diagrams representing economic data and land use data		A.S	March	
			Traverse survey using prismatic compass, Profile survey using dumpy Level		D.B	March-May	
SEMESTER IV	**Honours**	**Paper Code: GEOACOR08T**					
		Unit I: Regional Planning	Concept of regions: Types of regions and their delineation	90	A.C	February	
			Regional Planning: Types, principles, objectives		A.C	February-March	
			Multi- level planning in India		A.C	March	
			Metropolitan concept and urban agglomerations		A.C	April	
		Unit-II: Regional Development	Concepts of growth and development		A.D.S	February	
			Economic, social and environmental		O.M	March	
			Human development: Concept		O.M	April	
			Cumulative causation model for regional development (Myrdal)		D.B	March	
			Concept and causes of underdevelopment		D.B	April	
			Regional development in India: Disparity and diversity		D.B	June	
		GEOACOR09T					

		Unit-I: Concepts	Concepts in Economic Geography: Goods and services, production, exchange and consumption	60	O.M	February	
			Concept of economic man		O.M	March	
			Economic distance and transport costs		O.M	April	
		Unit-II: Economic Activities	Concept and classification of economic activities		A.C	February	
			Factors affecting location of economic activity with special reference to industry (Weber).		A.C	February	
			Secondary activities: Concept of manufacturing regions, special economic zones and technology parks		A.C	March	
			Tertiary activities: Transport and services		M.M	March	
			Agricultural systems: Case studies of tea plantation in India and mixed farming in Europe		A.D. S	April	
			International trade and economic blocks: WTO, GATT and BRICS: Evolution, structure and functions		M.M	May	
	GEOACOR10T						
		Unit-I: Concepts	Concept of holistic environment and systems approach		A.S	February	
			Ecosystem: Concept, structure and functions		A.S	March	
		Unit-II: Environmental problems and policies	Urban environmental issues with special reference to waste management		S.K	March	

			Environmental policies – National Environmental Policy, 2006, Earth Summits (Stockholm, Rio, Johannesburg)	60	S.K	April	
			Global initiatives for environmental management (special reference to Montreal Protocol, Kyoto Protocol, Paris Climate Summit)		S.K	May	
		GEOACOR10P					
		Environmental Geography Lab	Preparation of questionnaire for perception survey on environmental problems	60	A.S	February-March	
			Preparation of check-list for Environmental Impact Assessment of an urban / industrial project		A.C	March-April	
			Interpretation of air quality using CPCB / WBPCB data		D.B	April- May	
		GEOSSEC02M					
		Advance Spatial Statistical Techniques	Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their	30	S.K	February-April	Project prepared by the students
			geographical applications.				
			Sampling: Sampling plans for spatial and non-spatial data, sampling distributions. Sampling estimates for large and small samples tests involving means and proportions.		S.K		

			Correlation and Regression Analysis: Rank order correlation and product moment correlation; linear regression, residuals from regression, and simple curvilinear regression. Introduction to multi-variate analysis.		S.K		
			Time Series Analysis: Time Series processes; Smoothing time series; Time series components.		S.K		

Semester						
PART III	HONOURS	GROUP A: SOCIAL, CULTURAL AND POLITICAL GEOGRAPHY	**PAPER V**			
			Social and Cultural Geography			
			1. Concept of culture and its components with special emphasis on India: language, religion and ethnicity.	**O.M**	July-October	
			2. Social geography of rural India: caste structure and social stratification; tribe – Santhals and Lepcha.	**O.M**		
			3. Urban social Geography — Social ecology and social space.	**M.M**		
			4. Rural settlements – its forms, site and situations.	**M.M**	November-December	
			Urban settlement – morphology and hierarchy.	**M.M**		
			Political Geography			
			5. Concept of Political Geography and geo-politics; concept of frontier and boundary	**D.B**		
			6. Concept of cold war; bi-polarisation and unipolarisation.	**D.B**	January-March	

			7. Political geography of India: Administrative settings of India, problem of border states,	**A.S**		
			partition and its geo-political implications.	**A.S**		
		GROUP B: REGIONAL GEOGRAPHY				
			1. Concepts of regions; basis of regionalization with reference to India physical, economic and planning.	**A.C**	July-October	
			2. a) Physiographic Regions of India with special reference to Kashmir Himalaya	**A.C**	November-December	
			b) Agricultural Region of India of India with special reference to Punjab-Haryana			
			c) Industrial Region of India with special reference to Mumbai-Pune industrial belt	**S.K.D**	January-March	
			3. Regional disparities in India: causes and implications	**S.K.D**		
			PAPER VI			
		GROUP A: PHILOSOPHY OF GEOGRAPHY				
			1. Definition and nature of Geography.	**A.C**	July-October	
			2. Selected contributors in the evolution of geographical thought Humboldt, Vidal de la	**A.S**		
			Blache, Carl Sauer and David Harvey	**A.C**		
			3. Major postulates: Determinism, Possibilism, Regional differentiation, location, time and	**A.C**	November-December	
			space.	**A.C**		
			4. Changing approaches and methodology: Positivism, Quantitative Revolution, Welfare-	**A.C**	January-March	

			Behavioural approach, Structural and radical approach	**A.C**		
		GROUP B: CONTEMPORARY ISSUES IN GEOGRAPHY				
			Section -1: Natural hazards and their management in the Indian Sub-continent:		July-October	
			5. Concept of hazards and disasters: Natural, quasi-natural and man-made hazards, different	**A.S**		
			approaches in hazard management.	**A.S**		
			6. Climatic hazards: Flood, drought and cyclone mechanism – environmental impact and	**A.S**	November-December	
			management.	**A.S**		
			7. Geomorphic hazards: landslide, river bank erosion, coastal erosion environmental impact	**A.S**		
			and management.			
			8. Edaphic and biotic hazards: Deforestation, desertification, loss of bio-diversity —	**M.M**	January-March	
			environmental impact and management.			
			Section-2: Economic and human development in the Third World		July-October	
			9. Concept of third world, concept of development and under development: Basic indicators of	**A.C**		
			economic, human and gender development.			
			10. Problems of third world – Poverty, Population explosion, food security and hunger,	**A.C**	November-December	
			unemployment, malnutrition and child labour.			
			11. Globalization and sustainable development.	**A.C**	January-March	
			12. Problem of urbanization.			

