



ANDHRA UNIVERSITY

TRANS-DISCIPLINARY RESEARCH HUB

ENVIRONMENTAL CHEMISTRY

UNIT-I: Chemistry of Air pollution

Composition of atmosphere ; Pollution of atmosphere ; Types of air pollutants ; Oxides of Carbon, Sulphur, Nitrogen and Hydrocarbons etc ; Green house effect, Acid rain and Photochemical smog. Effect of Ozone on Health & Environment; Chlorofluorocarbons; Presence of Lead in the atmosphere ; Reducing toxic emission from the fuel combustion in vehicles; Control of NO emission.

UNIT-II: Chemistry of Water Pollution

Environmental role of water; The Hydrological cycle of water; Classification of water pollutants; Measurement of BOD, COD, TOC; Waste chemicals; Oil spills, Heavy metals; Waste water treatment – Primary, Secondary (Aerobic & Anaerobic) and Tertiary treatments.

UNIT-III: Chemistry of Soil Polluti

Soil pollution; Classification of Soil Pollutants; Source and Classification of Solid Waste; Disposal of Solid Waste on land and sea; techniques of recycling of Solid Waste.

UNIT-IV: Industrial and Pesticide Pollution

Polymers and Plastics; Sugar and Distillery; Drugs and Pharmaceuticals; Paper and Pulp; Metallurgical industries; Classification of Pesticides; Alternate methods of Pest Control; Control methods of Pesticide Pollution.



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MODEL QUESTION PAPER

ENVIRONMENTAL CHEMISTRY

Answer *any five* questions (5 x 4=20)

Max. Marks: 100

1. Explain the concept of Green house effect and photochemical smog
2. Describe the toxic effects of air pollutants like, Carbon, Sulphur and Nitrogen
3. a. Describe the Hydrological cycle of water
b. Give a brief description of different types of water pollutants
4. a. Explain the toxic effects of Heavy metals and oil spills.
b. Explain how parameters like BOD and TOC are measured.
5. Describe the methods involved in disposal of solid waste on land and sea.
6. Give a comprehensive account of the techniques of recycling of solid wastes
7. Discuss the different types of pollutants from pharmaceutical and metallurgical industries.
8. Describe the Control methods of Pesticide Pollution.