Polba Mahavidyalaya

Departmental Lesson Plan 2024– 2025

Name of the Department: **Geography**

Name of the Programme: B.A. /B.Sc. (Honours for CBCS, Major and Minor for CCFUP/ ~~General~~)

Name of the Course: (Subject) : B.A. /B.Sc. Geography [Honours for CBCS, Major and SEC for CCFUP / ~~General~~]

Period of the Lesson Plan : 1st July 2024– 30th June 2025

Academic Period	Class.	Paper	Topic to be covered		No of Lectures /Practical	Name of the Teachers	Internal Assessment
			Unit	Topic			
July 2024 – January 2025	SEM-I (UNDER CCFUP)	Major: GEOG 1011 GEOTECTONICS AND GEOMORPHOLOGY	Unit 1: Concepts in Geotectonic	Earth's crust and interior: Internal structure with seismological evidences	30	BD	3rd Week of December
				Theories of Isostasy: Airy & Pratt		BD	
				Continental Drifting: Evidences, criticism and importance		BD	
				Sea floor spreading: Process, evidences (Palaeomagnetism)		RH	
				Plate Tectonics: Mechanism of movements, vulcanism, genesis of earthquake and Mountain building		RH	
				Folds and Faults: Origin and classification		RH	
			Unit II Geomorphology	Fundamental principles of Geomorphology	30	AB	
				Denudational processes and resultant landforms: Weathering and Mass movement		AB	
				Theories of landscape evolution: Time-dependent (Davis, Penck) and Time-independent (Hack)		RD	
				Slope development: Theories of King and Wood		RD	
				Processes and landforms: Fluvial and Coastal		AB	
				Drainage development and structure: Uniclinal and folded		RD	
		SEC: GEOG 1051 COMPUTER BASICS AND COMPUTER	Practical	Numbering Systems; Binary Arithmetic	90	AB	3rd Week of December
				Data Computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean,		RH	

		APPLICATIONS		**Median, Mode, Standard Deviation**			
				Moving Averages, Derivation of Correlation, Covariance and regression; Selection of technique and interpretation		**RD**	
				Preparation of annoted diagrams and its interpretation: Scatter diagram and Histogram		**RD**	
				Internet surfing: generation and extraction of information		**BD**	
	SEM-III (UNDER CCF)	**Major: GEOG 3011 Geography Of India**	**Unit 1: Physical Geography**	**Geological set-up: Archaean, Purana, Dravidian, and Aryan Rock systems**	**60**	**BD**	**2nd Week of December**
				Physiographic divisions.		**BD**	
				Drainage Systems: Himalayan and Peninsular		**BD**	
				Climate: Types and characteristics; Significance of Indian Monsoon		**RH**	
				Soil: Types, Characteristics and Distribution		**RH**	
				Vegetation: Types and Classification		**RH**	
			Unit II Economic and Social Geography	**Agricultural regions, Green Revolution and its consequences**		**AB**	
				Industrial development since independence		**AB**	
				Distribution of Minerals and Energy Resources: Iron, Bauxite, Coal and Petroleum		**AB**	
				Water Resources of India; Inter-state conflicts		**RD**	
				Regionalisation of India: Views of Spate and Bhatt		**RD**	
				Human Resources: Population Distribution and population policies		**RD**	
		MAJOR: GEOG 3012 CARTOGRAPHY & SURVEYING (PR)	**Unit-1: Map Scales and Thematic Mapping**	**Concepts of Cartograms and Thematic Maps**	**60**	**BD**	**2nd Week of December**
				Concept of Scale; Reduction and Enlargement of Scale		**BD**	
				Construction of Scale: Plain, Comparative, Diagonal, and Vernier		**BD**	
				Diagrammatic representation of data: Star and Age-sex pyramid diagram, Proportional Pie diagram, Ternary diagram.		**BD**	
				Representation of data on a map by proportional circles, dots and spheres, isolines and Choropleth method, Chorochromatic maps.		**RH**	

