Polba Mahavidyalaya

Departmental Lesson Plan 2022 – 2023

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 : 1st July 2022 – 30th June 2023

Academic Period	Class.	Paper	Topic to be covered		No of Lectures /Practical	Name of the Teachers	Internal Assessment
			Unit	Topic			
July 2022 – January 2023	SEM-I	CC1: GEOTECTONICS AND GEOMORPHOLOGY	Unit 1: Geotectonics	Earth's tectonic and structural evolution with reference to geological time scale	60	BD	3rd 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 boundariesand 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		RD	
				Slope Development: Concept of Wood		RD	
				Development of river network and landforms on uniclinal and folded structures		RD	
				Types of rocks, mineralogical composition of igneous rocks; Landforms on igneous rockswith 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	3rd 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.		R D	
				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		R D	
			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+RD	
				Geological Map (Problems related to Horizontal, Uniclinal, Folded and Faulted structure); Drawing of Geological section and Interpretation of the Map.		RD	
			Unit 1:	Nature, composition and layering of the atmosphere,	60	BD	2nd Week of December

SEM-III		CC5: CLIMATOLOGY	Elements of the Atmosphere	Insolation: controlling factors. Heat budget of the atmosphere.		BD	
				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.		RD	
				Air mass: Typology, origin, characteristics and modification.		RD	
				Fronts: warm and cold; frontogenesis and frontolysis.		RD	
				Weather: stability and instability; barotropic and baroclinic conditions.		RD	
				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, Thornthwaite (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), sourcesof data	60	AB	2nd Week of December
				Collection of data and formation of statistical tables		AB	
				Sampling: Need, types, and significance and methods of random sampling		RD	
				Distribution: frequency, cumulative frequency		RD	
			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 dispersionwould 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 shortinterpretation.	RH+RD	
		CC7: GEOGRAPHY OF INDIA	Unit 1: Geography of India	Geology and physiographic divisions	RD 60	2nd Week of December
				Climate, soil and vegetation: Characteristics and classification	RD	
				Population: Distribution, growth, structure and policy	RH	
				Distribution of population by race, caste, religion, language, tribes	RH	
				Agricultural regions, Green revolution and its consequences	BD	
				Mineral and power resources distribution and utilisation of iron ore, coal, petroleum	BD	
				Industrial development since independence.	AB	
				Regionalisation of India: Views of Spate and Bhatt.	AB	
			Unit 1: Geography of West Bengal	Physical perspectives: Physiographic divisions, forest and water resources	RD	
				Population: Growth, distribution and human development	RH	
				Resources: Mining, agriculture and industries	BD	
				Regional Development: Darjeeling Hills and Sundarban	AB	
		SEC- 1: COMPUTER BASICS AND COMPUTER APPLICATIONS		Numbering Systems; Binary Arithmetic	AB 40	2nd 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		RD	
				Internet Surfing: Generation and extraction of information		AB	
	SEM-V	CC11: RESEARCH METHODOLOGY AND FIELD WORK	Unit 1: Research Methodology	Research in Geography: Meaning, types and significance	60	AB	1st 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		RD	
				Field techniques and tools: Questionnaires (open, closed, structured, non-structured). Interview with special reverence to focused group discussions		RD	
				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	RD	1st Week of December
				EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their applications with reference to IRS		RD	
				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-IIIor Landsat (ETM+) data		AB
				Digitisation of Point. Line and Polygon Features and Preparation of Thematic Map (using bar, pie and choropleth method)		RH
						1st Week of December
		DSE1: CULTURAL AND SETTLEMENT GEOGRAPHY	Unit 1: Cultural Geography	Definition, Scope and Content of Cultural Geography	60	RD
				Development of Cultural Geography		RD
				Concept of Cultural Hearth, Realm; Cultural Landscape		RD
				Cultural Innovation and Diffusion; Diffusion of Major World Religions		RD
				Cultural Segregation, Cultural Diversity, and Acculturation Major Races of the World: Distribution and Characteristics		RD
				Major Races of the World: Distribution and Characteristics		RD
			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	

