

Department of Geography

Academic Calendar and Academic Plan for AY 2024-25 (ODD SEMESTER)

Semester -I Major & Minor

Full Marks: 100 (Theoretical ESE – 70 & Theoretical CA – 30)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Fundamental of Physical Geography (BSCGEO MJ101)	Unit I 1.1	Earth as a Planet: Theories on the origin of the Earth (Immanuel Kant and Pierre-Simon Laplace)	Mukul Kamle	Mid August, 2024	NA	2	August,2024
	1.2	The Solid Earth: Earth's tectonic and structural evolution through geological time scales; Basics of Geochronology	Mukul Kamle	Mid September, 2024	NA	4	
	1.3	Thermal and physical state of the Earth's interior with special reference to seismological evidence; Genesis of earthquake; Volcanicity and related landforms	Mukul Kamle	October, 2024	NA	4	
	1.4	Continental drift and seafloor spreading with special reference to Paleomagnetism; Isostasy (Models of Airy, Pratt and their applicability)	Swarup Akhuli	August, 2024	NA	5	
	1.5	Earth's atmosphere: Insolation; Pressure belts; Planetary wind system; Green house effect and global warming	Palash kumar Mondal	Mid September 2024	NA	5	
	1.6	Earth's hydrosphere: Global hydrological cycle; Ocean circulation-major ocean currents (Atlantic and Pacific)	Palash kumar Mondal	October, 2024	NA	5	
	1.7	Earth's biosphere: Major Biomes of the world (Tropical Rainforest, Temperate Grassland and Tundra); Classification of forest (Champion)	Swarup Akhuli	September, 2024	NA	5	September,2024
	1.8	Earth's pedosphere: Concept of Zonal, Azonal and Intrazonal Soil; Soil erosion and conservation	Palash kumar Mondal	November, 2024	NA	5	
	Unit II 2.1	Basic concepts of Geomorphology (W.D.Thornbury); Scales in Geomorphology	Mukul Kamle	Mid November, 2024	NA	2	
	2.2	Plate Tectonics and associated landforms: Processes and landforms at plate margins and plate interiors	Palash kumar Mondal	Mid November, 2024	NA	5	
	2.3	Degradation processes: Weathering, mass wasting and resultant landforms	Palash kumar Mondal	December, 2024	NA	5	November, 2024

- NA – Not Applicable

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Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
	2.4	Models of landscape evolution: Views of Davis, Penck, and Hack	Swarup Akhuli	October, 2024	NA	5	
	2.5	Development of river network and landforms on uniclinal and folded structures	Swarup Akhuli	November, 2024	NA	5	
	2.6	Development of landforms on igneous rocks: Granite and basalt; Landforms on sedimentary rocks: Sandstones and limestones	Swarup Akhuli	Mid November, 2024	NA	5	
	2.7	Surface processes and landforms: Fluvial, Aeolian and fluvio-aeolian, Glacial and glacio-fluvial	Mukul Kamle	End November, 2024	NA	4	
	2.8	Coastal processes and landforms	Swarup Akhuli	December, 2024	NA	5	

- NA – Not Applicable

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Semester -I: Skill Enhancement Course

Full Marks: 50 (Practical CA – 30 & Practical ESE – 20)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Elementary Practicals in Physical Geography	Unit I 1.1	Concept and classification of map scales (Linear, Diagonal and Vernier)	Mukul Kamle	September, 2024	12	NA	
	1.2	Megascopic identification of (a) Mineral samples: Bauxite, Calcite, Chalcopryrite, Feldspar, Galena, Gypsum, Hematite, Magnetite, Mica, Quartz, Talc, Tourmaline; and (b) Rocksamples: Granite, Basalt, Dolerite, Pegmatite, Limestone, Shale, Sandstone, Conglomerate, Slate, Phyllite, Schist, Gneiss, Quartzite, Marble	Swarup Akhuli	August, 2024	6	NA	
	Unit II 2.1	Measurement of dip and strike using clinometer; Analysis of geological maps (Horizontal, Uniclinal and folded structure along with intrusions and unconformities)	Palash kumar Mondal	November, 2024	20	NA	
	2.2	Preparation of data inventory in Physical Geography (Seismic data, Hydro-meteorological data, Soil data); Landform identification from Google Earth; Measurement of pebble shape using slide caliper	Palash kumar Mondal	August, 2024	12	NA	
	Unit-III 3.1	Survey of India topographical maps: History, indexing vis-à-vis scale (old and open series); Information on the margin of maps	Mukul Kamle	September, 2024	4	NA	
	3.2	Extraction and interpretation of geomorphic information from topographical maps of plateau region (Open and Defence Series maps, RF 1:50k): Construction and interpretation of relief (superimposed, projected and composite) profiles and river profiles (cross and longitudinal), delineation of drainage basins, stream ordering (Horton and Strahler) and bifurcation ratio on a drainage basin; Morphometric techniques in 10 cm x 12 cm area: Relative Relief (after G.H. Smith, 1935), Average Slope (after C.K. Wentworth, 1930), Drainage Density and Stream Frequency (after R.E. Horton, 1945)	Mukul Kamle Swarup Akhuli	December, 2024	13+13	NA	November, 2024

