

ENVIRONMENTAL STUDIES

Semester-I
Part-IV
Class-All Ist Year

Credits-2
Hours/week-2
Total no of Hrs:30

UNIT-I:THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES 5 Hours

Definition, Scope and Importance, Need for Public Awareness.

UNIT-II: NATURAL RESOURCES:

15 Hours

Renewable and Non-Renewable Resources.

Natural Resources and Associated Problems.

- Forest Resources: Use and Over Exploitation, Deforestation, Case Studies.

Timber Extraction, Mining, Dams and their Effects on Forests and Tribal People.

- Water Resources: Use and over-Utilization of Surface and ground Water, Floods, Drought, Conflicts Over Water, Dam-Benefits and Problems.
- Mineral Resources: : Use and Exploitation, Environmental Effects of Extraction and Using Mineral Resources, Case Studies.
- Food Resources: World Food Problems, Changes, Caused by Agriculture and Overgrazing, Effects of Modern Agriculture, Fertilizer- Pesticide Problems water Logging, salinity, Case Studies.
- Energy Resources: Growing Energy Needs, Renewable and Non-renewable Energy Sources, Use of Alternate Energy Sources, Case Studies.
- Land Resources: Land as a Resource, Land Degradation, Man Induced Landslides, Soil Erosion and Desertification.
 - Role of an individual in conservation of natural resources.
 - Equitable use of resources for sustainable lifestyles.

UNIT- 3: ECOSYSTEMS

5 Hours

- Concept of an ecosystem
- Structure and function of an ecosystem.
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession
- Food chain, food webs and ecological pyramids.
- Introduction, types, characteristics features, structure and function of the following Ecosystem:
 - a) Forest Ecosystem
 - b) Grassland Ecosystem
 - c) Desert Ecosystem
 - d) Aquatic Ecosystems (Ponds, Streams, Lakes, Rivers, Oceans, Estuaries)

UNIT 4: BIODIVERSITY AND ITS CONSERVATION

5 Hours

- Introduction-Definition: Genetics. Species and Ecosystem Diversity.
- Bio geographical Classification of India.
- Value of Biodiversity: Consumptive Use, Productive Use, Social, Ethical, Aesthetic and Option Values.
- Biodiversity at Global, National and Local Levels.
- India as a Mega-Diversity
- Hot=Spots of Biodiversity
- Threats to Biodiversity: Habitat Loss, Poaching of Wildlife, Man Wild Life Conflicts.
- Endangered and Endemic Species of India.
- Conservation of Biodiversity: In-Situ and Ex-Situ Conservation of Biodiversity.

UNIT5: ENVIRONMENTAL POLLUTION DEFINITION

10 Hours

- Causes, Effects and control Measures of:
 - a) Air Pollution.
 - b) Water Pollution.
 - c) Soil Pollution.
 - d) Marine Pollution.
 - e) Noise Pollution.
 - f) Thermal Pollution.
 - g) Nuclear Hazards.
- Solid Waste Management: Causes, Effects and Control Measures of Urban and Industrial Wastes.
- Role of an Individual in Prevention of Pollution.
- Pollution Case Studies.
- Disaster Management: Flood, Earthquake, Cyclone and Land Slides.