

COMPETENCY BASED LEARNING DESIGN/COMPETENCY BASED POST-TEACHING REFLECTION

YEAR – 2026.

SEMESTER – I (Major)

DEPARTMENT -GEOGRAPHY

Faculty- Dr Ambika Roy Bardhan

Topic/Unit	Competency-Based Expected Learning Outcome (Knowledge, Skill Value, Attitude)	Assessment	Brief Description of Strategies, Aids (if any), Evaluation process	Hours Allotted	Evaluated Outcome/ Post-Teaching Reflections
Paper: GEOG-H-CC-1 -Th – Physical Geography					
Plant Adaptation and Distribution in Relation to Water Availability	Students will be able to: Knowledge: Explain different types of plant adaptations based on water availability (hydrophytes, mesophytes, xerophytes, halophytes) and their geographical distribution. Skill: Identify and compare plant adaptations and analyse the relationship between water availability and vegetation distribution. Value: Develop appreciation for plant diversity and ecosystem functioning. Attitude: Cultivate environmental awareness and sensitivity towards biodiversity conservation.	Short Answer Questions	● Group Learning and Teaching ● Technology based learning	2 hour	Outcomes attained: Challenges Identified: Improvements required: Alignment with POs, PSOs, COs:
Nature and Classification of Hazards and Disasters in the Indian Context	Students will be able to: Knowledge: Describe the concepts, nature, and classification of hazards and disasters with special reference to India. Skill: Classify different natural and anthropogenic hazards, analyse their causes and impacts, and interpret hazard maps. Value: Develop awareness of disaster preparedness, risk reduction, and sustainable development. Attitude: Foster social responsibility and resilience towards disaster management and community safety.	Short Answer Questions	● Group Learning and Teaching ● Technology based learning	3 hours	
Paper: GEOG-H-CC-1 -Pr – Physical Geography					
Graphical Construction of Scales: Plain,	Students will be able to: Knowledge • Explain the concept, principles, and	Practical Exercise, Practical Notebook Evaluation	● Group Learning and Teaching	6 hours	

Comparative, Diagonal, and Vernier Scales	significance of graphical scales in cartography. • Describe the characteristics and applications of plain, comparative, diagonal, and vernier scales. • Distinguish between different types of graphical scales and identify their appropriate applications. Skills • Construct plain, comparative, diagonal, and vernier scales accurately using appropriate cartographic techniques and instruments. • Calculate representative fraction (R.F.) and determine the dimensions required for graphical scale construction. • Apply graphical scales to measure and represent distances accurately on maps. • Interpret and compare distances using different types of scales. Values • Appreciate the importance of precision and accuracy in cartographic representation. • Recognise the role of graphical scales in spatial analysis and map interpretation. Attitude • Develop accuracy, patience, and systematic working habits while constructing graphical scales. • Demonstrate confidence in applying cartographic techniques for practical geographical problem-solving.		• Learning by Problem solving • Experiential Learning		
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COMPETENCY BASED LEARNING DESIGN/COMPETENCY BASED POST-TEACHING REFLECTION

YEAR – I SEMESTER – I HONS & MDC DEPARTMENT – GEOGRAPHY FACULTY – DEBASREE SINHA

COURSE: METHODS IN GEOGRAPHY

CODE: GEOG-H-SEC01/MD-SEC01

Topic/Unit	Competency-Based Expected Learning Outcome (Knowledge, Skill Value, Attitude)	Assessment	Brief Description of Strategies, Aids (if any), Evaluation process	Hours Allotted
Unit I: Field Data Collection and Compilation 4. Data compilation into master table 5. Computer-assisted field data entry; tabulation of data into frequency distribution tables 6. Statistical analysis of data: measures of central tendency and dispersion Unit II: Methods in Physical Geography 7. Use of minor survey instruments: Brunton compass, distometer, smartphone levelling applications 8. Textural analysis of grains using sieves 9. Mapping and extraction of flooded areas from satellite images and digital elevation models 10. Mapping areal and linear extents of riverbank and coastline shift from Survey of India 1:50k maps and/or satellite images	Students will be able to: 1. Knowledge – Comprehend the principles of field data collection, compilation, statistical analysis, and physical geography survey techniques. 2. Knowledge – Describe the applications of GIS, Remote Sensing, and conventional survey methods in geomorphological investigations and hazard studies. 3. Skill – Outline the working principles of specific survey instruments. 4. Skill – Analyse and interpret geographical field data using statistical tools. 5. Value – Appreciate the importance of data integrity and careful documentation. 6. Value – Recognize the importance of geospatial technology in disaster management and sustainable development.	1. Assignment 2. Written test	1. Learning by problem solving 2. Technology-based learning 3. Lecture	30