		APPLIED GEOGRAPHICAL TECHNIQUES	**PAPER VII**			
			13. Interpretation of geological maps and drawing of sections: Uniclinal, folds with	**A.S**	July-October	
			unconformity and igneous intrusions (20 marks)			
			14. Interpretation of Indian Daily Weather Maps – Monsoon and Post Monsoon. (15 marks)	**D.B**		
			15. Remote Sensing (15 marks)			
			a. Basic concept of remote sensing, EMR, Band	**S.K.D**		
			b. Types of satellites and sensors with special reference to IRS series of satellites;	**S.K.D**		
			types of resolutions and their applicability	**S.K.D**		
			c. Principles of preparing standard false colour composite, landuse and land cover	**S.K.D**		
			mapping from standard FCC with header information.	**S.K.D**		
			d. Interpretation of aerial photograph – basic principles of aerial photography, side	**D.B**	November-December	
			lap, end lap, flight line, air base, fudicial marks, .Principle Point, Nadir Point,	**D.B**		
			Conjugate Principal Point,	**D.B**		
			e. Preparation of aerial photo mosaics, demarcation of effective area, extraction of	**D.B**		
			cultural and physiographic features within this area with preparation of	**D.B**		
			interpretation key.			
			16. Geographical Information System. (15 marks)	**D.B**	January-March	

			a. Concept of GIS and its applicability: Spatial and attribute data, raster and vector	**D.B**		
			data structure and concept of information layers in GIS.	**D.B**		
			b. Georeferencing of scanned maps and ascribing projection (Polyconic/ UTM)	**D.B**		
			c. Digitisation of point, line and polygon layers; Attachment of appropriate attribute	**D.B**		
			tables.			
			d. Preparation of thematic maps from attached data: choropleth, pie chart and bar	**D.B**		
			graphs.	**D.B**		
			17. Field Report	**A.D.S A.S**	July-March	**Project**
			PAPER VIII			
		Group-A: Statistical Techniques				
			1. Nature of statistical data: discrete, continuous, parametric and non-parametric data.	**A.D.S**	July-October	
			2. Tabulation and classification of statistical data.	**A.D.S**		
			3. Frequency distribution: histogram, frequency polygon, ogive, normal and skewed	**A.D.S**		
			distribution, measures of skewness.	**A.D.S**		
			4. Measures of central tendency: mean, median, mode, partition values : quartile, decile, percentile.	**A.D.S**	November-December	

			5. Measures of dispersion: mean deviation, quartile deviation, semi-quartile range, standard	**A.D.S**	January-March	
			deviation and co-efficient of variation.	**A.D.S**		
		Group-B: Contemporary issues in Geography				
			Section-A : Representation of climatic and hydrological data of the Indian Sub-continent.			
			1. a) Preparation and Interpretation of a climatic chart showing relationship between rainfall,	**A.S**	July-November	
			temperature, pressure and relative humidity of a station for three months, preparation and	**A.S**		
			interpretation of Taylor's Climograph and Hythergraph.	**A.S**		
			b) Preparation of station models for different meteorological stations of India with the help of Synoptic chart.	**A.S**	December-March	
			2. Preparation and interpretation of rating curves, hydrographs and unit hydrographs of rivers	**A.S**		
			flowing through the Indian Sub-continent.			
			Section-B: Economic and Human Development in Third World.			
			3. Computation of Human and Gender Development Index and ranking of	**A.C**	July-October	
			countries/states/districts based on HDI and GDI.	**A.C**		
			4. Preparation of questionnaire schedule for assessment of development and for perception	**A.C**	November-December	
			survey.			

			5. Measures of Spatial and size-class distribution.	**A.C**	January-March		
			6. a) Dominant-distinctive function.	**A.C**			
			b) Rank-size rule.	**A.C**			
			c) Lorenz curve.	**A.C**			
Part III	**General**		**Paper IV**				
			Section I: Land use and settlement Geography (30 Marks)				
		GROUP- A: THEORITICAL APPLIED GEOGRAPHY	**1. Concept and attributes of land.**		**OM**	**July-September**	
			2. Objectives and principles of land use.		**OM**	**July-August**	
			3. Factors influencing land use and land categories:		**OM**	**August**	
			a) Agricultural land use.		**OM**	**September**	
			b) Non-agricultural landuse.		**OM**	**September**	
			4. Rural settlements: evolution, nature and effect of physical environment,		**OM**	**October-November**	
			5. Urban settlements: definition, morphology and function.		**OM**	**October-November**	
			Section II: Remote Sensing and Geographical Information System		**SKD**	**July-September**	
			1. Concept of Remote Sensing, different methods of remote sensing – aerial photo and satellite imagery.		**SKD**	**July-September**	
			2. Aerial Photo: Types and interpretation keys; concept of principal point, fudicial marks, flight line, photo		**SKD**	**December - January**	
			overlap.				

			3. IRS images: Sensors, different types of resolution and their applicability.		**SKD**	**December - January**	
			4. Concept of GIS and its applicability: Spatial and attribute data, raster and vector data structure and concept of GIS		**SKD**	**December - January**	
		GROUP- A: PRACTICAL APPLIED GEOGRAPHY	**1. Interpretation of Daily Weather Maps published by India Meteorological Department – Monsoon Season**		**DB**	**July- January**	
			2. Preparation of thematic maps:				
			i) Flow diagram and ii) Determination of Detour Index		**AC**	**September- October**	
			3. Aerial photo interpretation for identification of broad physical and cultural features. (7 Marks)		**SKD**	**November- January**	

Semester	(Hons /General)	Internal Assessment (Tentative time)	University Examination

I	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
II	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)
III	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
IV	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)

