

SARDAR PATEL UNIVERSITY**Programme: B.Sc (Chemistry)****Semester: IV****Syllabus with effect from: November/December-2012**

Paper Code: US04ECHE04	Total Credit: 2
Title Of Paper: Environmental Pollutions	

Unit	Description in detail	Weighting (%)
I	Air Pollution Introduction/origin, Environmental Pollution disasters, Mediterranean: A dead sea, Classification of pollutants. Air pollution, Composition of air, Chemical reaction in air due to sun light, Reactions in Troposphere, Stratosphere and mesosphere. Smog formation in air. Major sources of air pollution, Other sources of air pollution, Units of measurement of air pollutant. Classification of air pollutants. Sulphur compounds as pollutants (a) Reaction of SO ₂ in atm. (b) Effect of SO ₂ on plant (c) Effect of SO ₂ on corrosion of Fe, Zn, Cu, Al.	
II	Water Pollutants And Their Properties Introduction, Sources of water, Chemistry of water, Definition of water pollution, Types of water pollution including main point, Types of water pollution (four types), Types of water pollution based on sources and storages (Five types). Ground water pollution, Factor affecting the ground water pollution, Effect of ground water pollution on man and soil, Surface water pollution, Factors affecting the surface water, Sources of surface water pollution, Lake water pollution, Sources of pollutants in lake water.	
III	Soil Pollution Introduction, Importance and formation of soil, Composition of soil, Salt affected to soil, Sources of soil pollution, Soil erosion and its types, Agents of soil erosion, Mechanism of soil erosion, Factors affecting to soil erosion, Detrimental effects of soil erosion, Measures of soil erosion, Preventing soil erosion, Chemical method of SEWAGE Treatment, Control of soil pollution, Sources using wastes	
IV	Radioactive Pollution Introduction, How radioactive pollution differs from other pollution. Types and unit of radiation, Radiation chemistry, Interaction of ionising radiation with matter, Principal Types of radiation, Chemical change, Effect of ionising radiation on water and aqueous solution, Effect of radiation on organic compound, Auto radiolysis, Natural sources of radiation, Anthropogenic sources of radiation, Classification and effects of radiation, Effect of ionizing & non-ionizing radiation.	

Basic Text & Reference Books :-

- Environmental studies by S.V.S Rana Second reprint (F. Edi):2007.
- Environmental Chemistry by B. K. Sharma, H.KAUR, Third revised and enlarged edition -1996-97.