COMPETENCY BASED LEARNING DESIGN/COMPETENCY BASED POST-TEACHING REFLECTION

FACULTY: DR. SUSHMA SAHAI YEAR - 2026 SEMESTER - ONE MAJOR DEPARTMENT - GEOGRAPHY

PAPER: CC01- TH – PHYSICAL GEOGRAPHY

Topic/Unit	Competency-Based Expected Learning Outcome (Knowledge, Skill Value, Attitude)	Assessment	Brief Description of Strategies, Aids (if any), Evaluation process	Hours Allotted
Unit IV: Climatology – Nature, Composition and Layering of the Atmosphere	Knowledge: Understand the physical and chemical composition of the atmosphere and the characteristics of different atmospheric layers. Skill: Identify atmospheric layers and explain their functions. Value: Appreciate the importance of the atmosphere in sustaining life. Attitude: Develop scientific curiosity and environmental responsibility.	Tutorials based on previous years university examinations	Teaching Strategies: Technology-based learning, Asynchronous teaching, Blended learning. Aids: PPTs, videos, diagrams, LMS. Evaluation: Assignment.	4
Circulation in the Atmosphere: Planetary Winds, Jet Streams and Index Cycle	Knowledge: Understand atmospheric circulation and planetary winds. Skill: Analyse global circulation and jet streams. Value: Appreciate their influence on weather and climate. Attitude: Develop analytical thinking.	Formative and summative assessment through diagram-based questions and short-answer tests	Teaching Strategies: Technology-based learning, Blended learning. Aids: Maps, animations, simulations and LMS Evaluation: Open-book assessment	5
Unit V: Soil Geography – Factors of Soil Formation	Knowledge: Understand factors of soil formation. Skill: Analyse interactions among soil-forming factors. Value: Appreciate soil conservation. Attitude: Develop environmental responsibility.	Peer assessment, Group discussion, Case study, Reflective writing	Teaching Strategies: Technology-based learning, Asynchronous teaching, Group learning. Aids: Soil diagrams, videos and LMS Evaluation: Peer assessment.	4
Evolution of an Ideal Soil Profile	Knowledge: Understand soil horizons. Skill: Identify and evaluate soil profile development. Value: Appreciate sustainable soil management. Attitude: Foster scientific observation.	Diagram interpretation, Rubric-based assessment, Practical worksheet	Teaching Strategies: Technology-based learning, Blended learning. Aids: Soil profile diagrams, case studies and LMS Evaluation: Case study; Assignment.	4

