

**Polba Mahavidyalaya**

**Departmental Lesson Plan 2021 – 2022**

Name of the Department: Geography

Name of the Programme: B.A. /B.Sc. (Honours/ ~~General~~)

Name of the Course: (Subject) : B.A. /B.Sc. Geography [Honours/ ~~General~~]

Period of the Lesson Plan : 1<sup>st</sup> July 2021 – 30<sup>th</sup> June 2022

Academic Period	Class.	Paper	Topic to be covered		No of Lectures /Practical	Name of the Teachers	Internal Assessment				
			Unit	Topic							
July 2021 – January 2022	SEM-I	CC1: GEOTECTONICS AND GEOMORPHOLOGY	Unit I: Geotectonics	Earth's tectonic and structural evolution with reference to geological time scale	60	BD	3 <sup>rd</sup> Week of December				
				Earth's interior with special reference to seismology.		BD					
				Concept of Isostasy : Theories of Airy and Pratt		BD					
				Plate Tectonics: Processes at constructive, conservative, destructive boundaries and hotspots: resulting landforms		RH					
			Unit II Geomorphology	Degradational processes: Weathering, mass wasting and resultant landforms		AB					
				Models of landscape evolution: Views of Davis, Penck, and Hack		MB					
				Slope Development: Concept of Wood		MB					
				Development of river network and landforms on uniclinal and folded structures		MB					
				Types of rocks, mineralogical composition of igneous rocks; Landforms on igneous rocks with special reference to Granite and Basalt		RH					
				Karst landforms: Surface and sub-surface		RH					
				Glacial and fluvio-glacial processes and landforms		RH					
				Aeolian and fluvio-aeolian processes and landforms		RH					
				CC2: CARTOGRAPH		Theory		Maps: Classification and Types. Components of a Map	60	RH	3 <sup>rd</sup> Week of December

	IC TECHNIQUES AND GEOLOGICAL MAP STUDY		Concept of Scales: Plain, Comparative, Diagonal and Vernier		B D						
			Coordinate Systems: Polar and Rectangular. Concept of Geoid and Spheroid. Map Projections: Classification, Properties and Uses. Concept and Significance of UTM Projection		A B						
			Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement		A B						
			Survey of India Topographical Maps: Reference scheme of Old and Open series		A B						
			Delineation of Drainage Basin from Survey of India Topographical Map. Concept of Relief, Slope and Stream Order.		M B						
			Types of rocks and minerals. Characteristics of Granite, Basalt, Dolerite, Pegmatite, Gneiss, Shale, Sandstone, Slate, Marble, Quartzite, Quartz, Feldspar, Mica, Limestone, Calcite, Bauxite, Magnetite, Hematite, Galena		RH						
			Concept of Bedding Plane, Unconformity and Non-conformity, thickness of Bed, Dip, Throw, Hade, heave		M B						
			Practical		Construction of Scales: Plain, Comparative, Diagonal and Vernier		B D				
					Construction of Projections: Polar Zenithal Stereographic, Simple Conic with two Standard Parallels, Bonne's and Mercator's		A B				
					Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite), Preparation of Relative Relief Map, Slope map (Wentworth), and Stream Ordering (Strahler) on a Drainage Basin.		AB				
					Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure); Drawing of Geological section and Interpretation of the Map.		MB				
							<b>Unit 1:</b>	Nature, composition and layering of the atmosphere,	60	BD	2 <sup>nd</sup> Week of December

SEM-III	CC5: CLIMATOLOGY	Elements of the Atmosphere	Insolation: controlling factors. Heat budget of the atmosphere.	60	BD	2 <sup>nd</sup> Week of December
			Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences.		BD	
			Greenhouse effect and importance of ozone layer		RH	
		Unit II Atmospheric Phenomena, Climate Change and Climatic Classification	Condensation: Processes and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation.		MB	
			Air mass: Typology, origin, characteristics and modification.		MB	
			Fronts: warm and cold; frontogenesis and frontolysis.		MB	
			Weather: stability and instability; barotropic and baroclinic conditions.		MB	
			Circulation in the atmosphere: Planetary winds, jet stream and monsoons		RH	
			Tropical and mid-latitude cyclones		RH	
			Evidences and causes of climate change		AB	
	Climatic classification after Köppen, Thorntwaite (1948)	AB				
	CC6: STATISTICAL METHODS IN GEOGRAPHY	Unit-1:Theory	Importance and significance of Statistics in Geography. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio), sources of data	AB		
			Collection of data and formation of statistical tables	AB		
			Sampling: Need, types, and significance and methods of random sampling	MB		
			Distribution: frequency, cumulative frequency	MB		
		Unit-2:Theory	Central tendency: Mean, median, mode, partition values	RH		
			Measures of dispersion range, mean deviation, standard deviation, coefficient of variation	RH		
			Association and correlation: Rank correlation, product moment correlation	RH		
			Linear Regression and time series analysis	RH		
		Practical	Construction of data matrix with each row representing an aerial unit (districts / blocks / mouzas /	BD		