ACADEMIC CALENDAR

DEPARTMENT OF GEOGRAPHY

Session: 2020- 2021

Semester	(Hons /General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
For ODD Semesters							
SEMESTER I	Honours	**Paper Code: GEOACOR01T**					
		Unit I: Geotectonic	Earth's tectonic and structural evolution with reference to geological time scale.	60	D.B	July- August	
			Earth's interior with special reference to seismology.		A.C	July- August	
			Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots.		O.M	August- September	
		Unit II: Geomorphology	Degradational processes: Weathering, mass wasting and resultant landforms.		A.S	August- September	
			Development of river network and landforms on folded structures.		A.D.S	September- October	
			Glacial and glacio-fluvial processes and landforms.		M.M	October- November	
			Aeolian and fluvio-aeolian processes and landforms. Models on landscape evolution: Views of Davis and Hack		A.D.S S.K	October- November December- January	

			Paper Code: GEOACOR01P				
		Geotectonic& Geomorphology Lab.	Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, galena, hematite, mica, quartz, tourmaline; and (b) rock samples: Granite, basalt, laterite, sandstone, conglomerate, slate, phyllite, schist, gneiss, marble	60	A.D.S & O.M	July-January	
			Interpretation of geological maps with unconformity and intrusions on uniclinal structure		A.S	July-January	
			Paper Code: GEOACOR02T				
		Cartographic Techniques	Maps: Classification and types. Components of a map	60	M.M	July- August	
			Concept and application of scales: Plain, comparative and diagonal		D.B	September to November	
			Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps		A.S	September to November	
			Coordinate systems: Polar and rectangular		D.B	November-December	
			Concept of generating globe and UTM projection		A.D.S	December-January	
			Map projections: Classification, properties and uses		S.K & A.C	December-January	

		PaperCode:GEOACOR02P					
			Graphical construction of scales: Plain, comparative and diagonal		D.B	September to November	
		Cartographic Techniques	Construction of projections: Polar Zenithal Stereographic, Bonne's, Cylindrical Equal Area, and Mercator's	60	A.C, S.K & A.D.S	November - December	
			Delineation of drainage basin from Survey of India topographical map, relative relief map, slope map (Wentworth), and stream ordering (Strahler) on a drainage basin.		A.S	December -January	
			Correlation between physical and cultural features from Survey of India topographical maps using transect chart.		O.M	December -January	
Paper Code: GEOACOR05T							
S E M		Unit I: Elements of the Atmosphere	Nature, compositionand layering of the atmosphere		O.M	July-August	
			Insolation: controlling factors. Heat budgetof the atmosphere		O.M	August-Septembe r	
			Temperature: horizontal and verticaldistribution. Inversion of temperature: types,causes and consequences		D.B	September -October	

			Greenhouse effect and importance of ozonelayer		A.C	November - December	
		Unit II: Atmospheric Phenomena and Climatic Classification	Condensation: Processand forms. Mechanismof precipitation: Bergeron-Findeisen theory		S.K	July-August	

			Air mass: Typology, origin, characteristics and modification		A.S	August-September	
			Weather: stability and instability; barotropic and baroclinic conditions		A.D.S	September-October	
			Circulation in the atmosphere: Planetary winds, jet stream, index cycle		A.D.S	November-December	
			Tropical and mid-latitude cyclones		M.M	November-December	
			Monsoon circulation and mechanism with reference to India		M.M	December - January	
			Climatic classification after Köppen		A.S	December - January	
		Paper Code: GEOACOR05P					
		Climatology	Interpretation of daily weather map of India: Monsoon		D.B	July-December	
			Construction and interpretation of hythergraph and climograph (G. Taylor)		A.S	September-November	
			Construction and interpretation of wind rose		A.D.S	December-January	
		Paper Code: GEOACOR06T					
		Unit I: Geography of India	Physiographic divisions				
			Climate and soil: Characteristics and classification		A.S	July-August	
			Population: Distribution, growth, structure and policy		A.S	August-September	
			Tribes of India with special reference to Toda and Jarwa		O.M	September-October	
			Agricultural regions. Green revolution and its consequences		A.D.S	November-December	

			Mineral and power resources distribution and utilisation of iron ore, coal and petroleum		A.D.S	December-January	
			Industrial development: Automobile and information technology		A.C	December-January	
			Regionalisation of India: Economic (P. Sengupta)		M.M	July-August	
		Unit II: Geography of West Bengal	Physical perspectives: Physiographic divisions, forest and water resources		A.D.S	November-December	
			Resources: Agriculture, mining, and industry		M.M	November-December	
			Population: Growth, distribution and human development		S.K	December - January	
			Regional Issues: Darjeeling Hills and Sundarban		A.C	December - January	
		Paper Code: GEOACOR07T					
		Unit I: Frequency Distribution and Sampling	Importance and significance of statistics in Geography		M.M	July-August	
			Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio)		M.M	August-September	
			Sources of geographical data for statistical analysis		S.K	September-October	
			Collection of data and formation of statistical tables		D.B	November-December	

			Sampling: Need, types, and significance and methods of random sampling		D.B	December-January	
			Theoretical distribution: frequency, cumulative frequency, normal and probability		A.D.S	December-January	
		Unit II: Numerical Data Analysis	Central tendency: Mean, median, mode, partition values		A.S	July-August	
			Measures of dispersion range, mean deviation, standard deviation, coefficient of variation		A.S	August-September	
			Association and correlation: Rank correlation, product moment correlation		A.D.S	September-October	
			Regression: Linear and non-linear		A.D.S	November-December	
			Time series analysis: Moving average		S.K	December - January	
		Paper Code: GEOACOR07P					
		Statistical Methods in Geography (Lab)	Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes		O.M	July- August	
			Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted using histogram and frequency curve		O.M	August-October	

