# D.N.R.COLLEGE(AUTONOMOUS), BHIMAVARAM

## DEPARTMENT OF GEOGRAPHY

## ENVIRONMENTAL GEOGRAPHY

# E- CONTENT

**K.SOMAYYA**

**LECTURER IN GEOGRAPHY**

## Unit I: Concept and Scope of Environmental Geography

- **Environmental Geography Overview**
  - Study of interactions between physical and human environments.
  - Focuses on spatial patterns, processes, and human impacts on the environment.
- **Environmental Contrasts**
  - **Biotic vs. Abiotic:** Living organisms vs. non-living elements of the environment.
  - **Global vs. Continental vs. Local:** Scale distinctions in environmental processes and impacts.
- **Environmental Controls**
  - **Light:** Influences photosynthesis, ecosystems, and climate.
  - **Temperature:** Affects biogeography, energy flow, and ecosystem dynamics.
  - **Water:** Essential for life processes, influences ecosystems and climate.
  - **Topography:** Shapes landscapes, affects microclimates and biodiversity.
  - **Edaphic Factors:** Soil properties affecting plant growth and ecosystem composition.

## Unit II: Ecosystem – Concept, Structure, and Functions

- **Ecosystem Concept**

- Defined as a community of organisms interacting with their physical environment.
- Includes biotic components (living organisms) and abiotic components (environmental factors).

- **Structure and Functions**
  - **Trophic Levels:** Hierarchical levels in food chains/web, energy transfer.
  - **Food Chain:** Linear transfer of energy through trophic levels.
  - **Biogeochemical Cycles (Nitrogen and Carbon):** Cycling of essential elements through ecosystems.
  - **Energy Flow:** Transfer of energy through trophic levels, energy pyramids.

**Unit III: Environmental Problems and Concepts**

- **Environmental Problems in Different Ecosystems**
  - **Tropical, Temperate, and Polar Ecosystems:** Unique challenges and vulnerabilities.
  - **Environmental Pollution:** Water and air pollution issues globally and locally.
- **Holistic Environment and Systems Approach**
  - Understanding ecosystems as interconnected systems.
  - Emphasizes feedback loops, resilience, and sustainability.
- **Ecosystems and Habitats Relationship**

- Impact of ecosystems on habitat formation and species distribution.
- Conservation implications and biodiversity considerations.

**Unit IV: Human-Environment Relationships**

- **Historical Progression**
  - Evolution of human adaptation to different biomes and ecosystems.
  - Influence of cultural, technological, and economic factors.
- **Wetland Ecosystems**
  - **East Kolkata Wetlands:** Importance, ecosystem services, conservation challenges.
- **Rural Environmental Issues**
  - **Sanitation and Public Health:** Challenges and interventions in rural areas.
- **Urban Environmental Issues**
  - **Waste Management:** Challenges, strategies, and urban planning implications.

**Unit V: Environmental Programmes and Policies**

- **Major Global & National Programs and Policies**
  - **Spaceship Earth Concept:** Earth as a closed system with limited resources.

- **Earth Summit 1992:** International efforts towards sustainable development.
- **Wildlife Act of India 1972:** Conservation and protection of wildlife.
- **Water Pollution Control Act of India 1974:** Measures for water quality management.
- **National Environmental Tribunal 1995:** Legal framework for environmental justice and enforcement.