

14/11/20

## Course title: Environmental Studies

### Learning Objectives:

- 1) Define the multidisciplinary nature of environmental studies and its scope, emphasizing the importance of public awareness.
- 2) Describe the structure and function of ecosystems, including energy flow, ecological succession, and the roles of producers, consumers, and decomposers.
- 3) Identify various natural resources and ecosystems, explaining their significance and the importance of sustainable management practices.
- 4) Understand the concept of biodiversity, including its value, threats, and conservation strategies such as in-situ and ex-situ conservation.
- 5) Classify different types of environmental pollution and analyze their causes, effects, and management strategies, including pollution prevention methods.
- 6) Analyze social and legal aspects of environmental protection, including sustainable development principles, urban environmental issues, environmental ethics, and the role of environmental protection laws and public awareness in enforcement.

### Learning Outcomes:

- 1) Students will articulate the definition and scope of environmental studies and recognize its multidisciplinary nature.
- 2) Students will demonstrate understanding of ecosystem structure, function, and dynamics, including energy flow and ecological succession.
- 3) Students will be able to identify and evaluate various natural resources and ecosystems, and propose sustainable management practices.
- 4) Students will recognize the value of biodiversity, identify threats to it, and propose conservation strategies.
- 5) Students will classify and analyze different types of environmental pollution, propose management strategies, and understand pollution prevention methods.
- 6) Students will analyze social and legal aspects of environmental protection, including sustainable development principles, urban environmental issues, environmental ethics, and the role of environmental protection laws and public awareness in enforcement.

### Unit 1: Foundations of Environmental Studies

Multidisciplinary nature of environmental studies: Definition, scope, and importance. Need for public awareness, Structure and function of an ecosystem: Producers, consumers, and decomposers, Energy flow, Ecological succession, Food chains, food webs, and ecological pyramids.

### Unit 2: Natural Resources and Ecosystems

Overview of natural resources, Forest, water, mineral, food, and energy resources, Introduction to ecosystem types: Forest, grassland, desert, and aquatic ecosystems.

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## **Unit 3: Biodiversity and Conservation**

Introduction to biodiversity, Biogeographical classification of India, Value of biodiversity, Threats to biodiversity, Endangered and endemic species, Conservation strategies (in-situ and ex-situ).

## **Unit 4: Environmental Pollution and Management**

Overview of environmental pollution, Air, water, soil, marine, noise, thermal, and nuclear pollution, Solid waste management, Individual roles in pollution prevention, Pollution case studies, Disaster management.

## **Unit 5: Social and Legal Aspects of Environmental Protection**

Sustainable development, Urban problems and energy issues, Water conservation and management, Resettlement and rehabilitation, Environmental ethics, Climate change and global issues, Environment protection laws, Enforcement and public awareness.

   