

Curriculum Plan

of

Mr. Nabanu Roy

Session: 2024-2025

Department of Geography

January to June (Even Semesters)

		Semesters	Title of the Topics	Sub Topics	No. of Classes	Remarks
J A N U A R Y	2ND SEMESTER	2 nd Sem - MINOR/DSC (Theory)	Nature and scope of Settlement geography	Nature and scope of settlement geography; Concept of site and situation; Definition of hamlet, village, town, city, metropolis and megalopolis	6	6 class lectures
		2 nd Sem - MINOR/DSC (Practical)	Data presentation	Diagrammatic data presentation: Line graph, bar graph (simple, compound)	3	3 class lectures with signature
	4TH SEMESTER	4 th Sem MAJOR-1 (Theory)	Weather and climate	Weather and climate; Composition and structure of the atmosphere; Insolation and heat budget; Latitudinal heat balance; Mechanism of energy/heat transfer; Distribution of temperature: Horizontal and vertical; Inversion of temperature	6	6 class lectures
		4 th Sem MAJOR-1 (Practical)	Meteorological instruments	Maximum and Minimum Thermometer, Hygrometer	2	2 class lectures with signature
		4 th Sem MAJOR-2 (Theory)	Physical Geography of India	Location and physiographic divisions; Drainage, soil and natural vegetation; Seasonal features of Indian climate; Indian monsoon: Origin, characteristics and mechanism	6	6 class lectures
		4 th Sem MAJOR-2 (Practical)	Field report	Secondary data collection	2	2 class lectures
		4 th Sem MAJOR-3 (Theory)	GIS: Concept, components, function and limitations	Nature, definitions and evolution of GIS; Components of GIS; Functional requirements of GIS; Advantages and limitations of GIS	6	5 class lectures & 1 ppt class
		4 th Sem MAJOR-3 (Practical)	QGIS 3.22	Geo-referencing of scanned topographical sheets and maps; Digitizing using point, line and polygon features (all using QGIS 3.22).	2	2 class lectures

F E B R U A R Y		4 th Sem MINOR (Theory)	Concept of human geography	Nature, scope and branches of human geography; Concept of determinism and possibilism; Neo-determinism; Systematic and regional geography	6	6 class lectures
		4 th Sem MINOR (Practical)	Topographical map	Interpretation of physical and cultural features of a topographical map (plateau/mountain area)	2	2 class lectures with signature
	6TH SEMESTER	6 th Sem - DSE (Theory)	Climate change	Concepts and implications; Greenhouse effect	6	6 class lectures
		6 th Sem - DSE (Practical)	Project Report	Project Report based on impact and adaptation to climate change	2	2 class lectures
		6 th Sem - SEC	Geographical Information System	Definition and Components of GIS	6	5 class lectures & 1 PPT class
	2ND SEMESTER	2 nd Sem - MINOR/DSC (Theory)	Types and patterns of settlements & Urbanization	Types and patterns of rural settlements & Trends and patterns of urbanization in India	6	6 class lectures
		2 nd Sem - MINOR/DSC (Practical)	Data presentation	Diagrammatic data presentation: bar graph (multiple) and proportional circle.	3	3 class lectures with signature
	4TH SEMESTER	4 th Sem MAJOR-1 (Theory)	Distribution of atmospheric elements	Vertical and horizontal distribution of atmospheric pressure and pressure belts; Factors affecting wind direction and speed;	6	6 class lectures
		4 th Sem MAJOR-1 (Practical)	Meteorological instruments	Fortin's Barometer.	2	2 class lectures with signature
		4 th Sem MAJOR-2 (Theory)	El Nino, La Nina and Climatic regions & Population: Growth and distribution	El Nino, La Nina and Indian monsoon; Climatic regions: Stamp and Trewartha & Growth of population; Distribution of population (density, religion, language and tribes)	6	6 class lectures
		4 th Sem MAJOR-2 (Practical)	Field report	Secondary data collection	2	2 class lectures
4 th Sem MAJOR-3 (Theory)		Map projection in GIS & GIS data types	Coordinate system and map projection in GIS & GIS data types: Spatial and attribute data	6	6 class lectures	
4 th Sem MAJOR-3 (Practical)		QGIS 3.22	Exploring and managing raster data: Adding raster layers, raster styling and analysis, raster mosaicking and clipping;	2	2 class lectures	