- NA – Not Applicable

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Semester -I Multi-Disciplinary

Full Marks: 50 (Theoretical ESE – 35& Theoretical CA – 15)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Disaster Management	Unit I 1.1	Basic concepts: Definition and types of hazard and disaster (Natural, quasi-natural and man made); Vulnerability, Risk and Capacity; Cascading	Palash kumar Mondal	September, 2024	NA	4	
	1.2	Disaster Risk Reduction (DRR) strategy: Pre-disaster, disaster and post-disaster phase - Preparedness, rehabilitation, reconstruction and recovery; Community-based DRR; National Disaster Management Guidelines and Disaster Management Act-2005	Palash kumar Mondal	October, 2024	NA	4	September, 2024
	1.3	Global initiatives: SDG 11 - Target 5 (Reduce the adverse effect of natural disasters), Sendai Framework (DRR), Global Facility for Disaster Reduction and Recovery (GFDRR)	Swarup Akhuli	September, 2024	NA	4	
	1.4	National initiatives: Role of institutional framework in disaster management (NDMA-SDMADDMA, NDRF, Civic volunteers, NIDM); Disaster Management Support by NRSC, ISRO Bhuvan Portal (Real-time GIS-based disaster database of India)	Swarup Akhuli	October, 2024	NA	4	
	Unit II 2.1	Earthquake: Factors, vulnerability, consequences and management. Tsunami: Factors, vulnerability and management; Role of Indian Tsunami Early Warning Centre (ITEWC); Case study of Indian Ocean Tsunami, 2004	Palash kumar Mondal	November, 2024	NA	5	November, 2024

- NA – Not Applicable

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Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
	2.2	Floods: Meteorological and Outburst Floods (GLOF, LLOF, Avalanche) - causes, consequences and management; Case study of Bengal's Millennium Flood, 2000. Drought: Meteorological, hydrological and agricultural droughts - factors, vulnerability and management	Palash kumar Mondal	November, 2024	NA	3	
	2.3	Landslide: Factors and vulnerability; Major problems and mitigation strategy for landslides in Himalayan region; Case study of Darjeeling landslides. Cyclone: Tropical cyclone and storm surge - factors, vulnerability and management	Swarup Akhuli	December, 2024	NA	4	
	2.4	Mining disasters: Open cast and shaft mining - vulnerability and management; Case study of Asansol-Raniganj coalfield. Industrial disasters: Gas and radiation leaks, oil spills - vulnerability and management	Swarup Akhuli	December, 2024		4	

- NA – Not Applicable

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Semester -III Major BSCGEOMJ301 - Theory

Full Marks: 50 (Theoretical ESE – 35 & Theoretical CA – 15)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Elements of the Atmosphere	1.1	Nature, composition and layering of the atmosphere; Basic concepts in atmospheric physics: heat flow and heat capacity	Palash Kumar Mondal	September, 2024	NA	4	September,2024
	1.2	Insolation: controlling factors; Heat balance (terrestrial and latitudinal); Heat budget of the atmosphere	Palash Kumar Mondal	October, 2024	NA	4	
	1.3	Temperature: horizontal and vertical distribution; Inversion of temperature: types, causes and consequences; Adiabatic temperature changes; Heat waves: causes and effects	Swarup Akhuli	September, 2024	NA	05	
	1.4	Green house effect; Formation, depletion, restoration, and significance of the ozone layer	Mukul Kamle	September, 2024	NA	04	

- NA – Not Applicable

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Semester -III Major

Full Marks: 50 (Practical ESE – 20 & Practical CA – 30)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Unit II: Atmospheric Phenomena, Climate Change and Climatic Classification	2.1	Circulation in the atmosphere: planetary wind system with special reference to tri-cellular model, jet stream and monsoons; Atmospheric disturbances: tropical and mid-latitude cyclones	Mukul Kamle	November, 2024	NA	10	
	2.2	Condensation: processes and forms; Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence theory; Forms of precipitation	Mukul Kamle	December, 2024	NA	06	November,2024
	2.3	Origin, classification and modification of Air mass; Types of fronts, frontogenesis and frontolysis; Stability and instability	Palash Kumar Mondal	November, 2024	NA	06	
	2.4	Classification of World Climate: schemes of Köppen (1936) and Thornthwaite (1948); Evidences and causes of climate change	Swarup Akhuli	November, 2024	NA	08	

