

III B.Sc. SYLLABUS FOR VI SEMESTER  
CHEMISTRY ELECTIVE – VII B

PAPER CODE : 1662308

No. of Credits : 3

No. of h/w : 3

ENVIRONMENTAL CHEMISTRY

UNIT-I

Introduction

Concept of Environmental chemistry-Scope and importance of environment in now adays – 9 h  
Nomenclature of environmental chemistry – Segments of environment - Natural resources –  
Renewable Resources – Solar and biomass energy and Nonrenewable resources – Thermal  
power and atomic energy – Reactions of atmospheric oxygen and Hydrological cycle.

UNIT-II

Air Pollution

Definition – Sources of air pollution – Classification of air pollution – Acid rain – 9 h  
Photochemical smog – Green house effect – Formation and depletion of ozone – Bhopal gas  
disaster – Controlling methods of air pollution.

UNIT-III

Water pollution

Unique physical and chemical properties of water – water quality and criteria for finding of 9 h  
water quality – Dissolved oxygen – BOD, COD, Suspended solids, total dissolved solids,  
alkalinity – Hardness of water – Methods to convert temporary hard water into soft water –  
Methods to convert permanent hard water into soft water – eutrophication and its effects –  
principal wastage treatment – Industrial waste water treatment.

UNIT-IV

Chemical Toxicology

Toxic chemicals in the environment – effects of toxic chemicals – cyanide and its toxic 9 h  
effects – pesticides and its biochemical effects – toxicity of lead, mercury, arsenic and  
cadmium.

UNIT-V

Ecosystem and biodiversity

Ecosystem: Concepts – structure – Functions and types of ecosystem – Abiotic and biotic 9 h  
components – Energy flow and Energy dynamics of ecosystem – Food chains – Food web –  
Tropic levels – Biogeochemical cycles (carbon, nitrogen and phosphorus)  
Biodiversity: Definition – level and types of biodiversity – concept - significance –  
magnitude and distribution of biodiversity – trends - biogeographical classification of India –  
biodiversity at national, global and regional level.