CY-521 ENVIRONMENTAL POLLUTION CHEMISTRY

Atmospheric Chemistry: Atmospheric temperature and pressure profile, photochemical smog, particulate matter in atmosphere, atmospheric aerosols, acid rain, industrial pollutants, radioactivity, global warming, green-house gases, stratospheric ozone, the ozone hole, CFCs, ozone depletion and protection.

Water Pollution And Water Treatment: Sources of water pollution, heavy metals contamination, eutrophication, detergents and phosphates in water, water quality criteria, water purification, removal of nitrogen and phosphorous compounds from polluted water, organic matter in water and its decomposition.

Soil Pollution: Soil and mineral resources, heavy metals contamination, bio-accumulation of heavy metals, organic matter in soil, macro and micro-nutrients in soil, ion-exchange in soil, soil pH and nutrients availability.

Sampling of waste/pollutants: Sampling of air, liquid and solid pollutants, composite and grab samples, sampling strategy (for BOD/COD study), preparation, transportation, analysis of samples, number and size of samples, sample analysis for toxic metals, gases, microbiological systems, radioactive waste.

Analytical techniques: Spectral analysis, gravity filtration, precipitation methods, electroanalytical methods, GM counter for radioactive wastes, microbiological methods.