M A R C H				Creating (all using QGIS 3.22).		
		4 th Sem MINOR (Theory)	Population: Growth, distribution and Theories	Growth and distribution of population in India; Theories of population growth: Malthusian Theory and Demographic Transition Model; Population Composition (India)	6	6 class lectures
		4 th Sem MINOR (Practical)	Topographical map	Interpretation of topography/ landforms with the help of serial, superimposed, projected and composite profiles	2	2 class lectures with signature
	6TH SEMESTER	6 th Sem - DSE (Theory)	Climate change	Global warming and IPCC	6	5 class lectures & 1 class for library work
		6 th Sem - DSE (Practical)	Project report	Pre field activities	2	2 class lectures
		6 th Sem - SEC	Global Positioning System (GPS)	Principles and uses of GPS	6	6 class lectures
	2ND SEMESTER	2 nd Sem - MINOR/DSC (Theory)	Morphology of settlements	Morphology of rural settlements; Urban land use models: Concentric Zone Theory, Sector Theory and Multiple Nuclei Theory	6	6 class lectures
		2 nd Sem - MINOR/DSC (Practical)	Data presentation	Diagrammatic data presentation: Chorochromatic map and dot map	3	3 class lectures with signature
	4TH SEMESTER	4 th Sem MAJOR-1 (Theory)	Distribution of atmospheric elements	Global wind belts and general circulation; Local wind; Geostrophic wind; Jet stream; El Nino and La Nina.	6	6 class lectures
		4 th Sem MAJOR-1 (Practical)	Indian daily weather report	Interpretation of Indian daily weather report ((hot weather season, southwest monsoon season)	3	3 class lectures with signature
		4 th Sem MAJOR-2 (Theory)	Population composition, Production and distribution of major crops & Agro-climatic regions	Population composition: Rural urban, gender and literacy; Salient features of Indian agriculture; Production and distribution of major crops: Rice, wheat, cotton and tea; Agro-climatic regions(Planning Commission of India).	6	6 class lectures
		4 th Sem MAJOR-2 (Practical)	Field report	Primary data collection through Excursion	2	2 class lectures
		4 th Sem MAJOR-3 (Theory)	Database models, DBMS & Web-GIS	Database models: Raster and vector; File formats of spatial data; Concept, functions, components and advantages of DBMS; Elements of data	6	6 class lectures

A P R I L				quality; Sources of error in GIS, Concept of Web-GIS		
		4 th Sem MAJOR-3 (Practical)	QGIS 3.22	Managing vector data: Adding vector layers, setting properties, merging, formatting and exporting of data	2	2 class lectures with signature
		4 th Sem MINOR (Theory)	Migration	Rural-urban and age-sex; Migration: Types, causes and consequences	6	6 class lectures
		4 th Sem MINOR (Practical)	Topographical map	Relative relief map (Smith); Transect chart: : Drawing and interpretation	2	2 class lectures with signature
	6TH SEMESTER	6 th Sem - DSE (Theory)	Climate change and vulnerability	Physical, social and economic vulnerability	6	6 class lectures
		6 th Sem - DSE (Practical)	Project report	Secondary data collection	2	2 class lectures
		6 th Sem - SEC	GIS Data Structures	Types (spatial and non-spatial), raster and vector data structure	6	6 class lectures
	2ND SEMESTER	2 nd Sem - MINOR/DSC (Theory)	Primate city, Rank size rule and Central Place Theory	Concept of primate city and rank size rule; Central Place Theory by W. Christaller	6	6 class lectures
		2 nd Sem - MINOR/DSC (Practical)	Data presentation	Diagrammatic data presentation: sphere map and choropleth map	3	3 class lectures with signature
	4TH SEMESTER	4 th Sem MAJOR-1 (Theory)	Humidity	Types and measurement; Atmospheric stability and instability; Condensation and nucleation; Mechanism of precipitation: Bergeron Findeisen and Collision-Coalescence Theory	6	6 class lectures
		4 th Sem MAJOR-1 (Practical)	Indian daily weather report	Interpretation of Indian daily weather report (northeast monsoon and winter season)	2	2 class lectures with signature
		4 th Sem MAJOR-2 (Theory)	Industrial development	Spatial pattern of industrial development: Iron and steel, cotton textile, petro-chemical, automobile and information technology	6	6 class lectures
		4 th Sem MAJOR-2 (Practical)	Field report	Data arrange and analysis	2	2 class lectures with signature
4 th Sem MAJOR-3 (Theory)		Application of GIS	Urban planning, environmental management, agriculture, disaster management, health care system, transport planning	6	6 class lectures	
4 th Sem MAJOR-3 (Practical)		Application of GIS	Defense and military, decentralized planning, tourism and natural resource	2	2 class lectures with signature	

