

**MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI**

**SYLLABUS FOR ENVIRONMENTAL STUDIES FOR**

**UNDERGRADUATE COURSES –**

**PART IV-COMPULSORY PAPER**

**UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES**

Definition, scope and importance Natural resources and associated problems:

- a) Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people.
- b) Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management.
- c) Mineral resources: Use and exploitation, environmental effects.
- d) Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems.
- e) Energy resources: Growing energy needs, renewables and non-renewable energy sources, alternate energy sources.
- f) Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.
- g) Role of an individual in conservation of natural resources.
- h) Equitable use of resources for sustainable lifestyles.

**UNIT II: ECOSYSTEMS**

- a) Forest Ecosystem
- b) Grassland Ecosystem
- c) Desert ecosystem
- d) Aquatic Ecosystem (Ponds rivers, oceans, estuaries) Food Chains, Food Webs and Ecological Pyramids Energy flow in the ecosystem Ecological succession

**UNIT III : BIODIVERSITY AND ITS CONSERVATION**

Introduction Definition: Genetic, species and ecosystem diversity.

Biogeographical classification of India Values of Biodiversity

Biodiversity at global, national and local levels India as a mega-diversity nation

Hot-Spots of biodiversity

Threats to biodiversity

Endangered and endemic species of India

Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

## **UNIT IV: ENVIRONMENTAL POLLUTION**

Definition- Causes, effects and control measures of:-

- a) Air Pollution
- b) Water Pollution
- c) Soil Pollution
- d) Marine Pollution
- e) Noise Pollution.
- f) Thermal Pollution

Solid Waste Management

Disaster Management: Floods, earthquake, cyclone and landslides.

## **UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT**

Climatic change, global warming, acid rain, ozone depletion.

Wasteland reclamation

Consumerism and Waste products, use and through plastics

Environment Protection Act

Air (Prevention and Control of Pollution Act

Water (Prevention and Control of Pollution) Act

Wildlife Protection Act

Forest Conservation Act

Population Explosion — Family Welfare Programme

Human Rights

### **REFERENCES:**

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3. A. K. De.1999. Environmental Chemistry, Wiley Eastern Limited, India.
4. Jadhav, H. and Bhosale,V.M.1995. Environmental Protection and Laws, Himalaya Publishing House, Delhi. pp284.
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