

ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY

Module I: Introduction, Review of basic concepts in chemistry, chemical thermodynamics, concept of chemical equilibrium, Equilibrium constants and activity.

Module II: Reaction kinetics, acid and basis, polyprotic acids and bases, acidity, alkalinity, carbonate system, pH-CT, buffers, and solubility reactions.

Module III: Electrochemistry and electrochemical cells, nuclear chemistry, nitrogen chemistry and chlorination.

Module IV: Introduction, the bacteria, the fungi, the algae, protozoa and other higher forms, viruses, pathogens and disease, microbial growth and enumeration, environmental influences, control of microorganisms.

Books for reference:

1. Environmental Chemistry, Sawyer and Mccarty, TMH.
2. Microbiology for Environmental Scientists and Engineers, A.F. Gaudy, McGraw-Hill Int Edition.
3. Environmental Chemistry, Benerjee, PHI
4. Microbiology Demystified, Betsy, Tom, Keogh and James, TMH