- NA – Not Applicable

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Semester -III Major (Practical) BSCGEOMJ301 - Practical (Lab)

Full Marks: 50 (Theoretical ESE – 70 & Theoretical CA – 30)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Unit I: Data Collection in Climatology	1.1	Activities of India Meteorological Department (IMD); Measurement of weather elements using analogue instruments: mean daily temperature, air pressure, relative humidity, and rainfall	Mukul kamle	October, 2024	16	NA	
	1.2	Preparation of an inventory of sources of gridded climate data	Mukul Kamle	November, 2024	04	NA	
Unit II: Cartographic Representation of Climatic Data and their Interpretation	2.1	Construction and interpretation of hythergraph and climograph (G. Taylor); Construction and interpretation of wind rose	Palash Kumar Mondal	October, 2024	12	NA	
	2.2	Construction and interpretation of ombrothermic diagram and hyetograph	Swarup Akhuli	September, 2024	08	NA	November,2024
Unit III: Analysis of Climatic Data and Maps	3.1	Preparation of station model (Indian Context) and interpretation of synoptic chart (Indian Context)	Palash Kumar Mondal	November, 2024	08	NA	
	3.2	Interpretation of a daily weather map of India: Monsoon	Swarup Akhuli	November, 2024	12	NA	

- NA – Not Applicable

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Semester- III Major (Practical)

Full Marks: 100 (Theoretical ESE – 40 & Theoretical CA – 60)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Elements of Cartography	1.1	Maps: components and classification; Coordinate systems: polar and rectangular; Bearing: magnetic and true, whole-circle and reduced	Swarup Akhuli	Mid -October, 2024	06	NA	
	1.2	Concept of generating globe; Grids: angular and linear measurement methods	Swarup Akhuli	October, 2024	05	NA	
	1.3	Concepts of cartograms and thematic maps; Principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, NRSC/ Bhuvan	Mukul Kamle	September, 2024	05	NA	
	1.4	Cartograms: representation of data on map by proportional squares, pie diagrams with proportional circles, dots and spheres; Thematic maps: representation of data using choropleth, isopleth, chorochromatic maps	Palash Kumar Mondal	October, 2024	14	NA	
Map Projection	2.1	Map projections: classification, properties, deformations and uses	Mukul Kamle	September, 2024	05	NA	
	2.2	Basic concepts: parallels and meridians, scale factor, developable surface, constant of a cone, orthodrome, loxodrome	Mukul Kamle	October, 2024	05	NA	
	2.3	Construction of projections: Polar Zenithal Case (Gnomonic and Stereographic), Conical Case (Simple Conic with one standard parallel and Bonne's)	Palash Kumar Mondal	November, 2024	20	NA	December, 2024
	2.4	Construction of projections: Cylindrical Case (Cylindrical Equal Area and Mercator's)	Swarup Akhuli	Mid-November, 2024	10	NA	

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Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Unit III: Surveying and Mapping	3.1	Surveying: definition, classification, and principles; Plan and map; Measurement and mapping of a plot by Chain survey	Mukul Kamle	November, 2024	20	NA	
	3.2	Concept of traverse, numerical problems related to traverse (calculation of exterior and interior angles), Bowditch correction for closed traverse; Mapping a closed traverse by Prismatic Compass survey	Swarup Akhuli	December, 2024	20	NA	
	3.3	Profile line survey using Dumpy Level; Preparation of contour map of a small area by Prismatic Compass and levelling instruments	Palash Kumar Mondal	December, 2024	20	NA	
	3.4	Determination of height of base accessible and inaccessible objects by Theodolite (same vertical plane method)	Mukul Kamle	December, 2024	20	NA	

- NA – Not Applicable

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Semester -V CORE BSCHGEOC501

