UNIT I: WATER (6 Lectures)

Water and its H-bonding property; buffers; pH, pKa and Henderson Hasselbalch equation, hydrophobic and hydrophilic interactions, buffers.

UNIT II: PROTEIN CHEMISTRY (6 Lectures)

Definition, structure of amino acids; peptide bond formation; backbone structure of proteins/polypeptides; N-terminal and C-terminal amino acids; disulphide bonds; basic understanding of primary, secondary, tertiary and quaternary structure of proteins/peptides; elementary ideas on protein denaturation and renaturation.

UNIT III: ENZYMES (6 Lectures)

Basics of enzymology: nomenclature, characteristics of enzymes, concept of holoenzyme, apoenzyme, coenzyme and cofactors, mechanism of enzyme action. Enzyme kinetics; Michaelis-Menten equation, determination and significance of $V_{max}$ and $K_M$. Basic idea of enzyme inhibition.

UNIT IV: MOLECULAR BIOLOGY (6 Lectures)

Genome, Gene and Organization: Chromatin structure, Primary and secondary structure of DNA. Watson-Crick model of DNA supercoiling. Denaturation and renaturation of DNA.

RECOMMENDED BOOKS