			Based on of the sample set and using two relevant attributes, a scatter diagram and linear regression line would be plotted and residual from regression would be mapped with a short interpretation		A.D.S	November-December	
		Paper Code: GEOSSEC01M					
			Principles of Remote Sensing (RS): Classification of RS satellites and sensors		D.B	July-December	Students prepare a project report
			Sensor resolutions and their applications with reference to IRS image referencing schemes and data acquisition.		D.B		
			Concept of False Colour Composite from IRS LISS-3		D.B		
			Principles of image interpretation and feature extraction. Preparation of inventories of land use land cover features from satellite images.		D.B		
		Paper Code: GEOACOR11T					
SEMESTER V	**Honours**		Research in Geography: Meaning, types and significance		M.M	July-August	
			Literature review and formulation of research design		A.C	August-September	
			Defining research problem and objectives		A.C	September-October	
			Research materials and methods		A.C	November-December	
			Techniques of writing scientific reports: Preparing notes, references,		M.M	December-January	

			bibliography, abstract and keywords				
			Fieldwork in Geographical studies: Role and significance. Selection of study area and objectives. Pre-field academic preparations. Ethics of fieldwork		A.D.S	July-August	
			Field techniques and tools: Observation (participant, non participant), questionnaires (open, closed, structured, non-structured). Interview		A.D.S	August-September	
			Positioning and collection of samples. Preparation of inventory from field data.		D.B	September-October	
			Post-field tabulation, processing and analysis of quantitative and qualitative data		D.B	November-December	
		Paper Code: GEOACOR11P					
			Literature Review		A.D.S & A.C	August-January	
			Field Report		A.S, D.B, O.M, M.M & S.K	August-January	
		Paper Code: GEOACOR12T					
			Classification of hazards and disasters.		A.D.S	July-August	
			Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms		A.S	August-September	

			Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building.		A.S	September-October	
			Hazards mapping: Data and geospatial techniques (for hazards enlisted in Unit II and Core 12P) (Proposed Workshop		Proposed extension lecture	November-December	
			Earthquake: Factors, vulnerability, consequences and management		O.M	December-January	
			Tropical Cyclone: Factors, vulnerability, consequences and management		M.M		
			Riverbank erosion: Factors, vulnerability, consequences and management		S.K		
			Paper Code: GEOACOR12P				
			An individual Project Report is to be prepared and submitted based on any one case study among the following disasters of West Bengal:		A.D.S, A.S, D.B, A.C, O.M, M.M & S.K	July-January	
			1) Cyclone/ Thunderstorm, 2) Landslide, 3) Flood, 4) Coastal/ riverbank erosion, 5) Fire, 6) Industrial accident, 7) Structural collapse.				
			Paper Code: GEOADSE01T				
			Factors or soil formation. Man as an active agent of soil transformation.		M.M	July- August	

			Soil profile. Origin and profile characteristics of Lateritic and Chernozem soils		O.M	July- August	

			Definition and significance of soil properties: Texture, structure and moisturiser		Collaboration class	August	
			Definition and significance of soil properties: pH, organic matter and NPK		Collaboration class	September	
			Soil erosion and degradation: Factors, processes and mitigation measures		A.S	October-November	
			Principles of soil classification: Genetic and USDA.		A.S	November-December	
			Concepts of biosphere, ecosystem, biome, ecotone, community, niche, succession and ecology		A.D.S	July- August	
			Concepts of trophic structure, food chain and food web.		A.D.S	July- August	
			Geographical extent and characteristic features of: Tropical rain forest and Grassland biomes		M.M	August	
			Bio-geochemical cycles with special reference to carbon dioxide and nitrogen		A.D.S	September	
			Measures for conservation of bio-diversity in India: Man and Biosphere Programme		A.D.S	October-November	
		Paper Code: GEOADSE02T					
			Scope and content of Settlement Geography; rural, urban and peri-urban areas		M.M	July- August	
			Rural Settlement: Definition, nature and characteristics		A.C	August	

			Morphology of rural settlements: site and situation, layout- internal and external		A.D.S	September	
			Rural house types with reference to India, Social segregation in rural areas; Census categories of rural settlements.		A.D.S	October- November	
			Problems and policies related to rural infrastructure with reference to India		O.M	November- December	
			Urban Settlements: Census definition (Temporal) and categories in India		A.S	July- August	
			Urban morphology: Classical models: Burgess, Homer Hoyt, Harris and Ullman Metropolitan concept		A.S	August	
			City-region and Conurbation, Functional classification of cities: Nelson and McKenzie		A.D.S	September	
			Aspects of urban places: Location, site and situation, Size and spacing of cities: the rank size rule, the law of the primate city		S.K	October- November	
			Urban hierarchies: Central Place Theory		S.K	November- December	

		For EVEN Semesters					
		Paper Code: GEOACOR03T					
SEMESTER II	**Honours**	Unit I: Nature and Principles	Nature, scope and recent trends. Elements of Human Geography	90	S.K	February	
			Approaches to Human Geography; Environmental		S.K	February	
			Concept and classification of race		S.K	March	
			Cultural regions (language and religion)		S.K	March	
		Unit II: Society, Demography and Ekistics	Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming and industrial society		M.M	February	
			Human adaptation to environment: Masai		M.M	February-March	
			Population growth and distribution, demographic transition		M.M	March	
			Types and patterns of rural settlements		O.M	March-April	
			Morphology of urban settlements		O.M	April	
		Paper Code: GEOACOR04T					
		Cartograms and Thematic Mapping	Concepts of rounding, scientific notation, logarithm and anti-logarithm, natural and log scales	60	D.B	February-March	
			Diagrammatic representation of data: Line, Bar, Isopleths		A.S	March	
			Representation of socio-economic data: Dots and spheres, proportional circles and Choropleth		A.S	March-April	

			Bearing: Magnetic and true, whole-circle and reduced		D.B	February	
			Basic concepts of surveying and survey equipment: Prismatic Compass, Dumpy Level, Theodolite		D.B	March-May	
		Paper Code: GEOACOR04P					
		Cartograms and Thematic Mapping lab	Thematic maps:	60			
			– Choropleth showing density of population		A.S	February	
			– Dots and Spheres diagram showing distribution of rural and urban population.		A.S	March	
			– Proportional pie-diagrams representing economic data and land use data		A.S	March	
			Traverse survey using prismatic compass, Profile survey using dumpy Level		D.B	March-May	
SEMESTER IV	**H**	**Paper Code: GEOACOR08T**					
		Unit I: Regional Planning	Concept of regions: Types of regions and their delineation	90	A.C	February	
			Regional Planning: Types, principles, objectives		A.C	February-March	
			Multi- level planning in India		A.C	March	
			Metropolitan concept and urban agglomerations		A.C	April	

