

ACADEMIC CALENDAR

DEPARTMENT OF GEOGRAPHY

Session: 2017- 2018

Year	(Hons/General)	Syllabus Module/Unit	Topic	Teachers	Distribution	Project/ Student Seminar (if any)
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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 reference to coal, petroleum, solar and wind.	O.M			
		3. Characteristic of economies: a) Fishing, b) Agricultural, c) Manufacturing	O.M			
		4. Selected production systems: a) Intensive rice farming: India and South East Asia.	A.D.S		November-December	
		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**

		PAPER III				
		GROUP A: CLIMATOLOGY	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		
			7. Processes of condensation and mechanism of precipitation: Bergereon-Fiendison, Collision-Coalescence theories. .	S.K.D	November-December	
			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 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		
		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	November-December	
		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		
		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).		January-March	
		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 Projections.	A.S		
		6. Survey: (20 Marks)			
		a) Closed traverse survey by Prismatic Compass.	D.B	November-December	
b) Levelling by Dumpy Level with at least one change point: Drawing of profile and determination of gradient.	D.B	January-March			

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			
			7. Political geography of India: Administrative settings of India, problem of border states,	A.S	January-March		
			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 Blache, Carl Sauer and David Harvey	A.S		
					A.C		
				3. Major postulates: Determinism, Possibilism, Regional differentiation, location, time and space.	A.C	November-December	

		GROUP B: CONTEMPORARY ISSUES IN GEOGRAPHY	4. Changing approaches and methodology: Positivism, Quantitative Revolution, Welfare-	A.C	January-March			
			Behavioural approach, Structural and radical approach	A.C				
			Section -1: Natural hazards and their management in the Indian Sub-continent:					
			5. Concept of hazards and disasters: Natural, quasi-natural and man-made hazards, different approaches in hazard management.	A.S	July-October			
				A.S				
			6. Climatic hazards: Flood, drought and cyclone mechanism – environmental impact and management.	A.S	November-December			
			7. Geomorphic hazards: landslide, river bank erosion, coastal erosion environmental impact and management.	A.S				
			8. Edaphic and biotic hazards: Deforestation, desertification, loss of biodiversity – environmental impact and management.	M.M		January-March		
			Section-2: Economic and human development in the Third World					
			9. Concept of third world, concept of development and under development: Basic indicators of economic, human and gender development.	A.C	July-October			
			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.			
		PAPER VII			
		13. Interpretation of geological maps and drawing of sections: Uniclinal, folds with unconformity and igneous intrusions (20 marks)	A.S		
		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	July-October	
		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	November-December	
		Conjugate Principal Point,	D.B		
		e. Preparation of aerial photo mosaics, demarcation of effective area, extraction of	D.B		

APPLIED GEOGRAPHICAL TECHNIQUES

		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	

Group-B: Contemporary issues in Geography (50Marks)	5. Measures of dispersion: mean deviation, quartile deviation, semi-quartile range, standard deviation and co-efficient of variation.	A.D.S	January-March	
		A.D.S		
	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, temperature, pressure and relative humidity of a station for three months, preparation and interpretation of Taylor's Climograph and Hythergraph.	A.S	July-November	
	b) Preparation of station models for different meteorological stations of India with the help of Synoptic chart.	A.S		
	2. Preparation and interpretation of rating curves, hydrographs and unit hydrographs of rivers flowing through the Indian Sub-continent.	A.S	December-March	
	Section-B: Economic and Human Development in Third World.			
	3. Computation of Human and Gender Development Index and ranking of countries/states/districts based on HDI and GDI.	A.C	July-October	
	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	General	Group A: Geomorphology	Paper I					
			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		

Part II	General	Group C: Biogeography	4. Atmospheric disturbances: Tropical and Mid-latitude cyclones.	AC	October-November		
			5. Characteristics of Monsoonal rainfall	AC	December - January		
			6. Climatic classification after Köppen.	AC	January		
			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			
	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 frequency curve.		OM	July-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, fiducial marks, flight line, photo overlap.	SKD	December - January	
		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	
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Semester	(Hons /General)	Internal Assessment (Tentative time)	University Examination
Part II	Hons./ General	Test Exam- 2 nd week of January, 2019	May, 2019 (Tentative)
Part II	Hons./ General	Test Exam- 2 nd week of January, 2019	April, 2019 (Tentative)
Part III	Hons./ General	Test Exam- 2 nd 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)
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For ODD Semesters

Paper Code: GEOACOR01T							
SEMESTER I	Honours	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	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	

Paper Code: GEOACOR02P

	Graphical construction of scales: Plain, comparative and diagonal		D.B	September to November	
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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)
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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		
		GR OU P 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	
		2. Megascopic analysis of minerals and rocks : (10 marks)	A.D.S	
		a) Rocks – Granite, Basalt, Dolerite, Shale, Sandstone, Limestone, Conglomerate,	A.D.S	July- October
		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	
		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	November- December
		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 than 8 km).	A.S		
		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 Projections.	A.S		
		6. Survey: (20 Marks)			
		a) Closed traverse survey by Prismatic Compass.	D.B	November-December	
		b) Levelling by Dumpy Level with at least one change point: Drawing of profile and determination of gradient.	D.B	January-March	