			towns) and corresponding columns of relevant attributes.			
			Based on the above, a frequency table, measures of central tendency and dispersion would be computed and interpreted.		BD	
			Histograms and frequency curve would be prepared on the dataset.		BD	
			Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be plotted and residual from regression would be mapped with a short interpretation.		RH	
		CC7: GEOGRAPHY OF INDIA	<u>Unit 1:</u> Geography of India	60	MB	2 <sup>nd</sup> Week of December
			Geology and physiographic divisions		MB	
			Climate, soil and vegetation: Characteristics and classification		RH	
			Population: Distribution, growth, structure and policy		RH	
			Distribution of population by race, caste, religion, language, tribes		BD	
			Agricultural regions, Green revolution and its consequences		BD	
			Mineral and power resources distribution and utilisation of iron ore, coal, petroleum		AB	
			Industrial development since independence.		AB	
			Regionalisation of India: Views of Spate and Bhatt.		MB	
			<u>Unit 1:</u> Geography of West Bengal		RH	
			Physical perspectives: Physiographic divisions, forest and water resources		BD	
			Population: Growth, distribution and human development		AB	
			Resources: Mining, agriculture and industries			
			Regional Development: Darjeeling Hills and Sundarban			
		SEC- 1: COMPUTER BASICS AND COMPUTER APPLICATION S	Numbering Systems; Binary Arithmetic	40	AB	2 <sup>nd</sup> Week of December
			Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance and regression; Selection		AB	

				of technique and interpretation.					
				Preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram		MB			
				Internet Surfing: Generation and extraction of information		AB			
SEM-V	CC11: RESEARCH METHODOLOGY AND FIELD WORK	Unit I: Research Methodology	Research in Geography: Meaning, types and significance	60	AB	1 <sup>st</sup> Week of December			
			Significance of Literature review in research		AB				
			Defining research problem, objectives and hypothesis. Research materials and methods		RH				
			Techniques of writing scientific reports: Preparing notes, references, bibliography (APA Style), abstract and keywords		RH				
		Unit II Field Work	Fieldwork in Geographical studies – Role and significance. Selection of study area and objectives. Pre-field preparations. Ethics of fieldwork		MB				
		Field techniques and tools: Questionnaires (open, closed, structured, non-structured). Interview with special reverence to focused group discussions	MB						
		Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording.	RH						
		Collection of samples. Preparation of inventory from field data. Post-field tasks	RH						
		CC12: REMOTE SENSING AND GIS	Unit-1: Remote Sensing		Definition, Concepts and Principles of Remote Sensing (RS): Types of Air Photo, RS satellites, sensors and platforms		60	MB	1 <sup>st</sup> Week of December
					EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their applications with reference to IRS			MB	
Principles of False Colour Composites (FCC) from IRS LISS-III and Landsat Images (ETM+) data: Image Processing, Pre-processing; Enhancement; Classification.	AB								
Principles of image interpretation for Forest, Water and Soil	AB								
Unit-2: GIS & GNSS	Definition and Components of Geographical Information System (GIS) and raster and vector data structures		RH						

				Principles of preparing attribute tables and overlay analysis		RH	
				Principles of GNSS positioning - Uses and Waypoint Collection Methods		BD	
				Applications of Geographical Information System in Flood Management and Urban Sprawl		RH	
			Practical	Georeferencing of Scanned Maps		RH	
				Preparation of FCC using IRS LISS-III and/or Landsat (ETM+) data		AB	
				Preparation of LULC Map by Supervised Image Classification (Maximum Likelihood) using IRS LISS-III or Landsat (ETM+) data		AB	
				Digitisation of Point, Line and Polygon Features and Preparation of Thematic Map (using bar, pie and choropleth method)		RH	
		DSE1: CULTURAL AND SETTLEMENT GEOGRAPHY	Unit I: Cultural Geography	Definition, Scope and Content of Cultural Geography	60	MB	1 <sup>st</sup> Week of December
				Development of Cultural Geography		MB	
				Concept of Cultural Hearth, Realm; Cultural Landscape		MB	
				Cultural Innovation and Diffusion; Diffusion of Major World Religions		MB	
				Cultural Segregation, Cultural Diversity, and Acculturation		MB	
				Major Races of the World: Distribution and Characteristics		MB	
			Major Races of the World: Distribution and Characteristics	MB			
			Unit II Settlement Geography	Scope and Content of Settlement Geography		BD	
				Definition and Characteristics of Rural Settlement		BD	
				Rural Settlements: Site and Situation		BD	
				Urban Settlements: Census Definition, Urban Outgrowth, Urban Agglomeration		BD	
				Urban Morphology: Classical Models of Burgess, Hoyt, Harris and Ullman		BD	
				Functional Classification of Cities: Harris and Nelson		BD	
			Unit I		60		