		Unit-II: Regional Development	Concepts of growth and development		A.C	February	

			Economic, social and environmental		O.M	March	
			Human development: Concept		O.M	April	
			Cumulative causation model for regional development (Myrdal)		D.B	March	
			Concept and causes of underdevelopment		D.B	April	
			Regional development in India: Disparity and diversity		D.B	June	
		GEOACOR09T					
		Unit-I: Concepts	Concepts in Economic Geography: Goods and services, production, exchange and consumption		O.M	February	
			Concept of economic man		O.M	March	
			Economic distance and transport costs		O.M	April	
		Unit-II: Economic Activities	Concept and classification of economic activities	60	A.C	February	
			Factors affecting location of economic activity with special reference to industry (Weber).		A.C	February	
			Secondary activities: Concept of manufacturing regions, special economic zones and technology parks		A.C	March	
			Tertiary activities: Transport and services		M.M	March	
			Agricultural systems: Case studies of tea plantation in India and mixed farming in Europe		M.M	April	
			International trade and economic blocks: WTO, GATT and BRICS: Evolution, structure and functions		M.M	May	

		GEOACOR10T					
		Unit-I: Concepts	Concept of holistic environment and systems approach	60	A.S	February	
			Ecosystem: Concept, structure and functions		A.S	March	
		Unit-II: Environmental problems and policies	Urban environmental issues with special reference to waste management		S.K	March	
			Environmental policies – National Environmental Policy, 2006, Earth Summits (Stockholm, Rio, Johannesburg)		S.K	April	
			Global initiatives for environmental management (special reference to Montreal Protocol, Kyoto Protocol, Paris Climate Summit)		S.K	May	
		GEOACOR10P					
		Environmental Geography Lab	Preparation of questionnaire for perception survey on environmental problems	60	A.S	February-March	
			Preparation of check-list for Environmental Impact Assessment of an urban / industrial project		A.C	March-April	
			Interpretation of air quality using CPCB / WBPCB data		D.B	April- May	
		GEOSSEC02M					
		Advance Spatial Statistical Techniques	Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their	30	S.K	February-April	Project prepared by the students

			geographical applications.				
			Sampling: Sampling plans for spatial and non-spatial data, sampling distributions. Sampling estimates for large and small samples tests involving means and proportions.		S.K		
			Correlation and Regression Analysis: Rank order correlation and product moment correlation; linear regression, residuals from regression, and simple curvilinear regression. Introduction to multi-variate analysis.		S.K		
			Time Series Analysis: Time Series processes; Smoothing time series; Time series components.		S.K		

GEOACOR13T

SEMESTER VI	**H**	Unit I: Nature of Pre Modern Geography	Development of Geography: Contributions of Greek and Chinese geographers	90	A.C	February-March	
			Impact of 'Dark Age' in Geography and Arab contributions		A.C	March	
			Geography during the age of 'Discovery' and 'Exploration' (contributions of Columbus, Vasco da Gama, Magellan)		A.C	March-April	

			Dualism and Dichotomies (Ideographic vs. Nomothetic, Physical		A.C	April	

			vs. Human, Determinism vs. Possibilism,)				
		Unit-II: Foundations of Modern Geography and Recent Trends	Evolution of Geographical thoughts in Britain and United States of America		A.C	February-March	
			Contributions of Humboldt and Ritter		A.C	March-April	
			Contributions of Ratzel and Vidal deLaBlaché		A.C	March-April	
			Trends of geography in the post-World War-II period: Quantitative Revolution, systems approach.		A.C	April	
			Evolution of Critical Geography: Behavioural, humanistic and radical.		A.C	May	
		GEOACOR14T					
		Unit I: Remote Sensing	Principles of Remote Sensing (RS): Types of RS satellites and sensors	60	D.B	February	
			Sensor resolutions and their applications with reference to IRS and Landsat missions		D.B	March	
			Preparation of False Colour Composites from IRS LISS-3 and Landsat TM and OLI data.		D.B	March	
			Principles of image correction and interpretation. Preparation of inventories of landuse land cover (LULC) features from satellite images.		D.B	April	

		Unit II: Geographical Information System and Global Navigation Satellite System	Concept of GIS and its applicability ; GIS data structures: types: spatial and non-spatial, raster and vector		D.B	February	
			Principles of preparing attribute tables and data manipulation and overlay analysis		D.B	March	
			Principles of GNSS positioning		D.B	April	
		GEOACOR14P					
		Remote Sensing and GIS	Preparation of land use and land cover map from standard FCC and its interpretation	60	D.B	February	
			Representation of raster and vector data format.		O.M	March	
			Area and length calculations from GNSS data.		D.B	April	
		GEOACORDSE04T					
		Unit I: Hydrology	Systems approach in hydrology. Global hydrological cycle: Its physical and biological role	90	O.M	February	
			Run off: controlling factors. Infiltration and evapotranspiration.		O.M	February	
			Drainage basin as a hydrological unit. Principles of watershed management		O.M	March	
			Groundwater: Occurrence and storage. Factors controlling recharge, discharge and movement		O.M	April	

		Unit II: Oceanography	Major relief features of the ocean floor: characteristics and origin according to plate tectonics		M.M	February	
			Physical and chemical properties of ocean water		M.M	February-March	
			Water mass, T–S diagram		M.M	March	
			Ocean temperature and salinity: Distribution and determinants		M.M	April	
		GEOACORDSE06T					
		Unit I: Resource and Development	Approaches to Resource Utilization: Utilitarian, Conservational, Community based adaptive	90	S.K	February	
			Significance of Resources: Backbone of Economic growth and development		S.K	February-March	
			Problems of resource depletion—global scenario (forest, water, fossil fuels).		S.K	March	
			Conservation of Natural Resources		S.K	April	
		Unit II: Resource Conflict and Management	Distribution, Utilisation, Problems and Management of Mineral Resources: Bauxite and Iron Ore.		A.S	February	
			Distribution, Utilisation, Problems and Management of Energy Resources: Conventional and Non- Conventional		A.S	February-March	
			Concept of Resource sharing: Water		D.B	March	

Semester	(Hons /General)	Internal Assessment (Tentative time)	University Examination
I	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
II	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)
III	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
IV	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)
V	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
VI	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)