				Preparation and interpretation of Climograph, Hythergraph, Ergograph		**RH**	
			Unit-2: Surveying	**Basics of surveying and survey equipment: Concepts of Bearing: magnetic and true; whole-circle and reduced.**		**RD**	
				Numerical problems related to traverse: calculation of Exterior and Interior angles, measurement of area.		**RD**	
				Open and closed traverse survey using Prismatic Compass; Correction for closing error (Bowditch's method).		**AB**	
				Drawing of the longitudinal profile and Contouring over closed traverse using Dumpy level and Digital levelling instrument		**AB**	
				Measurement of Height and distance of objects using Transit Theodolite (Accessible and Inaccessible bases) on horizontal plains with the same and different instrument heights.		**RD**	
				Measurement of ground slope using Abney level. Determination of strike and dip using Brunton Compass.		**RD**	
		SEC: GEO 3051 BASICS OF RS & GIS	**Remote Sensing and GIS**	**Remote Sensing: Definition, Platforms, Types, Sensors and Resolution**	**100**	**RH**	**2nd Week of December**
				Satellite Remote Sensing: Principles, EMR Interaction with Atmosphere and Earth Surface; Landsat and IRS Satellites: Sensors and Resolution		**AB**	
				GIS: Definition, Data Structure (Vector and Raster), Applications		**RH**	
				4. Downloading of satellite images and preparation of SFCC		**AB**	
				Georeferencing of Scanned Maps; Digitization of Point, Line, and Polygon features; Digitization of Administrative Boundaries		**RH**	
	SEM-V (UNDER CBCS)	**CC11: RESEARCH METHODOLOGY AND FIELD WORK**	**<u>Unit 1:</u> Research Methodology**	**Defining research problem, objectives and hypothesis. Research materials and methods**	**60**	**RH**	**1st Week of December**
				Techniques of writing scientific reports: Preparing notes, references, bibliography (APA Style), abstract and keywords		**RH**	
				Fieldwork in Geographical studies – Role and significance. Selection of study area and		**RD**	

				objectives. Pre-field preparations. Ethics of fieldwork			
				Field techniques and tools: Questionnaires (open, closed, structured, non-structured). Interview with special reverence to focused group discussions		RD	
			Unit II Field Work	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	
				Definition, Concepts and Principles of Remote Sensing (RS): Types of Air Photo, RS satellites, sensors and platforms		RD	
				EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their applications with reference to IRS		RD	
		CC12: REMOTE SENSING AND GIS	Unit-1:Remote Sensing	Principles of False Colour Composites (FCC) from IRS LISS-III and Landsat Images (ETM+) data: Image Processing, Pre-processing; Enhancement; Classification.	60 60	AB	1st Week of December
				Principles of image interpretation for Forest, Water and Soil		AB	
				Definition and Components of Geographical Information System (GIS) and raster and vector data structures		RH	
				Principles of preparing attribute tables and overlay analysis		RH	
			Unit-2: GIS & GNSS	Principles of GNSS positioning - Uses and Waypoint Collection Methods		BD	
				Applications of Geographical Information System in Flood Management and Urban Sprawl		RH	
				Georeferencing of Scanned Maps		RH	
				Preparation of FCC using IRS LISS-III and/or Landsat (ETM+) data		AB	
			Practical	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	

				Preparation of LULC Map by Supervised Image Classification (Maximum Likelihood) using IRS LISS-IIIor Landsat (ETM+) data		**RD**	
				Definition, Scope and Content of Cultural Geography Development of Cultural Geography		**RD**	
						RD	**1st Week of December**
		DSE1: CULTURAL AND SETTLEMENT GEOGRAPHY	**Unit 1: Cultural Geography**	**Concept of Cultural Hearth, Realm; Cultural Landscape**	**60 60**	**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**	
				Scope and Content of Settlement Geography		**BD**	
				Definition and Characteristics of Rural Settlement		**BD**	
			Unit II Settlement Geography	**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**	
				Development of Population Geography; Relation between Population Geographyand Demography		**BD**	
				Functional Classification of Cities: Harris and Nelson		**AB**	
		DSE 2: POPULATION GEOGRAPHY	**Unit I**	**Determinants of Population Dynamics; Concept of Optimum Population** **Theories of population growth: Malthusian Theory and Marxian Approach, Demographic Transition Model**	**60 30**	**AB**	
						AB	**1st Week of December**
				Distribution, Density and Growth of Population in India since 1951		**AB**	