		<b>DSE 2: POPULATION GEOGRAPHY</b>		<b>Development of Population Geography; Relation between Population Geography and Demography</b>		<b>AB</b>	<b>1<sup>st</sup> Week of December</b>
				<b>Determinants of Population Dynamics; Concept of Optimum Population</b>		<b>AB</b>	
				<b>Theories of population growth: Malthusian Theory and Marxian Approach, Demographic Transition Model</b>		<b>AB</b>	
				<b>Distribution, Density and Growth of Population in India since 1951</b>		<b>AB</b>	
			<b>Unit II</b>	<b>Population Composition and Characteristics: Age-Sex; Female-Male Ratio</b>		<b>RH</b>	
				<b>Measures of Fertility and Mortality</b>		<b>RH</b>	
				<b>Population Composition of India: Rural and Urban, Occupational Structure as per Census of India</b>		<b>RH</b>	
				<b>Migration: Theories, Causes and Types</b>		<b>RH</b>	
				<b>Concept of Human Development Index</b>		<b>RH</b>	
				<b>Population and development: population-resource regions,</b>		<b>RH</b>	
				<b>Population policies in Selected Countries: Sweden and China</b>		<b>RH</b>	
				<b>8. Contemporary Issues in Population: Health and Unemployment</b>		<b>RH</b>	
				<b>Population Composition and Characteristics: Age-Sex; Female-Male Ratio</b>		<b>RH</b>	
<b>February 2022 – June 2022</b>	<b>SEM-2</b>		<b>CC3: HUMAN GEOGRAPHY</b>	<b><u>Unit1: Nature and Principles</u></b>	<b>Nature, scope and recent trends of Human Geography</b>	<b>60</b>	
				<b>Evolution of humans, concept of race and ethnicity; Major Racial Groups of the world</b>		<b>BD</b>	
				<b>Space, society and cultural regions (language and religion)</b>		<b>BD</b>	
				<b>Concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world</b>		<b>BD</b>	
			<b><u>Unit II Society, Demography and Ekistics</u></b>	<b>Evolution of human societies: Hunting and gathering, Pastoralnomadism, Subsistence</b>		<b>AB</b>	

				farming, Industrial and urban societies			
				Human-environment relations with special reference to Arctic and hot desert regions		AB	
				Population growth and distribution, composition; demographic transition		RH	
				Population–resource regions (Ackerman)		RH	
				Human, population and environment relations with special reference to Development–environment conflict		RH	
				Social morphology and rural house types in India		RD	
				Types and patterns of rural settlements		RD	
				Functional Classification of urban settlements		RD	
		<b>CC4: CARTOGRAMS, SURVEY AND THEMATIC MAPPING</b>	Theory	Concepts of Cartograms and Thematic Maps	60	RH	3 <sup>rd</sup> Week of May
				Concept and utility of Isopleths and Choropleth,		RH	
				Concept, utility, and interpretation of: Climograph, Hythergraph and Ergograph		BD	
				Preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid)		BD	
				Concepts of Bearing: magnetic and true, whole-circle and reduced		AB	
				Basic concepts of surveying and survey equipment: Abneys Level, Clinometer		AB	
				Basic concepts of surveying and survey equipment: Prismatic Compass, Dumpy Level, Transit Theodolite		RD	
				Interpretation of Land use and land cover maps		RD	
SEM-4	CC8: Regional Planning and Development	<u>Unit 1: Regional Planning</u>	Concept and Classification of Regions	60	RD	2 <sup>nd</sup> Week of May	
			Types of Planning; Principles and Techniques of Regional Planning		RD		
			Need for Regional Planning; Multilevel Planning in India		RD		
			Metropolitan Concept: Metropolitan		RD		



