LORETO COLLEGE
SEMESTER ONE GEOGRAPHY MDC
TIME PLAN 2025

Name of the teacher: Dr. Sushma Sahai
Initials: SWS

Teaching Objective:

- To understand the relationship between seismic waves and Earth's internal structure
- To foster scientific reasoning and appreciation of Earth science
- To understand the nature of fluvial processes
- To analyze the formation of fluvial landforms
- To understand the nature and circulation of the atmosphere
- Comprehend the soil forming factors
- To enable students to understand the evolution of a soil profile
- To provide guidance beyond prescribed syllabus

Semester One Geography MDC Topic-wise Time Plan
COURSE: GEOG-CC-01-TH – PHYSICAL GEOGRAPHY

Topics	*Hours allotted*	*Topics (as per curriculum)*	*Teaching method*	*Learning outcome (output)*	*Assessment*
1	3	**Unit II: Geotectonics** 2. Seismic waves and internal structure of the earth	• Technology based learning	• Explain the different types of seismic waves and their properties • Differentiate between lithosphere, asthenosphere, mantle, outer core, and inner core based on seismic evidence • Connect the study of seismic waves to broader geophysical phenomena such as plate tectonics and volcanism	• Open book assessment
2	5	**Unit III: Geomorphology** 4. Fluvial processes and landforms	• Technology based learning		• Tutorial

3	4	**Unit IV: Climatology** 5. Nature, Composition and layering of the atmosphere	• Technology based learning • Asynchronous teaching • Blended learning	• Comprehend the physical and chemical composition of the atmosphere and its role in sustaining life on Earth. • Identify and describe the characteristics and functions of the different atmospheric layers	• Tutorial
4	5	6. Circulation in the atmosphere: Planetary winds, jet streams, index cycle	• Technology based learning • Blended learning	• Examine the mechanisms driving atmospheric circulation, including planetary wind systems and their global patterns. • Analyze the formation and index cycle of jet streams	• Open book assessment • Assignment
5	4.	**Unit V: Soil Geography** 7. Factors of soil formation	• Technology based learning • Asynchronous teaching • Group-Learning and teaching	• Understand and explain the major factors influencing soil formation • Analyze how the interaction of various soil-forming factors contributes to the development of different soil types	• Peer assessment
6	4	8. Evolution of an ideal soil profile	• Technology based learning • Blended	• Identify and describe the horizons of an ideal soil profile and their physical and chemical characteristics. • Evaluate the processes involved in the development and transformation of soil horizons over time.	• Case study • Assignment

LORETO COLLEGE
TIME PLAN 2025-2026

Name of the teacher: DEBASREE SINHA
Initials: D.S

Teaching Objective:

- Provide an understanding of fundamental methods of data collection during fieldwork.
- Impart knowledge regarding the compilation, record, organization, and display of that data.
- Develop basic skills of methods used in physical geography.

1st Semester Multidisciplinary Course Topic-wise Time Plan

Topics	*Hours allotted*	*Topics (as per curriculum)*	*Teaching method*	*Learning outcome (output)*	*Assessment*
GEOG-H-SEC01-Th-(Theory) Methods in Geography	30	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 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	1. Lecture 2. Discussion 3. Demonstration 4. Technology-based learning 5. Problem-solving	Students will be able to: 1. Organize, summarize, display data collected during field. 2. Perform basic statistical analysis on data. 3. Discern the utility of minor survey instruments. 4. Comprehend the significance of grain size in soil samples. 5. Appreciate the use of topographical maps in delineating flood affected areas, identifying river bank erosion &	1. Written test 2. Self-assessment

		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		coastline changes.	

LORETO COLLEGE
GEOGRAPHY TIME PLAN 2025

Semester 1 (MDC)

Name of the teacher: Dr. Ambika Roy Bardhan
Initials: A.R

Teaching Objective:

- Analyse how water availability determines plant adaptations and distribution across the globe.
- Differentiate between hazards and disasters and classify them.