				Population Composition and Characteristics: Age-Sex; Female-Male Ratio		**RH**	
				Measures of Fertility and Mortality		**RH**	
			Unit II	**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**	
				Development of Population Geography; Relation between Population Geography and Demography		**AB**	
				Determinants of Population Dynamics: Fertility, Mortality and Migration		**AB**	
February 2025 – June 2025	**SEM-2 (UNDER CCF UP)**	**MAJOR: GEOG 2012 POPULATION AND SETTLEMENT GEOGRAPHY**	**<u>Unit1:</u> Population Geography**	**Measures of Fertility and Mortality**	**30 30**	**AB**	**3rd Week of May**
				Migration: Theories, Causes and Types		**RH**	
				Theories of population growth: Malthus and Marx; Demographic Transition		**RH**	
				Population Composition (Age-Sex; Occupational Structure); Population policies (India and Sweden).		**RH**	
				Development of Settlement Geography		**BD**	
				Characteristics of Rural Settlement; Site, Situation, types and Pattern		**BD**	
			<u>Unit II:</u> Settlement Geography	**Morphology of rural Settlements**	**30 45**	**BD**	
				Urban Settlements: Census Definition, Urban Agglomeration; Urban sprawl, Rural-urban Continuum,		**RD**	

				Rurban and Periurban			
				Urban Morphology: Classical Models of Burgess, Hoyt, Harris and Ullman		**RD**	
				Central place theory and Hierarchy of settlements; Urban primacy		**RD**	
				Fieldwork in Geographical studies – Role and significance, Selection of study area and objectives, Pre-field preparations, Ethics of fieldwork		**RD**	
				Preparation of Survey Schedule and Questionnaires (open, closed, structured, non-structured)		**AB**	
		SEC: GEOG 2052 FIELD SURVEY TECHNIQUES	**Theory**	**Interview with special reference to focused group discussions**	**45 60**	**AB**	**3rd Week of May**
				Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording		**BD**	
				Collection of samples. Preparation of inventory from field data. Post-field tasks		**RH**	
				Concept and Classification of Regions		**RD**	
				Types of Planning; Principles and Techniques of Regional Planning		**RD**	
	SEM-4 (UNDER CCF)	**Major: GEOG 4011 CLIMATOLOGY**	**<u>Unit 1:</u> Elements of the Atmosphere**	**Nature, composition, and layering of the atmosphere,**	**60 40**	**BD**	**2nd Week of May**
				Insolation: Latitude-wise variation of solar incidence. Depletion of Solar radiation within the atmosphere.		**BD**	
				Heat balance (Terrestrial and Latitudinal), Heat budget.		**BD**	
				Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes, and consequences. Adiabatic temperature changes		**RH**	
				Stability and Instability of the atmosphere; Types of instability.		**RH**	
				Greenhouse effect, importance of the Ozone layer and depletion		**RH**	
			<u>Unit II</u>	**Atmospheric moisture: Vapor pressure, Dew point and**		**AB**	

			Atmospheric Phenomena	**Saturation; Condensation: Processes and forms. Types of clouds.**			
				Mechanism of Precipitation: Bergeron-Findeisen theory, Collision and Coalescence. Forms of Precipitation.		**AB**	
				Air mass: Typology, origin, characteristics, and modification.		**AB**	
				Circulation in the atmosphere: Planetary winds, Tri-Cellular model, Jet Stream		**RD**	
				Monsoons: Origin and Mechanisms; Theories of Monsoon: Koteswaram, Jet Stream		**RD**	
				Tropical and mid-latitude cyclones; Thunderstorm		**RD**	
		MAJOR: GEOG 4012 ECONOMIC GEOGRAPHY	**<u>Unit 1:</u> Concepts and Approaches**	**Concepts and Approaches to Economic Geography**	**60 40**	**RH**	**2nd Week of May**
				Concepts of Goods, Services, Production, and Consumption in Economic Geography		**RH**	
				Resource: Concepts, significance and classification		**AB**	
				Factors Influencing Location of Economic Activity and Forces of Agglomeration		**AB**	
				Location Theories: Von Thünen and Alfred Weber		**AB**	
				Resource depletion and Conservation, Limits to growth		**AB**	
			<u>Unit II:</u> Economic Activities	**Concept and Classification of Economic Activities**		**BD**	
				Marketplace theories: Losch and Palander		**BD**	
				Primary Activities: Subsistence and Commercial Agriculture; Forestry; Fishing		**BD**	
				Secondary Activities: Manufacturing (Iron and Steel in India and Japan, Petrochemical in India and USA)		**BD**	
				Highways: Roles in Economic Development of India since 1990s		**RD**	
				International Trade Blocs: WTO and OPEC		**RD**	
				Tertiary Activities: Types of Trade and Services		**RD**	
				International Trade Blocs:		**RD**	

