

B.Sc. BIOCHEMISTRY SYLLABUS UNDER CBCS
(With effect from 2016-2017)
DSC-1C (Theory)

Paper-III Intermediary Metabolism

CREDITS: 4

MAXIMUM MARKS: 100

Unit-1: Carbohydrate Metabolism:

- 1.1. Glycolysis pathway, energy yield,
- 1.2. Glycogenesis, Glycogenolysis,
- 1.3. TCA cycle & its regulation, ATP yield, Anapleurotic reactions of TCA cycle.
- 1.4. Pentose-phosphate shunt, Gluconeogenesis. Disorders of carbohydrate metabolism

Unit-II: Lipid Metabolism:

- 2.1. Lipid Metabolism: Lipolysis, β -oxidation, energy yield, role of Carnitine.
- 2.2. Fatty Acid Synthase complex, Lipogenesis (Denovo synthesis of Fatty acid),
- 2.3. Elongation of Fatty acid (Mitochondrial elongation). Biosynthesis of TAG, Phospholipids (Lecithin and Cephalin).
- 2.4. Disorders of lipid metabolism.

Unit-III: Amino Acid Metabolism:

- 3.1. General reactions of amino acids metabolism.
- 3.2. Urea cycle, regulation and biological significance.
- 3.3. Metabolism of Glycine, Phenylalanine, Tyrosine, Serine, Methionine and Threonine.
- 3.4. Inborn errors of amino acids Phenyl alanine & Tyrosine metabolism.

Unit-IV: Nucleic Acid metabolism:

- 4.1. Biosynthesis and regulation of Purines and Pyrimidines, Denovo and Salvage pathways.
- 4.2. Catabolism of Purines and Pyrimidines.
- 4.3. Biosynthesis of deoxy ribonucleotides, ribonucleotides and thymidylate synthesis and their significance
- 4.4. Disorders of nucleic acid metabolism (Gout, Lesch Nyhan syndrome)