COMPETENCY BASED LEARNING DESIGN/COMPETENCY BASED POST-TEACHING REFLECTION

YEAR - 2026 SEMESTER - I DEPARTMENT -Geography

Faculty-Dr Kaustuva Banerjee

Topic/Unit	Competency-Based Expected Learning Outcome (Knowledge, Skill Value, Attitude)	Assessment	Brief Description of Strategies, Aids (if any), Evaluation process	Hours Allotted	Evaluated Outcome/ Post-Teaching Reflections
Unit III: Geomorphology Classification of weathering and agents of erosion	Knowledge: Explain the concept of weathering and distinguish between physical, chemical, and biological weathering. Identify major agents of erosion (running water, wind, glaciers, sea waves, groundwater). Skill: Classify weathering processes using examples, interpret photographs and diagrams, relate weathering to landscape development. Value: Appreciate the role of weathering in soil formation and sustainable resource management. Attitude: Develop concern for environmental conservation and responsible land-use practices.	Oral questioning, quiz, worksheet, diagram identification, short written assignment, class discussion.	Strategies: Interactive lecture, brainstorming, think-pair-share, case study of local weathering features, demonstration using rock samples. Teaching Aids: PowerPoint presentation, charts, rock specimens, photographs, videos, maps. Evaluation: Continuous assessment through participation, worksheet performance, quiz scores, and interpretation of diagrams.	1class/wk	
Fluvial processes and landforms	Knowledge: Describe the processes of river erosion, transportation, and deposition. Explain the formation of erosional and depositional landforms such as V-shaped valleys, waterfalls, meanders, oxbow lakes, floodplains, levees, and deltas. Skill: Interpret river profiles and geomorphic maps, identify fluvial landforms from maps and satellite images, analyze river dynamics. Value: Recognize the importance of rivers in ecosystem services, agriculture, and human settlements. Attitude: Promote awareness of river conservation, flood management, and sustainable watershed practices.	Map-based exercises, diagram labeling, group presentation, practical assignment, MCQs, short-answer test.	Strategies: Lecture-cum-discussion, concept mapping, animation/video demonstration of river processes, map interpretation, group activity on river basin analysis. Teaching Aids: Topographic maps, satellite images, GIS images, models of river landforms, PowerPoint, educational videos. Evaluation: Formative assessment through classroom participation, map interpretation, practical exercises, presentations, and a summative written test.		

COMPETENCY BASED LEARNING DESIGN/COMPETENCY BASED POST-TEACHING REFLECTION

YEAR - 2026 SEMESTER – I (MAJOR) - DEPARTMENT -GEOGRAPHY

Mrs SABIHA SETHWALA

GEOG- H-CC-01 (TH) PHYSICAL GEOGRAPHY

Topic/Unit	Competency-Based Expected Learning Outcome (Knowledge, Skill Value, Attitude)	Assessment	Brief Description of Strategies, Aids (if any), Evaluation process	Hours Allotted	Evaluated Outcome/ Post-Teaching Reflections
CC 01 TH PHYSICAL GEOGRAPHY 2. Concept and application of scale and projections	Knowledge able to distinguish between different types of scales and their application Skill equips students to measure real world distances accurately, interpret spatial relationships and select the best map for any geographical task Value helps students to understand map ground ratio and provide for accurate distance calculation Attitude develop a scientific temper to link, ground and map information by using effective GIS analysis for specific projects	- Class tests - MCQ / Objective - Worksheets - Home assignments - Tutorials	- Lecture method - Demonstration method - Use of PPTs - Use of ICT - Group PPT presentations	10	
3. Seismic waves and internal structure of the earth	Knowledge understanding of different seismic waves and different layers of the earth Skills builds a blend of analytical and computational skill. It equips students with the ability to evaluate structural risks Value helps to map out layers and analyse wave velocity and locate resources Attitude develop a scientific temper to link, travel of seismic waves to early warning systems for seismic events	- Class tests - MCQ / Objective - Worksheets - Home assignments - Tutorials	- Lecture method - Discussion method - Use of PPTs - Use of ICT - Group PPT presentations	8	
CC 01 PR PHYSICAL GEOGRAPHY	Knowledge understanding of different types of drainage patterns.		- Lecture method - Discussion method - Use of PPTs - Use of ICT		

	• Skills learning to identify drainage patterns on different structures. • Value to apply the knowledge of different drainage patterns for water management. • Attitude to develop a scientific temper in the use of GIS for drainage pattern analysis	• Class tests • Worksheets • Tutorials		2	
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COMPETENCY BASED LEARNING DESIGN/COMPETENCY BASED POST-TEACHING REFLECTION

YEAR - 2026 SEMESTER - I DEPARTMENT - Geography

GEOM-SEC-1-Th – Methods in Geography 100 Marks / 4 Credits

Dr. Suman Chatterjee (SCH)