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 Blache, Carl Sauer and David Harvey	A.S			
		3. Major postulates: Determinism, Possibilism, Regional differentiation, location, time and space.	A.C		November-December	
		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 approaches in hazard management.		A.S			
	6. Climatic hazards: Flood, drought and cyclone mechanism – environmental impact and management.		A.S	November-December		
	7. Geomorphic hazards: landslide, river bank erosion, coastal erosion environmental impact and management.		A.S			

		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			
		9. Concept of third world, concept of development and under development: Basic indicators of economic, human and gender development.	A.C	July-October	
		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.			
		PAPER VII			
	APPLIED GEOGRAPHICAL TECHNIQUES	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, fiducial 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:	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		
		2. Preparation and interpretation of rating curves, hydrographs and unit hydrographs of rivers flowing through the Indian Sub-continent.	A.S	December-March	
		Section-B: Economic and Human Development in Third World.			
		3. Computation of Human and Gender Development Index and ranking of countries/states/districts based on HDI and GDI.	A.C	July-October	
		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		
		6. a) Dominant-distinctive function.	A.C	January-March	
		b) Rank-size rule.	A.C		
		c) Lorenz curve.	A.C		

Part II**General**

		Paper II						
	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 frequency curve.		OM	July-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 overlap.	SKD	December - January	
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.	1 st Internal Assessment- 2 nd Week of September, 2018 2 nd Internal Assessment- 2 nd 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- 2 nd week of January, 2019	April, 2019 (Tentative)

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

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)
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For ODD Semesters

Paper Code: GEOACOR01T							
SEMESTER I	Honours	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	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	

Paper Code: GEOACOR02P

	Graphical construction of scales: Plain, comparative and diagonal		D.B	September to November	
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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:				
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		<ul style="list-style-type: none"> – Choropleth showing density of population 	60	A.S	February	
		<ul style="list-style-type: none"> – Dots and Spheres diagram showing distribution of rural and urban population. 		A.S	March	
		<ul style="list-style-type: none"> – Proportional pie-diagrams representing economic data and land use data 		A.S	March	
		<ul style="list-style-type: none"> – 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						

60	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	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

60	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 checklist 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 geographical applications.	30	S.K	February-April	Project prepared by the students
	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 Blache, Carl Sauer and David Harvey	A.S		
				A.C		
			3. Major postulates: Determinism, Possibilism, Regional differentiation, location, time and space.	A.C	November-December	
				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:			
		5. Concept of hazards and disasters: Natural, quasi-natural and man-made hazards, different approaches in hazard management.	A.S	July-October	
		6. Climatic hazards: Flood, drought and cyclone mechanism – environmental impact and management.	A.S	November-December	
		7. Geomorphic hazards: landslide, river bank erosion, coastal erosion environmental impact and management.	A.S		
		8. Edaphic and biotic hazards: Deforestation, desertification, loss of biodiversity – environmental impact and management.	M.M		January-March
		Section-2: Economic and human development in the Third World			
		9. Concept of third world, concept of development and under development: Basic indicators of economic, human and gender development.	A.C	July-October	
		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.			

			PAPER VII		
			13. Interpretation of geological maps and drawing of sections: Uniclinal, folds with unconformity and igneous intrusions (20 marks)	A.S	
			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	July-October
			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, fiducial 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

APPLIED GEOGRAPHICAL TECHNIQUES

		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 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 deviation and co-efficient of variation.	A.D.S	January-March			
				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 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		

Part III	General	GROUP- A: THEORITICAL APPLIED GEOGRAPHY	Paper IV			
			Section I: Land use and settlement Geography (30 Marks)			
			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			
			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 overlap.	SKD	December - January	

		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
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I	Hons.	1 st Internal Assessment- 2 nd Week of September, 2021 2 nd Internal Assessment- 2 nd 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)
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For ODD Semesters

Paper Code: GEOACOR01T										
SEMESTER I	Honours	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	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						
		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 ozonelayer		A.C	November - December	
	Unit II: Atmospheric Phenomena and Climatic Classification	Condensation: Processand forms. Mechanismof precipitation: Bergeron-Findeisen theory		S.K	July-August	

DEPARTMENT OF GEOGRAPHY

	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	
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DEPARTMENT OF GEOGRAPHY

	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	
DEPARTMENT OF GEOGRAPHY					
	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		90	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:				
		– Choropleth showing density of population		A.S	February	
		– Dots and Spheres diagram showing distribution of rural and urban population.	60	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	

Paper Code: GEOACOR08T						
SEMESTER IV	H	Unit I: Regional Planning	Concept of regions: Types of regions and their delineation		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	90	A.C	April

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

		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		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	60	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 checklist 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
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			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	
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DEPARTMENT OF GEOGRAPHY

			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		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.	60	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.	1 st Internal Assessment- 2 nd Week of September, 2021 2 nd Internal Assessment- 2 nd Week of November, 2021	January, 2022 (Tentative)
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VI	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)

DEPARTMENT OF GEOGRAPHY

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)
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For ODD Semesters

Paper Code: GEOACOR01T							
SEMESTER I	Honours	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-aolian processes and landforms.	M.N		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, chalcopryrite, 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	September-October	
					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		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	
DEPARTMENT OF GEOGRAPHY					
	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	

		Paper Code: GEOACOR08T					
SEMESTER IV	Honours	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		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	60	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 checklist 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
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			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		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.	60	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	

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VI	Hons.	1st Internal Assessment- 3rd Week of April, 2021 2nd Internal Assessment- 2nd Week of May, 2021	July, 2022 (Tentative)

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