

**B.Tech. Biotechnology: Semester-IV
BBT 407: ENVIRONMENTAL SCIENCE**

Teaching Scheme	Examination Scheme
Lectures: 3 hrs/Week	Audit Course
Tutorials: 1 hr/Week	
Credits: 4	

Course Objective

The objective is to learn about the environment and its surroundings; why to keep the environment clean; how to manage alternative energy sources etc.

Course Learning Outcomes

After completing the course, the student shall be able to:

CO1: Scope & Importance, Need For Public Awareness.

CO2: Environment definition, Ecosystem – Types & Factors of Ecosystem,

CO3: Environmental Pollution and their effects

CO4: Environmental Protection- Role of Government, Legal aspects, Initiatives by Non-governmental Organizations (NGO),

Unit 1: Introduction

Definition, Scope & Importance, Need For Public Awareness- Environment definition, Eco system – Types & Factors of Ecosystem, Food chain, Food-web, Ecological pyramids, Laws of Thermodynamics, Energy flow, Trophic levels, Human activities – Food, Shelter, Economic and Socialsecurity. Effects of human activities on environment- Housing, Industry, Mining and Transportation activities.

Unit 2: Natural Resources

Water Resources - Water borne diseases, Water induced diseases, Mineral Resources, Forest Wealth, Material cycles- Carbon, Nitrogen and Water Cycle Energy – Different types of energy, Conventional and Non-Conventional sources – Hydro Electric, Fossil Fuel based, Nuclear, Solar, Biomass and Bio-gas. Hydrogen as an alternative future source of energy.

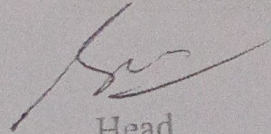
Unit 3: Environmental Pollution


Environmental Pollution and their effects. Water pollution, Land pollution. Noise pollution, Public Health aspects, Air Pollution, Solid waste management.


Unit 4: Current Environmental Issues of Importance

Population Growth, prevention of AIDS & other communicative diseases, Climate Change and Global warming- Effects, Urbanization, Automobile pollution. Acid Rain, Ozone Layer depletion, Animal Husbandry.

Unit 5: Current Environmental Issues of Importance


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Environmental Protection- Role of Government, Legal aspects, Initiatives by Non-governmental Organizations (NGO), Environmental Education, Women Education. Abuses of Child Labor


Unit 6: Project Work

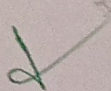
Collection of data regarding incineration plants in Govt. & Private hospitals of the region. Project Reports- Air pollution area, water pollution area, noise pollution area, land pollution area. Projects regarding Alternatives of fossil fuel.

Suggested Readings

- Environmental Studies , Benny Joseph; Tata McgrawHill,2005
- Environmental Studies, Dr. D.L. Manjunath; Pearson Education-2006
- Environmental studies, R. Rajagopalan; Oxford Publication – 2005
- Text book of Environmental Science & Technology, M. Anji Reddy, BS Publication, Revised edition.


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