

B.Sc. Sem.-5 Examination**CC-301****Biochemistry (O & N)****March-2025****Time : 2-30 Hours]****[Max. Marks : 70**

- Q1 Define Glycolysis. Discuss in detail reactions of Glycolysis with enzymes & structures. (14)
- OR
- Q1 a) Define Glycogenolysis & discuss the reactions involved in the process with enzymes & structures. (10)
- b) Describe the role of Glycogen protein in Glycogenesis (04)
- Q2 Discuss in detail Urea cycle with regards to location, reactions, energetic with enzymes & structures. (14)
- OR
- Q2 a) Define & discuss the process of Transdeamination with enzymes & structures. (10)
- b) Define Ammonotelic & Uricotelic organisms with one example. (04)
- Q3a) Discuss beta oxidation of Palmitic acid with reactions, enzymes & structures. (10)
- b) Discuss the role of Carnitine in Fatty acid oxidation. (04)
- OR
- Q3 a) Discuss synthesis of Phospholipids Lecithin & Cephalin with reactions, enzymes & structures. (10)
- b) Discuss the breakdown of ketone bodies with reactions, enzymes & structures. (04)
- Q4 Discuss TCA cycle in detail with reactions, enzymes & structures. (14)
- OR
- Q4 a) Describe Chemiosmotic model for oxidative Phosphorylation with a labelled diagram. (07)
- b) Describe Aspartate-Malate Shuttle with reactions. What is the purpose of this shuttle? (07)

(P.T.O)

Section –II: Attempt any 7:**(14)**

- 1 Write full form of PPP & any one significance of PPP.
- 2 Write the full form NAD, NADP, FAD & FMN.
- 3 Calculate the number of ATPs formed when a molecule of glucose is oxidized under anaerobic condition.
- 4 Define Gluconeogenesis. Under what conditions does it occur?
- 5 What is Deamination of amino acids? Give one example.
- 6 Name the amino acids required for creatine synthesis. Write the reaction catalysed by Creatine Kinase.
- 7 Give one role each of Insulin & Glucagon
- 8 Name the enzymes of Fatty acid Synthase complex?
- 9 Draw Glycerol phosphate shuttle?
- 10 What is amphibolic nature of TCA cycle? Give one example of it.
- 11 Draw labeled schematic diagram of Electron Transport Chain.
- 12 Draw labeled schematic diagram of Cori cycle.