DEPARTMENT OF GEOGRAPHY

ACADEMIC CALENDAR

FOR SEMESTER I, III, & V

SESSION: 2024- 2025

ACADEMIC CALENDAR FOR NEP SYLLABUS

Department of Geography

Session: 2024-2025

Semester	(Hons /General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
For ODD Semesters							
Semester I	Honours	**GEOADS01T**					
		Unit I: Geotectonics and Geomorphology	Internal Structure of Earth based on Seismic Evidence.	**3 Credit (45 Hours)**	OM	Aug- Sep	
			Influence of lithology on landforms: Granite and Basaltic landforms		OM	Sep- Oct	
			landform development; endogenetic and exogenetic forces.		AS	Aug- Sep	
			Evolution of landforms under fluvial process		DB	Sep- Oct	
			of hazards in Indian context		DB	Nov- Dec	
		Unit II: Climatology, Soil and Biogeography	Nature, composition and layering of the atmosphere		OM	Sep-Oct	
			Distribution of pressure belts and planetary wind system, jet streams, and index cycle.		MN	Nov- Dec	
			Factors of soil formation		AC	Sep-Oct	
			Evolution of an ideal soil profile		AC	Nov- Dec	
			Concept of ecosystem — basic ecological principles, ecotone, communities, niche, succession, and habitat.		SK	Sep-Oct	
			of Tropical rainforest, Taiga, Savannah, Desert, Tundra and Temperate		SK	Nov- Dec	
		GEOADS01P					
		Physical Geography (Lab)	Graphical construction of linear scales: Plain.	**2 Credits (60 Hours)**	MN	Aug-Oct	
			Altimetric frequency distribution; Demarcation of broad physiographic zones.		AS	Aug-Sep	
			Denoting drainage, geomorphic, settlement and transport attributes using sketches		AS	Oct-Nov	

			Identification of drainage and channel patterns from Survey of India 1:50,000 topographical maps.		AS	Oct-Nov	
			Construction and interpretation of wind rose diagram		AC	Nov-Dec	
		GEOSE- 01M					
		Skill Enhancement Courses	Principles of Remote Sensing (RS): Classification of RS satellites and sensors	**3 Credits (45 hours)**	DB	Aug- Sep	Project will be prepared and submitted
			Sensor resolutions and their applications with reference to IRS and Landsat missions, image referencing schemes and data acquisition.		SK	Oct-Nov	
			Preparation of False Colour Composites from IRS LISS-3 and Landsat TM and OLI data. Principles of image rectification and enhancement.		MN	Oct-Nov	
			Principles of image interpretation and feature extraction. Preparation of inventories of land use land cover features from satellite images.		MN	Nov- Dec	

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Session: 2024-2025

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For ODD Semesters							
Semester III	Honours	**GEOADSC303T**					
		Unit I: Geotectonics	Earth's tectonic and structural evolution with reference to geological time scale, with special reference to the events of the Pleistocene	**3 Credit (45 Hours)**	DB	Sep- Oct	
			Isostasy: Models of Airy and Pratt, and their applicability.		DB	Oct-Nov	
			Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots		AS	Sep- Oct	
			Folds and Faults—Formation and classification		AS	Oct-Nov	
		Unit II: Geomorphology	Degradational processes: Weathering, mass wasting and resultant landforms		OM	Sep-Oct	
			river network and landforms on uniclinal and folded structures, Surface expression of faults.		OM	Nov- Dec	
			Coastal processes and landforms		AC	Sep-Oct	
			Glacial and glacio-fluvial processes and landforms		AC	Nov- Dec	

			Aeolian and fluvio-aeolian processes and landforms		MN	Sep-Oct	
			landscape evolution: Views of		SK	Nov- Dec	
		GEOADSC303P					
		Physical Geography (Lab)	Megascopic identification of (a) mineral samples: Bauxite, calcite, chalcopyrite, feldspar, galena, gypsum, hematite, magnetite, mica, quartz, talc, tourmaline; and (b) rock samples: Granite, basalt, dolerite, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite, marble	**2 Credits (60 Hours)**	DB	Sep- Nov	
			Interpretation of geological maps with uniclinal structure, folds, unconformity, and intrusions		AS	Oct-Nov	
			Reference scheme of Survey of India Everest and Open Series Maps; Map margin		DB	Oct-Nov	
			Drainage basin delineation, stream ordering		AC	Oct-Nov	
			Morphometric analysis: Preparation of Relative Relief		SK	Nov-Dec	
			Construction of hypsometric curve and derivation of hypsometric integer of a drainage basin of a plateau region		MN	Nov-Dec	

