

AMBT02 BIOENERGETICS-I

UNIT-1 BIOCHEMICAL EVOLUTION

Chemogeny, Biogeny, and Evolution of Chromosome Organization and Genetic Regulatory Mechanisms, Time factors in evolution, Evolution of Enzyme Systems.

UNIT-2 AMINO ACIDS AND PEPTIDES

Structure, Function, Methods of Characterization, Separation Techniques based on their structure and properties, Clinical Significance, Biosynthesis.

UNIT-3 CARBOHYDRATES

Mono and Polysaccharide, Classification, Structure, Function, Separation and Characterization Techniques, Clinical significance, Biosynthesis.

UNIT-4 LIPIDS

Classification, Structure, Function, Separation and Characterization Techniques, Clinical Significance.

UNIT-5 NUCLEIC ACIDS

Nucleic Acids and Polynucleotides, Classification, Structure, Function, Separation and Characterization Techniques, Clinical Significance.

UNIT-6 VITAMINS AND MICRO AND MACRO NUTRIENTS

Classification, Structure, Function, Separation and Characterization Techniques, Clinical Significance.

UNIT-7 BIOCHEMICAL ENERGETICS:

Energy Yielding and Energy Requiring Reactions, Calculations of Equilibrium Concentrations, Oxidation-Reduction Reactions, Metabolism and ATP Yield. Photosynthetic Phosphorylation, Active Transport, Second Law of Thermodynamics, Enthalpy and Entropy, Activation Energy.

UNIT-8 SPECTROPHOTOMETRY AND OTHER OPTICAL METHODS:

Spectrophotometry, Flurometry, Optical Rotation - Polarimetry, Photochemistry, and Quantum efficiency.

Reference Books:

1. Biochemistry by Lubert Stryer. W. H. Freeman & Company, NY
2. Biochemistry by Lehninger. McMillan publishers
3. Biochemistry by Zubey. Wm. C. Brown publishers