

ENVIRONMENTAL SCIENCE

PH. 3.10 THEORY

2 hours/week

UNIT - I

1. Introduction to Environment, Ecological Concepts: Principle, components, Ecosystem Process: Energy, Food Chain, Air cycle etc., Atmospheric chemistry and Soil chemistry
2. Concept in Hydrology: Hydrological cycle, Precipitation, Infiltration, evaporation and evapotranspiration, Rainfall-runoff relationships.

UNIT - II

3. Water Pollution: Physical and chemical properties of water, water quality standards and parameters.
4. Water Treatment: Pre-treatment of water, Conventional process, and advanced water treatment process.
5. Waste Water Treatment: Pretreatment, primary and secondary treatment of waste water, Activated sludge treatment: Anaerobic digestion and its application.

UNIT - III

6. Solid Waste Management: Sources classification and composition of MSW; properties and separation, storage and transportation, Biological treatment, Thermal treatment, Landfill etc.
7. Hazardous Waste Management: Sources and classification of Hazardous waste including Medical hazardous waste and Household waste, Management of hazardous waste: Storage, collection and transportation, treatment and disposal.

UNIT - IV

8. Air Pollution: Air pollution and types of air pollutants, Acid deposition, Global climate change - green house gases.
9. Noise Pollution: Physical Properties of sound, Noise criteria, Noise Standards, Noise measurement, Noise control.

UNIT - V

10. Waste Minimization: Concept, benefits of waste minimization, Elements of waste minimization programme, Waste reduction techniques. Life Cycle Assessment, Environment Impact Assessment, Origin and procedure of EIA, Project Screening of EIA, Scope studies, Preparation and review