

10 CE 221 Environmental Studies
(Common to All Branches)
II B.Tech II Semester

With effect from the Academic year 2011 – 2012

Lectures/ week : 4Hrs.

University Exam :3 hrs

Credits:4

Sessional Marks: 40

End Examination Marks : 60

UNIT – I

Introduction:

Definition, Scope and Importance of Environmental studies, Environmental components.

Ecosystem: Introduction, types, characteristics, features, structure 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 bio diversity.

UNIT – II

Environment 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: Composing, 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, Floris 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, visits to Industries, water treatment plants, effluent treatment plants.

TEXT BOOKS:

1. Environmental Studies : Dr.B.S.Chauhan
2. Environmental Science : Kaushik A, Kaushik C P
3. Environmental science and Engineering : P.Anandan and R.Kumaravelan

REFERENCES BOOKS:

1. Environmental Science : Chandra Sekhar M
2. Introduction of Environmental Science : Anjaneyulu Y