			Determination of channel sinuosity index (channel length/valley length measured through straight line) and braiding index of rivers from topographical maps (c. 10-km reach)		DB	Nov-Dec	

ACADEMIC CALENDAR FOR CBCS SYLLABUS, 2024-2025

Department of Geography

Session: 2024-2025

Semester	(Hons /General)	Syllabus Module/Unit	Topic	No. of lectures (Hours)	Teachers	Distribution	Project/ Student Seminar (if any)
For ODD Semesters							
SEMESTER V	Honours	**Paper Code: GEOACOR11T**					
		Unit I: Research Methodology	Research in Geography: Meaning, types and significance		AC	July-August	
			Literature review and formulation of research design		AC	August-September	
			Defining research problem and objectives		AC	September-October	
			Research materials and methods		AC	November-December	
			Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract and keywords		AC	December-January	
		Unit II: Fieldwork	Fieldwork in Geographical studies: Role and significance. Selection of study area and objectives. Pre-field academic preparations. Ethics of fieldwork	**4 Credit (60 Classes)**	AS	July-August	

			Field techniques and tools: Observation (participant, non participant), questionnaires (open, closed, structured, non-structured). Interview		AS	August-September	
			Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording.		MN		
			Positioning and collection of samples. Preparation of inventory from field data.		MN	September-October	
			Post-field tabulation, processing and analysis of quantitative and qualitative data		MN	November-December	
		Paper Code: GEOACOR11P					
		Fieldwork and Research Methodology (Lab)	Literature Review	**2 Credit (60 Classes)**	M.N, A.C & O.M	August-January	Individual Project prepared by
			Field Report		A.S, D.B, & S.K	August-January	Individual Project prepared by students
		Paper Code: GEOACOR12T					
		Unit I: Remote Sensing	Principles of Remote Sensing (RS): Types of RS satellites and sensors		MN	July-August	

			Sensor resolutions and their applications with reference to IRS and Landsat missions		MN	August-September	
			Preparation of False Colour Composites from IRS LISS-3 and Landsat TM and OLI data.		MN	September-October	
			Principles of image correction and interpretation. Preparation of inventories of landuse land cover (LULC) features from satellite images	**4 Credit (60 Classes)**	MN	November-December	
		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		DB	December-January	Individual project prepared by students
			Principles of preparing attribute tables and data manipulation and overlay analysis		DB		
			Principles of GNSS positioning and waypoint collection		DB		
			Transferring waypoints to GIS. Area and length calculations		DB		
		Paper Code: GEOACOR12P					

Remote Sensing and GIS	Georeferencing of maps and images using Open Source software	**2 Credit (60 Classes)**	MN+DB	July- January	Individual Project prepared by students
	Preparation of FCC and identification of features using standard FCC and other band combinations		MN+DB		
	Digitisation of features. Data attachment, overlay and preparation of annotated thematic maps (choropleth, pie chart and bar graphs).		MN+DB		
Paper Code: GEOADSE01T					
Unit I: Soil Geography	Factors or soil formation. Man as an active agent of soil transformation.		OM	July- August	
	Soil profile. Origin and profile characteristics of Lateritic and Chernozem soils		OM	July- August	
	Definition and significance of soil properties: Texture, structure and moisturiser		OM	August	
	Definition and significance of soil properties: pH, organic matter and NPK		OM	September	
	Soil erosion and degradation: Factors, processes and mitigation measures		OM	October-November	