Topic/Unit	Competency-Based Expected Learning Outcome (Knowledge, Skill, Value & Attitude)	Assessment	Brief Description of Strategies, Aids (if any), Evaluation Process	Number of Classes	Evaluated Outcome / Post-Teaching Reflections
Unit I: Designing of Primary Survey and Relevance of Pilot Survey	Knowledge: Explain primary survey, pilot survey, and their importance. Skill: Design a basic field survey for different geographical problems. Value & Attitude: Develop scientific planning and ethical fieldwork practices.	Oral questions on primary survey and pilot survey; short-answer writing; assignment on designing a field survey. Emphasis on previous questions: <i>Define primary survey; Define pilot survey; Methods of data collection during geographical field survey.</i>	Interactive lecture with examples of geographical research; discussion on case studies; demonstration of field survey planning; PowerPoint and sample survey formats. Evaluation through class discussion, quiz, and assignment.	2	
Unit I: Sampling Types and Sampling Strategy	Knowledge: Describe probability and non-probability sampling methods. Skill: Select suitable sampling techniques for diverse research problems and identify sampling errors/bias. Value & Attitude: Appreciate representative and unbiased data collection.	MCQs, short-answer questions, problem-based exercises on selection of sampling methods, previous-year questions on stratified sampling, purposive sampling, sampling bias/error, characteristics of a good sample.	Lecture with flowcharts comparing sampling methods; group discussion using research scenarios; problem-solving exercises on selecting suitable sampling strategy; charts illustrating sampling techniques. Evaluation through worksheets and class test.	3	
Unit I: Preparation of Questionnaire	Knowledge: Explain questionnaire, interview schedule, and types of questions. Skill: Prepare structured	Preparation of questionnaire and interview schedule;	Demonstration of questionnaire design; peer-review activity; classroom exercise on preparing	2	

and Interview Schedule	questionnaires and interview schedules for geographical surveys. Value & Attitude: Develop ethical communication and objectivity during field investigation.	viva; previous-year questions on structured/non-structured questionnaires, interview vs questionnaire, open-ended questions, and designing questionnaires.	survey instruments for environmental and social issues; sample schedules and questionnaires. Evaluation through rubric-based assessment of prepared questionnaire.		
Unit III: Dominant and Distinctive Functions	Knowledge: Explain dominant and distinctive functions and their significance in urban geography. Skill: Calculate and interpret dominant and distinctive functions using Census data. Value & Attitude: Develop analytical interpretation of functional characteristics of settlements.	Numerical exercises; interpretation of Census occupational data; previous-year questions on dominant/distinctive functions and formulae.	Lecture with worked numerical examples; Census data analysis; classroom problem-solving using Ashok Mitra occupational classification; PowerPoint and handouts. Evaluation through numerical assignments and short test.	2	
Unit III: Ternary Diagram Showing Occupational Patterns (Ashok Mitra)	Knowledge: Explain principles and applications of ternary diagrams. Skill: Plot occupational composition and interpret diversification and balance of economic activities. Value & Attitude: Appreciate graphical presentation of geographical data.	Practical plotting exercise; interpretation of ternary diagrams; previous-year questions on utility of ternary diagram and occupational diversification.	Demonstration of ternary plotting; guided practice using Census occupational data; graph sheets and projector. Evaluation through practical notebook and interpretation exercise.	2	
Unit III: Preparation of Accessibility Map	Knowledge: Explain accessibility, accessibility indices, and detour index. Skill: Prepare accessibility maps and calculate detour index. Value & Attitude: Recognize the	Practical exercise on accessibility mapping; numerical problems on detour index; related	Demonstration using road network maps and GIS/manual methods; calculation of accessibility indices; discussion on applications in	2	

	importance of accessibility in regional planning and transportation geography.	previous-year questions on detour index calculation.	planning. Evaluation through practical exercise and numerical test.		
Unit III: Preparation of Flowcharts Using Transportation Data	Knowledge: Explain transportation flow representation and flowchart concepts. Skill: Prepare flowcharts illustrating transport movement and commuter flows. Value & Attitude: Develop analytical and visual communication skills using transportation data.	Practical assignment on drawing transportation flowcharts; interpretation of commuter flow diagrams; related question on commuter movement diagrams.	Demonstration using transport statistics; step-by-step preparation of flowcharts; discussion of advantages and limitations of different transport diagrams. Evaluation through practical notebook and classroom presentation.	2	