

BIOCHEMISTRY

Unit : I

Laws of thermodynamics – Application to life processes – Entropy – Standard free energy changes – Redox potentials – Concept of pH, titration curves and buffers – Henderson – Haselbalch equation.

Unit : II

Carbohydrate – Classification – Chemistry and properties glycogen metabolism – Glycolysis – Krebs Cycle- Gluconeogenesis

Unit : III

Proteins – Amino acids – Properties – Structure of naturally occurring amino acids- Orders of protein structure

Unit : IV

Nucleic acids – Nucleotides, Nucleosides and Polynucleotides- Structure and types of DNA and RNA – Nucleic proteins – Isolation and Purification of DNA and RNA. Lipids – Nomenclature and Classification. Properties of fatty acids – β oxidation and biosynthesis of fatty acids.

Unit : V

Enzymes – Definition, Nomenclature and Classification of enzymes – Properties of enzymes – Specificity of enzymes – Structure and function of enzymes – Units of enzyme activity and turnover number - Kinetics and mechanism of enzyme action.

Unit : VI

Biological oxidation – Electron transport – Photophosphorylation – Photosynthesis

Reference

1. Harper's Review of Biochemistry
2. Lehninger's Principles of Biochemistry, Macmillan Worth Publishers, 2000.