Full Marks: 50 (Theoretical ESE – 35 & Theoretical CA – 15)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Regional Planning and Sustainable Development (BSCHGEOC501)	Unit I	Concept of Region; Formal, Functional, and Planning Regions; Evolution, Need and Types of Regional Planning	Palash kumar Mondal	December, 2024	NA	10	
	Unit II	Choice of a Region for Planning: Characteristics of Planning Region; Delineation of Planning Region; Regionalization of India for Planning, Agro- Ecological Zones	Mukul Kamle	August, 2024	NA	10	September, 2024
	Unit III	Theories and Models for Regional Planning: Myrdal, Hirschman, Rostow and Friedman; Growth Pole Model of Perroux; Village Cluster	Mukul Kamle	September, 2024	NA	10	
	Unit IV	Sustainable Development: Concept of Development and Underdevelopment; Efficiency- Equity Debate: Definition, Components and Sustainability for Development. Indicators (Economic, Social and Environmental)	Swarup Akhuli	December, 2024	NA	10	
	Unit v	Sustainable Development Policies and Programmes: Rio+20; Goal-Based Development; Financing for Sustainable Development	Mukul Kamle	November, 2024		10	

- NA – Not Applicable

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Semester –V CORE

Full Marks: 50 (Practical ESE – 20& Practical CA – 30)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Field Techniques, Surveying and Research Methods (BSCHECOC502)	Unit I	Meaning, Significance, Types and Approaches to Research in Geography; Literature review; Field Work in Geographical Studies –Defining the Field and Identifying the Case Study	Palash kumar Mondal	Mid-September, 2024	10	NA	November, 2024
	Unit II	Research Design: Identification of Research Problem; Research questions. Data Collection: Type and Sources of Data; Methods of Collection; Data Analysis, Data Representation Techniques	Swarup Akhuli	Mid-September, 2024	10	NA	
	Unit III	Field Techniques – Merits, Demerits and Selection of the Appropriate Technique; Observation (Participant / Non-Participant), Questionnaires (Open/ Closed / Structured / Non-Structured)	Mukul Kamle	August, 2024	10	NA	
	Unit IV	Surveying Use of Field Tools: Dumpy level, Prismatic Compass, Theodolite	Palash Kr Mondal Swarup Akhuli	November, 2024	20+20	NA	
	Unit v	Designing the Field Report – Aims and Objectives, Methodology, Analysis, Interpretation and Writing the Report	Mukul Kamle	November, 2024	20	NA	

- NA – Not Applicable

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Semester -V DISCIPLINE SPECIFIC ELECTIVE (DSE) BSCHGEODSE501

Full Marks: 50 (Theoretical ESE – 35 & Theoretical CA – 15)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Geography of West Bengal (BSCHGEODSE501)	Unit I	Physiography of West Bengal: Physiography and Broad Physiographic Division, Climate, Drainage System and Ground Water, Soil and Forest resources	Palash Kr Mondal	October, 2024	NA	20	
	Unit II	Demography of West Bengal: Population Composition (age, sex, literacy, religion and caste) Population Growth and distribution, Urbanization (Characteristics and Pattern)	Mukul Kamle	October	NA	20	
	Unit III	Economy of West Bengal: Irrigation and Agriculture, Mining, Industries and transport development	Swarup Akhuli	October	NA	20	November,2024
	Unit IV	Developmental Perspective of Special Regions in West Bengal: Darjeeling Hill Region, Paschimanchal Region, Sundarban Region	Palash Kr Mondal Mukul Kamle	November, 2024	NA	10+5	
	Unit v	Developmental Problems and Potentials of West Bengal: Deforestation and Joint Forest Management, Special Economic Zones, Regional Dimension of Human Development	Swarup Akhuli Mukul Kamle	November, 2024	NA	10+5	

- NA – Not Applicable

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Semester -V DISCIPLINE SPECIFIC ELECTIVE (DSE) BSCHGEODSE503

Full Marks: 50 (Theoretical ESE – 35 & Theoretical CA – 15)

Name of the Paper	Unit Number	Topic	Name of Teacher	To be completed during the month and year	No of Practical Classes	No of Theoretical Classes	Continuous Internal Assessment in the Month of
Population Geography (BSCHGEODSE503)	Unit I	Population Geography, Demography and Population Studies: Defining the Field, Nature and Scope; Sources of Data with special reference to India (Census, Vital Statistics and NSS)	Mukul Kamle	August, 2024	NA	20	December, 2024
	Unit II	Population Size, Distribution and Growth – Determinants and Patterns; Theories of Growth– Malthusian Theory and Demographic Transition Theory; Mobility Transition Theory	Swarup Akhuli	September, 2024	NA	20	
	Unit III	Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications	Mukul Kamle Swarup Akhuli	November, 2024	NA	10+10	
	Unit IV	Population Composition and Characteristics – Age-Sex Composition; Rural and Urban Composition; Literacy	Palash Kr Mondal	August, 2024	NA	20	
	Unit V	Contemporary Issues – Ageing of Population; Child labour; Declining Sex Ratio	Palash Kr Mondal	September, 2024	NA	10	

- NA – Not Applicable