

13CE3107-ENVIRONMENTAL STUDIES

(Common for EEE & ECE)

Instruction/week: 4 hrs.

Univ. Exam: 3 hrs.

Max. sessional marks:40

Univ. Exam marks :60

UNIT-I

Introduction: Definition, Scope and Importance of Environmental studies, Environmental Components. Ecosystem: Introduction, types, characteristics and functions of Ecosystems Bio-diversity and its conservation- Value of bio-diversity consumptive and productive use, social, ethical, aesthetic and option values. Threats to biodiversity-conservation of biodiversity.

UNIT-II

Environmental and natural resources management:

- a. Land resources and its importance, Land degradation, Soil erosion and desertification, Effects of modern agriculture, fertilizer and pesticide problems.
- b. Forest Resources: Use and over-exploitation-Mining and dams-their effects on forest and tribal people.
- c. Water Resources: Use and over-utilization of surface and ground water, Floods and droughts, Water logging and salinity, Conflicts over water sharing, Rain water harvesting, clouds seeding and watershed management.
- d. Energy resources Energy needs: Renewable and non-renewable energy needs use of alternate energy sources, Impact of energy use of environment.

UNIT-III

Environmental Pollution: Local and global issues, Causes, Effects and control measures of Air pollution, Water Pollution, Soil pollution, Marine Pollution, Noise pollution.

Solid waste management: Composting, Vermiculture- Urban and industrial wastes, recycling and reuse, Nature of Thermal pollution and nuclear hazards, Global warming, Acid rain, Ozone depletion.

UNIT-IV

Environmental Problems in India: Drinking water, Sanitation and public health. Effects of urbanization, Transportation, Industrialization on the quality of environment, Green revolution.

Economy and Environment: The economy and environment interaction, Sustainability, Environment Impact Assessment, Social Issues.

UNIT-V

Environmental Acts: Water (Prevention and control of pollution) Act-Air (Prevention and control of pollution) Act – Environment protection Act, Wildlife protection Act, Forest conservation Act, Coastal Zone Regulations.

Case Studies: Silent valley project, Madhura Refinery and Taj Mahal, Tehri Dam, Kolleru Lake Aquaculture, Fluorosis in Andhra Pradesh.

Field Work: Visit to Local Area having river/Forest/grass land/hill/mountain to document and environmental assets.

Study of local environment-common plants, insects, birds. Study of simple ecosystems-pond,visit to industries, water treatment plants, effluent treatment plants.

TEXT BOOKS:

- 1.“Environmental science” by Anubha Kaushik and C.P.Kaushik.
- 2.“Environmental science and Engineering” by P.Anandan and R.K.Kumaravelan.

REFERENCES:

- 3.“Introduction to Environmental science” by Y.Anjaneyulu.
- 4.“Environmental studies” by Dr B.S.Chauhan.
5. “Environmental science” by M.Chandra sekhar