ACADEMIC CALENDAR

DEPARTMENT OF GEOGRAPHY

Session: 2021- 2022

Semester	(Hons /General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
For ODD Semesters							
SEMESTER I	Honours	**Paper Code: GEOACOR01T**					
		Unit I: Geotectonic	Earth's tectonic and structural evolution with reference to geological time scale.	60	D.B	July- August	
			Earth's interior with special reference to seismology.		A.C	July- August	
			Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots.		O.M	August-September	
		Unit II: Geomorphology	Degradational processes: Weathering, mass wasting and resultant landforms.		A.S	August-September	
			Development of river network and landforms on folded structures.		M.N	September-October	
			Glacial and glacio-fluvial processes and landforms.		M.M	October-November	
			Aeolian and fluvio-aeolian processes and landforms. Models on landscape evolution: Views of Davis and Hack		M.N S.K	October-November December-January	

Paper Code: GEOACOR01P					
Geotectonic & Geomorphology Lab.	Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, galena, hematite, mica, quartz, tourmaline; and (b) rock samples: Granite, basalt, laterite, sandstone, conglomerate, slate, phyllite, schist, gneiss, marble	60	M.N & O.M	July-January	
	Interpretation of geological maps with unconformity and intrusions on uniclinal structure		A.S	July-January	
Paper Code: GEOACOR02T					
Cartographic Techniques	Maps: Classification and types. Components of a map	60	M.M	July- August	
	Concept and application of scales: Plain, comparative and diagonal		D.B	September to November	
	Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps		A.S	September to November	
	Coordinate systems: Polar and rectangular		D.B	November-December	
	Concept of generating globe and UTM projection		M.N	December-January	
	Map projections: Classification, properties and uses		S.K & A.C	December-January	
	Graphical construction of scales: Plain, comparative and diagonal		D.B	September to November	

		Paper Code: GEOACOR02P					
		Cartographic Techniques	Construction of projections: Polar Zenithal Stereographic, Bonne's, Cylindrical Equal Area, and Mercator's	60	A.C, S.K & M.N	November-December	
			Delineation of drainage basin from Survey of India topographical map, relative relief map, slope map (Wentworth), and stream ordering (Strahler) on a drainage basin.		A.S	December-January	
			Correlation between physical and cultural features from Survey of India topographical maps using transect chart.		O.M	December-January	
		Paper Code: GEOACOR05T					
SEMESTER III	**Honours**	Unit I: Elements of the Atmosphere	Nature, composition and layering of the atmosphere		O.M	July-August	
			Insolation: controlling factors. Heat budget of the atmosphere		O.M	August-September	
			Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences Greenhouse effect and importance of ozone layer		D.B A.C	September-October November-December	
		Unit II: Atmospheric Phenomena and Climatic Classification	Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisen theory		S.K	July-August	

			Air mass: Typology, origin, characteristics and modification		A.S	August-September	
			Weather: stability and instability; barotropic and baroclinic conditions		M.N	September-October	
			Circulation in the atmosphere: Planetary winds, jet stream, index cycle		M.N	November-December	
			Tropical and mid-latitude cyclones		M.M	November-December	
			Monsoon circulation and mechanism with reference to India		M.M	December - January	
			Climatic classification after Köppen		A.S	December - January	
		Paper Code: GEOACOR05P					
		Climatology	Interpretation of daily weather map of India: Monsoon		D.B	July-December	
			Construction and interpretation of hythergraph and climograph (G. Taylor)		A.S	September-November	
			Construction and interpretation of wind rose		M.N	December-January	
		Paper Code: GEOACOR06T					
		Unit I: Geography of India	Physiographic divisions				
			Climate and soil: Characteristics and classification		A.S	July-August	
			Population: Distribution, growth, structure and policy		A.S	August-September	
			Tribes of India with special reference to Toda and Jarwa		O.M	September-October	
			Agricultural regions. Green revolution and its consequences		M.N	November-December	

			Mineral and power resources distribution and utilisation of iron ore, coal and petroleum		M.N	December-January	
			Industrial development: Automobile and information technology		A.C	December-January	
			Regionalisation of India: Economic (P. Sengupta)		M.M	July-August	
		Unit II: Geography of West Bengal	Physical perspectives: Physiographic divisions, forest and water resources		M.N	November-December	
			Resources: Agriculture, mining, and industry		M.M	November-December	
			Population: Growth, distribution and human development		S.K	December - January	
			Regional Issues: Darjeeling Hills and Sundarban		A.C	December - January	
		Paper Code: GEOACOR07T					
		Unit I: Frequency Distribution and Sampling	Importance and significance of statistics in Geography		M.M	July-August	
			Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio)		M.M	August-September	
			Sources of geographical data for statistical analysis		S.K	September-October	
			Collection of data and formation of statistical tables		D.B	November-December	

			Sampling: Need, types, and significance and methods of random sampling		D.B	December-January	
			Theoretical distribution: frequency, cumulative frequency, normal and probability		M.N	December-January	
		Unit II: Numerical Data Analysis	Central tendency: Mean, median, mode, partition values		A.S	July-August	
			Measures of dispersion range, mean deviation, standard deviation, coefficient of variation		A.S	August-September	
			Association and correlation: Rank correlation, product moment correlation		M.N	September-October	
			Regression: Linear and non-linear		M.N	November-December	
			Time series analysis: Moving average		S.K	December - January	
		Paper Code: GEOACOR07P					
		Statistical Methods in Geography (Lab)	Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes		O.M	July- August	
			Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted using histogram and frequency curve		O.M	August-October	