				Areas, Metropolitan Region			
			<u>Unit II Regional Development</u>	Development: Meaning, Growth versus Development		BD	
				Models for Regional Development: Growth Pole		BD	
				Model for development India		BD	
				Concept of Regional Inequality and Disparity		BD	
				Human Development: Significance, Indicators and Measurement		BD	
				Status of Regional Imbalances in India		BD	
				Strategies for Regional Development in India		BD	
				NITI Aayog and its Functions		BD	
	CC9: Economic Geography	<u>Unit 1: Concepts and Approaches</u>		Meaning and Approaches to Economic Geography	60	RH	2 <sup>nd</sup> Week of May
				Concepts in Economic Geography		RH	
				Factors Influencing Location of Economic Activity		RH	
				Determining Factors of Transport Cost		RH	
		<u>Unit II Economic Activities</u>		Concept and Classification of Economic Activities		AB	
				Location Theories: Von Thünen and Alfred Weber		AB	
				Primary Activities:		AB	
				Secondary Activities: Manufacturing (Iron and Steel in India and Japan, Petrochemical in India and USA)		AB	
				Tertiary Activities: Types of Trade and Services		AB	
				Agricultural Systems: Tea Plantation in India and Mixed Farming in Europe		AB	
				Highways: Roles in Economic Development of India since 1990s		AB	
				International Trade Blocs: WTO and OPEC		AB	
	CC10: Environmental Geography	Theory		Geographers' Approach to Environmental Studies	60	RD	2 <sup>nd</sup> Week of May
				Changes in Perception		RD	
				Ecosystem: Concept, Structure and Functions		BD	
				Environmental Degradation and Pollution: Water and Air		BD	
				Environmental Issues related to Agriculture		AB	
				Urban Environmental issues related to Waste Management		AB	



				Approaches to the study of Geography: Systematic and Regional		BD		
	<b>CC14: DISASTER MANAGEMENT</b>	<b>Unit-I</b>	Classification of hazards and disasters	60	RH	1 <sup>st</sup> Week of May		
Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms			RH					
Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building			RH					
Hazards mapping: Data and techniques.			RH					
<b>Unit-II</b>		Earthquake: Factors, vulnerability, consequences and management	AB					
		Landslide: Factors, vulnerability, consequences and management	AB					
		Cyclone: Factors, vulnerability, consequences and management	AB					
		Fire: Factors, vulnerability, consequences and management	AB					
<b>DSE 3: RESOURCE GEOGRAPHY</b>		<b>Unit-I</b>	Resource Geography: Its Importance and relation with other sub-disciplines		60		RD	1 <sup>st</sup> Week of May
			Resource: Concept and Classification				RD	
	Functional Theory of Resource		RD					
	Problems of Resource Depletion with Special Reference to Forest, Water and Fossil Fuels		AB					
	Resource Conservation: Principles and Methods		AB					
	Concept of 'Limits to Growth'		AB					
	<b>Unit-II</b>	Distribution and Utilisation of Metallic Mineral Resources in Indian Context: Iron ore, Bauxite	BD					
		Distribution and Utilisation of Non-Metallic Mineral Resources in Indian Context: Mica, Limestone	BD					
		Distribution, Problems and Management of Energy Resources in Indian Context: Conventional (Coal) and Non-Conventional (Solar)	BD					
		Power resources and problems with reference to Petroleum	RH					
		Contemporary Energy Crisis and Future Scenario	RH					
		Sustainable Resource Development	RH					
	<b>Unit 1:</b>	Soil: Definition, Factors of Formation	60	RH	1 <sup>st</sup> Week of May			

		<b>DSE 4: SOIL AND BIO GEOGRAPHY</b>	<b>Soil Geography</b>	<b>Development and Characteristics of an ideal Soil Profile</b>	<b>RH</b>
				<b>Physical and Chemical Properties of Soil with special reference to Texture, Structure, Organic Carbon and pH</b>	<b>AB</b>
				<b>Concept of Zonal, A zonal and Intra zonal Soil; Formation and Profile</b>	<b>AB</b>
				<b>Characteristics of Laterite and Podsol</b>	<b>AB</b>
				<b>Classification of Soil: Russian and Indian(ICAR)</b>	<b>AB</b>
				<b>Soil Degradation and Management</b>	<b>BD</b>
			<b>Unit 2:Bio Geography</b>	<b>Definition and Scope of Bio-geography, Meaning of Biosphere, Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes</b>	<b>BD</b>
				<b>Biosphere and Energy: Laws of Energy Exchange, Food Chain, Food Web and Energy Flow</b>	<b>BD</b>
				<b>Bio-Geo Chemical Cycle: Carbon,Nitrogen</b>	<b>RD</b>
				<b>Factors of Plant Growth: Light, Heat, Moisture, Wind, Soil andTopography</b>	<b>RD</b>
				<b>Biomes–Concept and Classification; Tropical Rain forest &amp;Temperate Grassland</b>	<b>RD</b>
				<b>Threat to Biodiversity-Causes, Consequences and Conservation</b>	<b>RD</b>

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MB- Dr. Mohona Basu

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BD- Biswajit Dhara