Topics	*Hours allotted*	*Topics (as per curriculum)*	*Teaching method*	*Learning outcome (output)*	*Assessment*
(Paper: GEOG-H-CC01/MD-CC01-1/3-Th -Physical Geography)					
Plant adaptation and distribution in relation to water availability	1 hour 30 minutes	9. Plant adaptation and distribution in relation to water availability	**. Group Learning and Teaching** **. Technology based learning**	. Classify various types of plants according to water availability. . Identify the various types of plants adaptations and their distributions based on water availability	**Assignments**
Nature and classification of hazards and disasters in Indian context	1 hour 30 minutes	10. Nature and classification of hazards and disasters in Indian context	**Group Learning and Teaching**	. Distinguish between Hazard and Disaster . Explain the concepts and the relationships among Risk, Vulnerability and Capacity. . Classify Hazards and Disasters in the Indian context.	**Assignments**

LORETO COLLEGE
TIME PLAN 2025

Name of the teacher: Dr. Suman Chatterjee
Initials: SCH

Teaching Objective:

- Understand and apply **Harris's and Nelson's urban functional classification models** to determine dominant and distinctive urban functions.
- Develop the ability to conduct **Dominant and Distinctive Function (DDF) analysis** using occupational data at regional levels, particularly for **West Bengal**.
- Explain and interpret **Ashok Mitra's Ternary Diagram** to classify towns functionally based on occupational patterns.
- Gain knowledge of **accessibility concepts**, including access, mobility, and barriers, and their relevance in urban and regional planning.
- Learn techniques for **preparing accessibility maps** in **GIS environments** using tools such as **detour index**, **graph theory indices** (β, α, γ), and **circuit theory models** (shortest path, OD matrix, corridor analysis).
- Understand key **transportation network concepts** like **nodes, edges, transit, connectivity, and flow** in spatial contexts.
- Acquire skills to design and construct **transportation flowcharts** using real-world data and **GIS-based tools**.
- Enhance **analytical and visualization skills** through practical exercises involving functional classification, mapping, and flowchart creation.
- Encourage **problem-solving, data interpretation**, and **presentation abilities** through group work and experimental tasks.

UG Semester I Topic-wise Time Plan
GEOG-H-SEC01/MD-SEC01-1/2/3-Th – Methods in Geography (Unit III: Methods in Human Geography)

Topics	***Hours allotted***	***Topics (as per curriculum)***	***Teaching method***	***Learning outcome (output)***	***Assessment***
Unit III: Methods in Human Geography					
Dominant and Distinctive Functions	90 mins	What are Dominant and Distinctive Functions, Concept of urban function Harris's Functional Classification of Cities (1943); Nelson's Nine Activity Groups; Understanding Dominant and Distinctive Functions	Lecture, Technology based learning	Understand urban functional classification and identify dominant/distinctive urban functions	Quiz, Class Test
	90 mins	Concept and Application of Dominant and	Lecture, Technology based	Analyze occupational structure of cities	Experimental Problem

		Distinctive Function (DDF) Analysis; Occupation Structure Analysis; Exercises using data from West Bengal	learning, Case Study, Learning through problem-solving	using DDF methodology	Solving, Viva
Ternary Diagram & Ashok Mitra's Classification	90 mins	*Ashok Mitra's Functional Classification of Towns; Introduction to Ternary Diagrams; Purpose and Components*	Lecture, Technology based learning, Case Study	Comprehend functional classification of Indian towns and purpose of ternary diagram	Quiz
	90 mins	*Construction and Interpretation of Ternary Diagram (Functional Classification); Case example using real/secondary data*	Learning through problem-solving, Group-Learning and Teaching	Develop skills to prepare and interpret ternary diagrams for urban classification	Presentation, Case Study
Accessibility Mapping & Network Analysis (GIS-based)	90 mins	*Concept of Accessibility, Access, Barriers, Mobility; GIS-based Mapping (Desktop & Web); Required Data and Methods*	Lecture, Technology based learning	Explain and apply methods of accessibility mapping	Class Test, Viva
	90 mins	*Graph Theory Measures – Detour Index, β, α, γ indices; Circuit Theory (Dijkstra's Shortest Path); OD Matrix, Service Area, Hot Link, Corridor Mapping*	Technology based learning, Learning through problem-solving	Apply graph and circuit theory-based indices in accessibility mapping using GIS	Experimental Problem Solving
Flowchart Construction using Transportation Data	90 mins	*Transport Networks: Nodes, Edges, Flow, Routing, Transitivity, Topology; Types of Networks; Understanding Flowcharts*	Lecture, Group-Learning and Teaching	Identify transport network elements and understand flowchart logic	Quiz
	90 mins	*GIS-Based Flowchart Construction; Hands-on Exercise with Transportation Data*	Learning through problem-solving, Technology based learning	Construct and interpret transportation flowcharts using GIS tools	Experimental Problem Solving, Presentation

Recap and Revision Session	45 mins	*Revision of DDF, Ternary Diagram, Accessibility, Network & Flowchart Concepts; Discussion on Real-life Applications*	Group-Learning and Teaching, Problem Solving	Reinforce and integrate knowledge across all modules	Class Test, Q&A