			Based on of the sample set and using two relevant attributes, a scatter diagram and linear regression line would be plotted and residual from regression would be mapped with a short interpretation		M.N	November-December	
		Paper Code: GEOSSEC01M					
			Principles of Remote Sensing (RS): Classification of RS satellites and sensors		D.B	July-December	Students prepare a project report
			Sensor resolutions and their applications with reference to IRS image referencing schemes and data acquisition.		D.B		
			Concept of False Colour Composite from IRS LISS-3		D.B		
			Principles of image interpretation and feature extraction. Preparation of inventories of land use land cover features from satellite images.		D.B		
		Paper Code: GEOACOR11T					
SEMESTER V	**Honours**		Research in Geography: Meaning, types and significance		M.M	July-August	
			Literature review and formulation of research design		A.C	August-September	
			Defining research problem and objectives		A.C	September-October	
			Research materials and methods		A.C	November-December	
			Techniques of writing scientific reports: Preparing notes, references,		M.M	December-January	

			bibliography, abstract and keywords				
			Fieldwork in Geographical studies: Role and significance. Selection of study area and objectives. Pre-field academic preparations. Ethics of fieldwork		M.N	July-August	
			Field techniques and tools: Observation (participant, non participant), questionnaires (open, closed, structured, non-structured). Interview		M.N	August-September	
			Positioning and collection of samples. Preparation of inventory from field data.		D.B	September-October	
			Post-field tabulation, processing and analysis of quantitative and qualitative data		D.B	November-December	
		Paper Code: GEOACOR11P					
			Literature Review		M.N & A.C	August-January	
			Field Report		A.S, D.B, O.M, M.M & S.K	August-January	
		Paper Code: GEOACOR12T					
			Classification of hazards and disasters.		M.N	July-August	
			Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms		A.S	August-September	

			Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building.		A.S	September-October	
			Hazards mapping: Data and geospatial techniques (for hazards enlisted in Unit II and Core 12P) (Proposed Workshop		Proposed extension lecture	November-December	
			Earthquake: Factors, vulnerability, consequences and management		O.M	December-January	
			Tropical Cyclone: Factors, vulnerability, consequences and management		M.M		
			Riverbank erosion: Factors, vulnerability, consequences and management		S.K		
			Paper Code: GEOACOR12P				
			An individual Project Report is to be prepared and submitted based on any one case study among the following disasters of West Bengal:		M.N, A.S, D.B, A.C, O.M, M.M & S.K	July-January	
			1) Cyclone/ Thunderstorm, 2) Landslide, 3) Flood, 4) Coastal/ riverbank erosion, 5) Fire, 6) Industrial accident, 7) Structural collapse.				
			Paper Code: GEOADSE01T				
			Factors or soil formation. Man as an active agent of soil transformation.		M.M	July- August	
			Soil profile. Origin and profile characteristics of Lateritic and Chernozem soils		O.M	July- August	

			Definition and significance of soil properties: Texture, structure and moisturiser		Collaboration class	August	
			Definition and significance of soil properties: pH, organic matter and NPK		Collaboration class	September	
			Soil erosion and degradation: Factors, processes and mitigation measures		A.S	October-November	
			Principles of soil classification: Genetic and USDA.		A.S	November-December	
			Concepts of biosphere, ecosystem, biome, ecotone, community, niche, succession and ecology		M.N	July- August	
			Concepts of trophic structure, food chain and food web.		M.N	July- August	
			Geographical extent and characteristic features of: Tropical rain forest and Grassland biomes		M.M	August	
			Bio-geochemical cycles with special reference to carbon dioxide and nitrogen		M.N	September	
			Measures for conservation of bio-diversity in India: Man and Biosphere Programme		M.N	October-November	
		Paper Code: GEOADSE02T					
			Scope and content of Settlement Geography; rural, urban and peri-urban areas		M.M	July- August	
			Rural Settlement: Definition, nature and characteristics		A.C	August	

			Morphology of rural settlements: site and situation, layout- internal and external		M.N	September	
			Rural house types with reference to India, Social segregation in rural areas; Census categories of rural settlements.		M.N	October- November	
			Problems and policies related to rural infrastructure with reference to India		O.M	November- December	
			Urban Settlements: Census definition (Temporal) and categories in India		A.S	July- August	
			Urban morphology: Classical models: Burgess, Homer Hoyt, Harris and Ullman Metropolitan concept		A.S	August	
			City-region and Conurbation, Functional classification of cities: Nelson and McKenzie		M.N	September	
			Aspects of urban places: Location, site and situation, Size and spacing of cities: the rank size rule, the law of the primate city		S.K	October- November	
			Urban hierarchies: Central Place Theory		S.K	November- December	

		For EVEN Semesters					
		Paper Code: GEOACOR03T					
SEMESTER II	**Honours**	Unit I: Nature and Principles	Nature, scope and recent trends. Elements of Human Geography	90	S.K	February	
			Approaches to Human Geography; Environmental		S.K	February	
			Concept and classification of race		S.K	March	
			Cultural regions (language and religion)		S.K	March	
		Unit II: Society, Demography and Ekistics	Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming and industrial society		M.M	February	
			Human adaptation to environment: Masai		M.M	February-March	
			Population growth and distribution, demographic transition		M.M, M.N	March	
			Types and patterns of rural settlements		O.M	March-April	
			Morphology of urban settlements		O.M	April	
		Paper Code: GEOACOR04T					
		Cartograms and Thematic Mapping	Concepts of rounding, scientific notation, logarithm and anti-logarithm, natural and log scales	60	D.B	February-March	
			Diagrammatic representation of data: Line, Bar, Isopleths		A.S	March	
			Representation of socio-economic data: Dots and spheres, proportional circles and Choropleth		A.S	March-April	

			Bearing: Magnetic and true, whole-circle and reduced		M.N	February	
			Basic concepts of surveying and survey equipment: Prismatic Compass, Dumpy Level, Theodolite		D.B	March-May	
		Paper Code: GEOACOR04P					
		Cartograms and Thematic Mapping lab	Thematic maps:	60			
			– Choropleth showing density of population		A.S	February	
			– Dots and Spheres diagram showing distribution of rural and urban population.		A.S	March	
			– Proportional pie-diagrams representing economic data and land use data		A.S	March	
			Traverse survey using prismatic compass, Profile survey using dumpy Level		D.B	March-May	
SEMESTER IV	**Honours**	**Paper Code: GEOACOR08T**					
		Unit I: Regional Planning	Concept of regions: Types of regions and their delineation	90	A.C	February	
			Regional Planning: Types, principles, objectives		A.C	February-March	
			Multi- level planning in India		A.C	March	
			Metropolitan concept and urban agglomerations		A.C	April	
		Unit-II: Regional Development	Concepts of growth and development		M.N	February	