			Principles of soil classification: Genetic and USDA.		OM	November-December	
		Unit II: Biogeography	Concepts of biosphere, ecosystem, biome, ecotone, community, niche, succession and ecology	**6 Credit (90 Classes)**	SK	July- August	
			Concepts of trophic structure, food chain and food web. Energy flow in ecosystems		SK	July- August	
			Geographical extent and characteristic features of: Tropical rain forest, Taiga and Grassland biomes		SK	August	
			Bio-geochemical cycles with special reference to carbon dioxide and nitrogen		SK	September	
			Spatial distribution of		SK		
			Measures for conservation of bio-diversity in India: Man and Biosphere Programme		SK	October-November	
		Paper Code: GEOADSE02T					
		Unit I: Rural Settlement	Scope and content of Settlement Geography; rural, urban and peri-urban areas		AC	September October	
			Rural Settlement: Definition, nature and characteristics		AC	September October	

			Morphology of rural settlements: site and situation, layout-internal and external		MN	October-November	
			Rural house types with reference to India, Social segregation in rural areas; Census categories of rural settlements.		MN	October-November	
			Problems and policies related to rural infrastructure with reference to India		MN	November-December	
		Unit II: Urban Settlement	Urban Settlements: Census definition (Temporal) and categories in India	6 Credit (90 Classes)	DB	September October	
			Urban morphology: Classical models: Burgess, Homer Hoyt, Harris and Ullman Metropolitan concept		DB	September October	
			City-region and Conurbation, Functional classification of cities: Nelson and McKenzie		AS	October-November	
			Aspects of urban places: Location, site and situation, Size and spacing of cities: the rank size rule, the law of the primate city		AS	October-November	

			Urban hierarchies: Central Place Theory, August Löch's theory of market centres		AS	November-December	

DEPARTMENT OF GEOGRAPHY

ACADEMIC CALENDAR FOR EVEN SEMESTER

Session: 2024- 2025

SEMESTER- II					
Paper Code	**Syllabus Module/ Unit**	**Topic**	**Assigned Facultyy**	**No. of Lectures**	**Tentative Monthwise Distribution**
GEOADS02T – Human Geography	Unit 1: Scope and Approaches	1. Elements of Human Geography: Nature, scope and recent trends.	D.B	45	April- May
		2. Approaches to Human Geography; Resource, Locational, Landscape, Environmental	D.B		April- May
	Unit II Social and Population Geography	3. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming, industrial society and post-industrial urban society.	M.N		April- May
		4. Human adaptation to environment: Eskimo, Masai and Maori	S.K		April- May
		5. Population distribution, density and growth of world population.	S.K		May- June
		6. Demographic Transition Theory	O.M		July
	Unit III Economic and Settlement Geography	7. Sectors of the economy: primary, secondary, tertiary and quaternary, quinary	M.M		April- May
		8. Types of agriculture: Intensive subsistence rice farming, Plantation agriculture (Tea)	M.M		April- May
		9. Site, situation, types and patterns of Rural Settlements	A.S		May- June
		10. Classification of Urban Settlements after Census of India.	A.S		July

GEOADS02P– Human Geography (Lab)	Human Geography (Lab)	1. Growth rate of population: Arithmetic growth comparing two decadal datasets	D.B	60	March- April
		2. Density of population of Indian states or West Bengal districts by choropleth method	O.M		March- April
		3. Identification of types of settlements according to sites from Survey of India 1:50,000 topographical maps	A.S		April- May
		4. Correlating physical and cultural attributes using transect chart.	M.N		April- May
		5. Proportional pie-diagrams, and proportional square representing economic data and land use data.	A.S		July
GEOSSEC02M	Skill Enhancement Course	1. Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their geographical applications.	Interdisciplinary class	45	March- July
		2. Sampling: Sampling plans for spatial and non-spatial data, sampling distributions. Sampling estimates for large and small sample tests involving means and proportions.	D.B		
		3. Correlation and Regression Analysis: Rank order correlation and product moment correlation;	A.S		
		4. Time Series Analysis: Time Series processes; Smoothing time series; Time series components.	S.K		

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ACADEMIC CALENDAR FOR EVEN SEMESTER

