

AMB10 BIOENERGETICS-II

UNIT-1 CHEMICAL ENERGY

Catabolism and the Generation of Chemical Energy

UNIT-2 METABOLIC STRATEGIES

General Principles of Intermediary Metabolism, Regulation of Pathways, Strategies for Pathway Analysis

UNIT-3 GLYCOLYSIS, GLUCONEOGENESIS, AND THE PENTOSE PHOSPHATE PATHWAY

Glycolysis, Gluconeogenesis, Regulation of glycolysis and Gluconeogenesis, The pentose Phosphate Pathway

UNIT-4 THE TRICARBOXYLIC ACID CYCLE

Discovery of the TCA Cycle, Steps in the TCA Cycle, Stereo chemical Aspects of TCA Cycle Reactions, ATP Stoichiometry of the TCA Cycle, Thermodynamics of the TCA Cycle, The Amphibolic Nature of the TCA Cycle, The Glyoxylate Cycle, Oxidation of other Substrates by the TCA Cycle, Regulation of TCA Cycle Activity

UNIT-5 ELECTRON TRANSPORT AND OXIDATIVE PHOSPHORYLATION

The Mitochondria Electron - Transport Chain, Oxidative Phosphorylation, Transport of Substrates, Pi, ADP and ATP into and out of Mitochondria, Electron Transport and ATP Synthesis in Bacteria,

UNIT-6 PHOTOSYNTHESIS AND OTHER PROCESSES INVOLVING LIGHT

Photosynthesis, Other Biochemical Processes Involving Light

UNIT-7 METABOLISM OF FATTY ACIDS

Fatty Acid Degradation, Biosynthesis of Saturated Fatty Acids, Regulation of Fatty Acid Metabolism

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