CY-402 ENVIRONMENTAL CHEMISTRY

Atmospheric Chemistry: The air around us, atmospheric temperature and pressure profile, Temperature inversion and photochemical smog, particulate matter in the atmosphere, Industrial pollutants, radioactivity, atmospheric aerosols, Acid rain --major sources, mechanism, control measures and effects on buildings and vegetation, Global

warming -- major greenhouse gases, mechanism, control measures and global impact, The stratospheric ozone -- the ozone hole, CFCs, ozone protection, biological consequences of ozone depletion.

Water Pollution and Water Treatment: sources of water pollution-industrial sources and agricultural sources, heavy metals contamination of water, Eutrophification, detergents and phosphates in water, water quality criteria, Water purification -- primary, secondary and advanced treatment, Removal of nitrogen and phosphorous compounds from polluted water, organic matter in water and its decomposition.

Soil Pollution: Soil and mineral resources, general principles of metal extraction, Heavy metals contamination of soil, toxicity of heavy metals, bio-accumulation of heavy metals, Organic matter in soil, Macro and micro-nutrients in soil, ion-exchange in soil, soil pH and nutrients availability.

Green Revolution: pest control, pesticides, toxicity of pesticides, integrated pests management. Energy Production and Environment: liquid and gaseous fuel, hydrogen economy. Renewable Energy: nuclear energy, solar energy, geothermal and tidal energy.