Session: 2024- 2025

SEMESTER- IV					
Paper Code	**Syllabus Module/ Unit**	**Topic**	**Assigned Faculty**	**No. of Lectures to be delivered**	**Tentative Month wise Distribution**
GEOACOR08T- Regional Planning and Development	Unit I: Regional Planning	1. Concept of regions: Types of regions and their delineation	A.C	60	March- April
		2. Regional Planning: Types, principles, objectives, tools and techniques	M.N		March- April
		3. Need for regional planning in India, multi- level planning in India	A.C		April- May
		4. Metropolitan concept and urban agglomerations	A.C		April- May
	Unit II: Regional Development	5. Concepts of growth and development, growth versus development	M.N		March- April
		6. Indicators of development: Economic, social and environmental	M.N		March- April
		7. Human development: Concept and measurement	M.N		April- May
		8. Theories and models for regional development: Cumulative causation (Myrdal)	D.B		April- May
		9. Theories and models for regional development: Stages of development (Rostow), growth pole model (Perroux).	D.B		April- May
		10. Concept and causes of underdevelopment	O.M		July
		11. Regional development in India: Disparity and diversity	O.M		July
		12. Need and measures for balanced development in India	O.M		July

GEOACOR09T — Economic Geography	Unit I: Concepts	1. Meaning and approaches to Economic Geography.	O.M	90	March- April
		2. Concepts in Economic Geography: Goods and services, production, exchange and consumption	O.M		March- April
		3. Concept of economic man, theories of choices	O.M		April- May
		4. Economic distance and transport costs	O.M		April- May
	Unit II: Economic Activities	5. Concept and classification of economic activities	D.B		March- April
		6. Factors affecting location of economic activity with special reference to agriculture (Von Thünen), and industry (Weber).	D.B		March- April
		7. Primary activities: Agriculture, forestry, fishing and mining	S.K		April- May
		8. Secondary activities: Manufacturing (cotton textile, iron and steel), concept of manufacturing	S.K		April- May
		regions, special economic zones and technology parks	S.K		April- May
		9. Tertiary activities: Transport, trade and services	M.M		April- May
		10. Agricultural systems: Case studies of tea plantation in India and mixed farming in Europe	M.M		July
		11. Transnational sea-routes, railways and highways with reference to India	M.M		July
		12. International trade and economic blocs: WTO, GATT and BRICS: Evolution, structure and functions	M.M		July

GEOACOR10T—Environmental Geography	Unit I: Concepts	1. Geographers' approach to environmental studies	A.S	60	March- April
		2. Concept of holistic environment and systems approach	A.S		March- April
		3. Ecosystem: Concept, structure and functions	A.S		April- May
		4. Space–time hierarchy of Environmental problems: Local, regional and global	A.S		April- May
	Unit II: Environmental problems and policies	5. Environmental pollution and degradation: Land, water and air	M.N		March- April
		6. Urban environmental issues with special reference to waste management	A.C		March- April
		7. Environmental policies – National Environmental Policy, 2006, Earth Summits (Stockholm, Rio, Johannesburg)	S.K		April- May
		8. Global initiatives for environmental management (special reference to Montreal Protocol, Kyoto	S.K		April- May
GEOACOR10P— Environmental Geography	Environmental Geography	1. Preparation of questionnaire for perception survey on environmental problems	M.N	60	March- April
		2. Preparation of check-list for Environmental Impact Assessment of an urban / industrial project	A.C		March- April
		3. Interpretation of air quality using CPCB / WBPCB data	D.B		April- May

GEOSSEC02M	**Skill Enhancement Course**	**1. Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their geographical applications.**	**Interdisciplinary class**	**30**	**March- July**
		2. Sampling: Sampling plans for spatial and non-spatial data, sampling distributions. Sampling estimates for large and small samples tests involving means and proportions.	**D.B**		
		3. Correlation and Regression Analysis: Rank order correlation and product moment correlation;	**A.S**		
		4. Time Series Analysis: Time Series processes; Smoothing time series; Time series components.	**S.K**		