			Economic, social and environmental		O.M	March	
			Human development: Concept		O.M	April	
			Cumulative causation model for regional development (Myrdal)		D.B	March	
			Concept and causes of underdevelopment		D.B	April	
			Regional development in India: Disparity and diversity		D.B	June	
		GEOACOR09T					
		Unit-I: Concepts	Concepts in Economic Geography: Goods and services, production, exchange and consumption		O.M	February	
			Concept of economic man		O.M	March	
			Economic distance and transport costs		O.M	April	
		Unit-II: Economic Activities	Concept and classification of economic activities	60	A.C	February	
			Factors affecting location of economic activity with special reference to industry (Weber).		A.C	February	
			Secondary activities: Concept of manufacturing regions, special economic zones and technology parks		A.C	March	
			Tertiary activities: Transport and services		M.M	March	
			Agricultural systems: Case studies of tea plantation in India and mixed farming in Europe		M.N	April	
			International trade and economic blocks: WTO, GATT and BRICS: Evolution, structure and functions		M.M	May	

		GEOACOR10T					
		Unit-I: Concepts	Concept of holistic environment and systems approach	60	A.S	February	
			Ecosystem: Concept, structure and functions		A.S	March	
		Unit-II: Environmental problems and policies	Urban environmental issues with special reference to waste management		S.K	March	
			Environmental policies – National Environmental Policy, 2006, Earth Summits (Stockholm, Rio, Johannesburg)		S.K	April	
			Global initiatives for environmental management (special reference to Montreal Protocol, Kyoto Protocol, Paris Climate Summit)		S.K	May	
		GEOACOR10P					
		Environmental Geography Lab	Preparation of questionnaire for perception survey on environmental problems	60	A.S	February-March	
			Preparation of check-list for Environmental Impact Assessment of an urban / industrial project		A.C	March-April	
			Interpretation of air quality using CPCB / WBPCB data		D.B	April- May	
		GEOSSEC02M					
		Advance Spatial Statistical Techniques	Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their	30	S.K	February-April	Project prepared by the students

			geographical applications.				
			Sampling: Sampling plans for spatial and non-spatial data, sampling distributions. Sampling estimates for large and small samples tests involving means and proportions.		S.K		
			Correlation and Regression Analysis: Rank order correlation and product moment correlation; linear regression, residuals from regression, and simple curvilinear regression. Introduction to multi-variate analysis.		S.K		
			Time Series Analysis: Time Series processes; Smoothing time series; Time series components.		S.K		

GEOACOR13T

SEMESTER VI	**Honours**	Unit I: Nature of Pre Modern Geography	Development of Geography: Contributions of Greek and Chinese geographers	90	A.C	February-March	
			Impact of 'Dark Age' in Geography and Arab contributions		A.C	March	
			Geography during the age of 'Discovery' and 'Exploration' (contributions of Columbus, Vasco da Gama, Magellan)		A.C	March-April	
			Dualism and Dichotomies (Ideographic vs. Nomothetic, Physical		A.C	April	

			vs. Human, Determinism vs. Possibilism,)				
		Unit-II: Foundations of Modern Geography and Recent Trends	Evolution of Geographical thoughts in Britain and United States of America		A.C	February-March	
			Contributions of Humboldt and Ritter		A.C	March-April	
			Contributions of Ratzel and Vidal deLaBlaché		A.C	March-April	
			Trends of geography in the post-World War-II period: Quantitative Revolution, systems approach.		A.C	April	
			Evolution of Critical Geography: Behavioural, humanistic and radical.		A.C	May	
		GEOACOR14T					
		Unit I: Remote Sensing	Principles of Remote Sensing (RS): Types of RS satellites and sensors	60	M.N	February	
			Sensor resolutions and their applications with reference to IRS and Landsat missions		M.N	March	
			Preparation of False Colour Composites from IRS LISS-3 and Landsat TM and OLI data.		M.N	March	
			Principles of image correction and interpretation. Preparation of inventories of landuse land cover (LULC) features from satellite images.		M.N	April	

		Unit II: Geographical Information System and Global Navigation Satellite System	Concept of GIS and its applicability ; GIS data structures: types: spatial and non-spatial, raster and vector		M.N	February	
			Principles of preparing attribute tables and data manipulation and overlay analysis		D.B	March	
			Principles of GNSS positioning		D.B	April	
		GEOACOR14P					
		Remote Sensing and GIS	Preparation of land use and land cover map from standard FCC and its interpretation	60	D.B	February	
			Representation of raster and vector data format.		O.M	March	
			Area and length calculations from GNSS data.		D.B	April	
		GEOACORDSE04T					
		Unit I: Hydrology	Systems approach in hydrology. Global hydrological cycle: Its physical and biological role	90	O.M	February	
			Run off: controlling factors. Infiltration and evapotranspiration.		O.M	February	
			Drainage basin as a hydrological unit. Principles of watershed management		O.M	March	
			Groundwater: Occurrence and storage. Factors controlling recharge, discharge and movement		O.M	April	

		Unit II: Oceanography	Major relief features of the ocean floor: characteristics and origin according to plate tectonics		M.M	February	
			Physical and chemical properties of ocean water		M.M	February-March	
			Water mass, T–S diagram		M.M	March	
			Ocean temperature and salinity: Distribution and determinants		M.M	April	
		GEOACORDSE06T					
		Unit I: Resource and Development	Approaches to Resource Utilization: Utilitarian, Conservational, Community based adaptive	90	S.K	February	
			Significance of Resources: Backbone of Economic growth and development		S.K	February-March	
			Problems of resource depletion—global scenario (forest, water, fossil fuels).		S.K	March	
			Conservation of Natural Resources		S.K	April	
		Unit II: Resource Conflict and Management	Distribution, Utilisation, Problems and Management of Mineral Resources: Bauxite and Iron Ore.		A.S	February	
			Distribution, Utilisation, Problems and Management of Energy Resources: Conventional and Non- Conventional		A.S	February-March	
			Concept of Resource sharing: Water		M.N	March	

Semester	(Hons /General)	Internal Assessment (Tentative time)	University Examination
I	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
II	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)
III	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
IV	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)
V	Hons.	1st Internal Assessment- 2nd Week of September, 2021 2nd Internal Assessment- 2nd Week of November, 2021	January, 2022 (Tentative)
VI	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)