				management			
		4 th Sem MINOR (Theory)	Rural settlements: Factors, types, pattern	Factors affecting the growth of the rural settlements; Types and patterns of rural settlements	6	6 class lectures	
		4 th Sem MINOR (Practical)	Data presentation	Diagrammatic data presentation: Line graph, bar graph (simple and compound)	2	2 class lectures with signature	
	6 th SEMESTER	6 th Sem - DSE (Theory)	Impact of Climate Change	Agriculture and water; flora and fauna	6	6 class lectures	
		6 th Sem - DSE (Practical)	Project report	Secondary data collection	2	2 class lectures	
		6 th Sem - SEC	GIS Data Structures	GIS Data Analysis: Input; geo-referencing; editing and output	6	6 class lectures	
	M A Y	2 ND SEMESTER	2 nd Sem - MINOR/DSC (Theory)	Rural-urban fringe & urban problems	Concept of rural-urban fringe; Rural problems: Low productivity in agriculture, unemployment and poverty; Urban problems: Slums, transportation and water supply	6	6 class lectures
			2 nd Sem - MINOR/DSC (Practical)	Data presentation	Revision	3	3 class lectures with signature
		4 TH SEMESTER	4 th Sem MAJOR-1 (Theory)	Precipitation & Climate change	Precipitation types; Airmass and fronts; Thunderstorms; Cyclone and anti-cyclone; Classification of world climate: Koppen & Thornthwaite; Climate change: Evidence and causes	6	6 class lectures
4 th Sem MAJOR-1 (Practical)			Indian daily weather report	Representation of weather/ climate data: Climograph and Hythergraph (Taylor)	2	2 class lectures with signature	
4 th Sem MAJOR-2 (Theory)			Transport development	Nature, pattern and development of transport network: Railways, roadways and waterways	6	6 class lectures	
4 th Sem MAJOR-2 (Practical)			Field report	Data arrange and analysis	2	2 class lectures with signature	
4 th Sem MAJOR-3 (Theory)			Application of GIS	Revision	6	6 class lectures	
4 th Sem MAJOR-3 (Practical)			QGIS 3.22	Thematic mapping; Working with attribute data; Importing spreadsheets or CSV files using plug-in tools	2	2 class lectures with signature	
4 th Sem MINOR (Theory)			Urban landuse and morphology & urbanization	Urban landuse & morphology: Concentric Zone, Sector and Multiple Nuclei Theory; Trends and patterns of urbanization in India.	6	6 class lectures	

J U N E	6TH SEMESTER	4 th Sem MINOR (Practical)	Data presentation	Diagrammatic data presentation: bar graph (multiple), proportional circle and choropleth map	2	2 class lectures with signature
		6 th Sem - DSE (Theory)	Impact of Climate Change & Adaptation and mitigation	Human health & Adaptation and mitigation to climate change	6	6 class lectures
		6 th Sem - DSE (Practical)	Project report	Field visit	2	2 class lectures
		6 th Sem - SEC	Application of GIS	Land use mapping; urban sprawl analysis; forests monitoring	6	6 class lectures
	2ND SEMESTER	2 nd Sem - MINOR/DSC (Theory)	Revision	Revision	4	Class test & doubt clearing sessions
		2 nd Sem - MINOR/DSC (Practical)	Revision	Revision	2	Library work & doubt clearing sessions
	4TH SEMESTER	4 th Sem MAJOR-1 (Theory)	Climate change	Ozone depletion and acid rain.	4	4 class lectures
		4 th Sem MAJOR-1 (Practical)	Indian daily weather report	Revision	2	2 class lectures
		4 th Sem MAJOR-2 (Theory)	Revision	Revision	4	4 class lectures
		4 th Sem MAJOR-2 (Practical)	Field report	Data arrange and analysis	2	Final sheets signature
		4 th Sem MAJOR-3 (Theory)	Revision	Revision	4	4 class lectures
		4 th Sem MAJOR-3 (Practical)	QGIS 3.22	Creating thematic maps (all using QGIS 3.22)	2	2 class lectures
		4 th Sem MINOR (Theory)	Revision	Revision	4	Doubt clearing sessions
4 th Sem MINOR (Practical)		Revision	Revision	2	Library work & doubt clearing sessions	
6TH SEMESTER	6 th Sem - DSE (Theory)	Adaptation and mitigation to climate change	Adaptation and mitigation to climate change with particular reference to India	4	Preparation of final Exams	
	6 th Sem - DSE (Practical)	Project report	After field survey & data interpretation	2	2 classes signature	
	6 th Sem - SEC	Revision	Revision	2	Preparation of final Exams	

Signature of the Teacher