				WTO and OPEC. SAARC, BRICKS.			
		Major: GEOG 4013 MAP PROJECTION & MAP ANALYSIS (PR)	**Unit 1: Map projection**	**Coordinate Systems: Polar and Rectangular. Concept of Geoid and Spheroid.**	**100**	**AB**	**2nd Week of May**
				Map Projections: Classification, Properties, and Uses. Concept and Significance of UTM Projection		**AB**	
				Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement.		**BD**	
				Construction of Projections: Polar Zenithal Stereographic, Simple Conical with two Standard Parallels, Bonne's, Cylindrical Equal Area, and Mercator's.		**BD**	
			Unit 2: Topographical Maps and Geological Map	**Survey of India Topographical Maps: Reference scheme of Old and Open series**		**RH**	
				Delineation of Drainage Basin from Survey of India Topographical Map. Concept of Relief, Slope, and Stream Order.		**RH**	
				Construction and Interpretation of Relief Profiles (Superimposed, Projected and Composite),		**RH**	
				Preparation of Maps for Relative Relief, Dissection Index, Slope map (Wentworth), Drainage Density and Stream Ordering (Strahler) on a Drainage Basin.		**AB**	
				Elements of Geological map: Bedding Plane, Unconformity and Non- conformity, thickness of Bed, Dip, Throw, Hade, Heave.		**RD**	
				Drawing of geological cross sections: Problems related to Horizontal, Uniclinal, Folded and Faulted structures.		**RD**	
				Determination of True and apparent dip, identification of dip direction, thickness, and displacement (for faulted structures).		**RD**	

				Interpretation of geological structures: correlation with topography, geological history.		RD	
	SEM-6 (UNDER CBCS)	CC13: EVOLUTION OF GEOGRAPHICAL THOUGHTS	Unit 1	Development of Geography in Medieval period:Arabian	60 60	RD	1st Week of May
				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	
				German School of Thought		BD	
				French School of Thought		BD	
			Unit 2	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	
				Classification of hazards and disasters		RH	
				Approaches to hazard study:Risk perception and vulnerability assessment. Hazard paradigms		RH	
		CC14: DISASTER MANAGEMENT	Unit-I	Responses to hazards:Preparedness, trauma and aftermath. Resilience and capacity building	60 60	RH	1st Week of May
				Hazards mapping:Data and techniques.		RH	
				Earthquake:Factors, vulnerability, consequences and management		AB	
				Landslide: Factors, vulnerability, consequences and management		AB	
			Unit-II	Cyclone:Factors,vulnerability, consequences and management		AB	
				Fire:Factors,vulnerability,consequences and management		AB	
				Resource Geography: Its Importance and relation with other sub-disciplines		RD	
				Resource: Concept and Classification		RD	
		DSE 3: RESOURCE GEOGRAPHY	Unit-I	Functional Theory of Resource	60 60	RD	1st Week of May
				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**	
				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**	
			Unit-II	**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**	
				Soil: Definition, Factors of Formation		**RH**	
				Development and Characteristics of an ideal Soil Profile		**RH**	
		DSE 4: SOIL AND BIO GEOGRAPHY	**Unit 1: Soil Geography**	**Physical and Chemical Properties of Soil with special reference to Texture, Structure, Organic Carbon and pH**	**60**	**AB**	**1st Week of May**
				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**	
				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**	
			Unit 2: Bio Geography	**Bio-Geo Chemical Cycle: Carbon,Nitrogen**		**RD**	
				Factors of Plant Growth: Light, Heat, Moisture, Wind, Soil andTopography		**RD**	
				Biomes–Concept and		**RD**	

				Classification; Tropical Rain forest &Temperate Grassland			
				Threat to Biodiversity-Causes, Consequences and Conservation		**RD**	

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