

**MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI SYLLABUS FOR ENVIRONMENTAL STUDIES FOR UNDER GRADUATE 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.

**UNIT II: ECOSYSTEMS**

- a) Forest Ecosystem
- b) Grassland Ecosystem
- c) Desert ecosystem
- d) Aquatic Ecosystem (Ponds, rivers, oceans, estuaries)

Energy flow in the ecosystem Ecological succession Food Chains, Food Webs and Ecological Pyramids.

**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:** 1. G.S. Vijayalakshmi, A.G. Murugesan and N. Sukumaran. 2006. Basics of Environmental Science, Manonmaniam Sundaranar University Publications, Tirunelveli , pp.160.  
2. Agarwal. K.C. 2001. Environmental Biology, Nidi Publications Limited, Bikaner.  
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. 5. Odum, E.P.1971. Fundamentals of Ecology, W.B.Saunders Co., USA. pp.574.