						AB	1st Week of December
		DSE 2: POPULATION GEOGRAPHY			Development of Population Geography; Relation between Population Geographyand Demography		
					Determinants of Population Dynamics; Concept of Optimum Population	AB	
					Theories of population growth: Malthusian Theory and Marxian Approach, Demographic Transition Model	AB	
					Distribution, Density and Growth of Population in India since 1951	AB	
			Unit II		Population Composition and Characteristics: Age-Sex; Female-Male Ratio	RH	
					Measures of Fertility and Mortality	RH	
					Population Composition of India: Rural and Urban, Occupational Structure asper Census of India	RH	
					Migration: Theories, Causes and Types	RH	
					Concept of Human Development Index	RH	
					Population and development: population-resource regions,	RH	
					Population policies in Selected Countries: Sweden and China 8.Contemporary Issues in Population: Health and Unemployment	RH	
					Population Composition and Characteristics: Age-Sex; Female-Male Ratio	RH	
February 2023 – June 2023	SEM-2	CC3: HUMAN GEOGRAPHY	Unit1: Nature and Principles	Nature,scope and recent trends of Human Geography	60	RH	3rd Week of May
				Evolution of humans, concept of race and ethnicity; Major Racial Groups of the world		BD	
				Space, society and cultural regions (language and religion)		BD	
				Concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world		BD	
			Unit II Society,Demography and Ekistics	Evolution of human societies: Hunting and gathering, Pastoralnomadism, Subsistence		AB	

			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	
	CC4: CARTOGRAMS, SURVEY AND THEMATIC MAPPING	Theory	Concepts of Cartograms and Thematic Maps	60	RH	3rd 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	Unit 1: Regional Planning	Concept and Classification of Regions	60	RD	2nd Week of May
			Types of Planning; Principles and Techniques of Regional Planning		RD	
			Need for Regional Planning; Multilevel Planning in India		RD	
			Metropolitan Concept: Metropolis, Metropolitan		RD	

				Areas, Metropolitan Region		
		Unit II Regional Development	**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	**Unit 1: Concepts and Approaches**	**Meaning and Approaches to Economic Geography**	**60**	**RH**	**2nd Week of May**
			Concepts in Economic Geography		**RH**	
			Factors Influencing Location of Economic Activity		**RH**	
			Determining Factors of Transport Cost		**RH**	
		Unit IIEconomic Activities	**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**	**2nd 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**	

			Concept and Issues related to Bio-diversity		RH	
			Environmental Programs and Policies on Forest and Wetland: National and Global		RH	
		Practical	Preparation of questionnaire for perception survey on environmental problems		RH	
			Environmental Impact Assessment: Leopold Matrix		BD	
			Quality assessment of soil using field kit: pH and NPK		RD	
			Interpretation of air quality using CPCB / WBPCB data		AB	
	SEC-2: ADVANCED SPATIAL STATISTICAL TECHNIQUES	Theory	Concept of Probability and Normal Distribution and their Geographical Applications, Skewness (Pearson's Method)	40	BD	2nd Week of May
			Differences between Spatial and non-Spatial data, Nearest NeighbourAnalysis		RD, RH	
			Correlation and Regression Analysis, t-test, Spearman's Rank Correlation Product Moment Correlation; Linear Regression		RD, RH	
			Time Series Analysis; Smoothing time series by Least Square and/orMoving Average Method		AB	
SEM-6	CC13: EVOLUTION OF GEOGRAPHICAL THOUGHTS	Unit 1	Definition,Scope and Content of Geography;Geographyas a Spatial Science	60	RD	1st Week of May
			Geography in Ancient Period: Greek and Roman		RD	
			Development of Geography in Medieval period:Arabian		RD	
			Development of Mapping and Knowledge about the World Regional Geography in the Age of Explorations		RD	
			Classical Geography in19th Century:Humboldt,Ritter		RD	
			Quantitative Revolution and its Critique		RD	
		Unit 2	German School of Thought		BD	
			French School of Thought		BD	
			American School of Thought		BD	
			Indian Contribution to Geography		BD	
			Concept of Determinism, Possibilism and Neo-Determinism		BD	

			Approaches to the study of Geography:Systematic and Regional		BD	
	CC14: DISASTER MANAGEMENT	Unit-I	Classification of hazards and disasters	60	RH	1st 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	
		Unit-II	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	
	DSE 3: RESOURCE GEOGRAPHY	Unit-I	Resource Geography: Its Importance and relation with other sub-disciplines	60	RD	1st 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	
		Unit-II	Distribution and Utilisation of Metallic Mineral Resources in Indian Context: Ironore, Bauxite		BD	
			Distribution and Utilisation of Non-Metallic Mineral Resource sin Indian Context: Mica, Limestone		BD	
			Distribution, Problems and Management of Energy Resource sin 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	
		Unit 1:	Soil: Definition, Factors of Formation	60	RH	1st Week of May

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

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