

UNIT – I

Air pollution– Sources of air pollutants (Natural sources and manmade sources), types of air pollutants (Primary pollutants– aerosols, gaseous, particulates, metallics, pesticides, radioactive, carcinogens, biological contaminants, secondary pollutants– smog), Effects of air pollutants (Biological, physical and economical) and their control measures.

UNIT – II

Factors affecting air pollutants (Wind, temperature, height, precipitation, topography, turbulent diffusion, separated flows and plume behavior), green house effect, Ozone depletion, acid rain, El-nino and La-nina effect, photo-chemical smog, Bhopal gas tragedy.

UNIT – III

Water pollution: Types of water pollution (Ground water, surface water, lake water, river water and marine water). Sources of water pollution (Sewage and domestic wastes, industrial effluents, agricultural discharges, fertilizers, detergents, toxic metals, thermal pollutants and radioactive materials), Eutrophication, effects of water pollutants and their control, National River Action Plan (NRAP) (Ganga Action Plan & Yamuna Action Plan).

UNIT – IV

Terrestrial pollution (Soil Pollution): Sources of terrestrial pollution (Electronic wastes, Industrial wastes, urban wastes, agricultural practices, chemical and metallic pollutants, sedimentation, biological agents), effects of terrestrial pollutants, bio-indicators of terrestrial pollution. Bio-medical and Hospital Wastes, Radioactive Wastes: Sources, Transport and Disposal. Municipal solid wastes - hazards, disposal and energy production- Case studies

UNIT – V

Radio-active pollution: Introduction, types of radiations (Ionizing and non-ionizing), sources of radiations (natural sources and anthropogenic sources). Biological effects of radiations, noise pollution: Introduction, sources of noise (Industrial, transport, neighborhood), noise exposure levels and standards, effects of noise pollution and its control.

NOTE: The question paper shall consist of two sections (A & B). Section A shall contain ten short answer type questions of six marks each and student has to attempt any five questions in about 150 words each. Section B shall consist eight long answer type questions of ten marks each and student shall be required to attempt any four questions in detail. Questions shall be uniformly distributed from the entire syllabus. The previous year paper can be used as a guideline and the following syllabus should be strictly followed while setting the question paper.