SEMESTER-VI

Paper Code	Syllabus Module/ Unit	Topic	Assigned Faculty	No. of Lectures to be delivered	Tentative Monthwise Distribution
GEOACOR13T – Evolution of Geographical Thought	Unit I: Nature of Pre Modern Geography	1. Development of Geography: Contributions of Greek and Chinesegeographers	A.C	60	March- April
		2. Impact of 'Dark Age' in Geography and Arab contributions	A.C		March- April
		3. Geography during the age of 'Discovery' and 'Exploration' (contributions of Columbus, Vasco daGama, Magellan, Thomas Cook)	O.M		April- May
		4. Transition from cosmography to scientific Geography (contributions of Bernard Varenius and	S.K		April- May
	Unit II: Foundations of Modern Geography and Recent Trends	5. Evolution of Geographical thoughts in Germany, France, Britain and United States of America	M.N		March- April
		6. Contributions of Humboldt and Ritter	M.N		March- April
		7. Contributions of Richthofen, Hettner, Ratzel and Vidal deLaBlaché	A.S		March- April
		8. Trends of geography in the post-World War-II period: Quantitative Revolution, systems approach.	A.S		April- May
		9. Evolution of Critical Geography: Behavioural, humanistic and radical.	A.C		April- May
		10. Changing concept of time-space in geography in the 21st Century	M.M		April- May
GEOACOR14T – Disaster Management	Unit 1: Concepts	1. Classification of hazards and disasters.	A.S	60	March- April
		2. Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms.	A.S		March- April
		3. Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building.	A.S		April- May

		4. Hazards mapping: Data and geospatial techniques (for hazards enlisted in Unit II and Core 14P)	A.S		April- May
	Unit 2: Hazard specific study with focus on India	5. Earthquake: Factors, vulnerability, consequences and management	M.N		March- April
		6. Landslide: Factors, vulnerability, consequences and management	D.B		March- April
		7. Tropical Cyclone: Factors, vulnerability, consequences and management	M.M		April- May
		8. Riverbank erosion: Factors, vulnerability, consequences and management	A.C		April- May
		9. Radioactive fallout: Factors, vulnerability, consequences and management	O.M		July
GEOACOR14P – Disaster Management	Disaster Management	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, & S.K	60	March- July
		1) Cyclone/ Thunderstorm, 2) Landslide, 3) Flood, 4) Coastal/ riverbank erosion, 5) Fire, 6) Industrial accident, 7) Structural collapse.			
GEOADSE04T – Hydrology and Oceanography	Unit-I: Hydrology	1. Systems approach in hydrology. Global hydrological cycle: Its physical and biological role	S.K	90	March- April
		2. Run off: controlling factors. Infiltration and evapotranspiration. Run off cycle	S.K		March- April
		3. Drainage basin as a hydrological unit. Principles of water harvesting and watershed management	O.M		April- May
		4. Groundwater: Occurrence and storage. Factors controlling recharge, discharge and movement	O.M		April- May
	Unit-II: Oceanography	5. Major relief features of the ocean floor: characteristics and origin according to plate tectonics	M.M		March- April

		6. Physical and chemical properties of ocean water	M.M		March- April
		7. Water mass, T–S diagram	M.M		April- May
		8. Ocean temperature and salinity: Distribution and determinants	M.N		April- May
		9. Marine resources: Classification and sustainable utilisation	M.N		July
		10. Sea level change: Types and causes	M.N		July
GEOADSE06T – Resource Geography	Unit I: Resource and Development	1. Natural Resources: Concept and classification	A.C	90	March- April
		2. Approaches to Resource Utilization: Utilitarian, Conservational, Community based adaptation	S.K		March- April
		3. Significance of Resources: Backbone of Economic growth and development	S.K		April- May
		4. Pressure on resources. Appraisal and Conservation of Natural Resources	M.N		April- May
		5. Problems of resource depletion—global scenario (forest, water, fossil fuels).	M.N		July
		6. Sustainable Resource Development	M.N		July
	Unit II: Resource Conflict and Management	7. Distribution, Utilisation, Problems and Management of Mineral Resources: Bauxite and Iron Ore.	A.C		March- April
		8. Distribution, Utilisation, Problems and Management of Energy Resources: Conventional and Non-Conventional	A.C		March- April
		9. Contemporary Energy Crisis and Future Scenario	D.B		April- May
		10. Limits to Growth and Sustainable Use of Resources; Concept of Resource sharing: Water	D.B		April- May