

Q1a) Define Glycolysis. Where does it occur in our cells? Discuss in detail reactions of Glycolysis that use or produce ATP with enzymes & structures. (10)

b) Calculate the number of ATPs formed when a molecule of glucose is oxidized under aerobic condition. (04)

OR

Q1 a) Name the key enzyme of Glycogenolysis & Glycogenesis. Discuss the reactions catalyzed by them with enzymes & structures. (08)

b) Discuss the reaction of the enzymes that create debranching in glycogen molecule. (06)

Q2 Discuss in detail Urea cycle with regards to location, reactions, energetic with enzymes & structures. (14)

OR

Q2 a) Discuss Transamination reaction with enzymes & structures. (07)

b) Discuss synthesis of creatine with enzymes & structures. (07)

Q3 Discuss TCA cycle in detail with reactions, enzymes & structures. (14)

OR

Q3 a) What is electron transport chain (ETC)? Where is it situated? Discuss any one complex of it. (07)

b) Describe Pyruvate Dehydrogenase complex in detail. (07)

Q4 a) Discuss beta oxidation of any one saturated fatty acid with reactions, enzymes & structures. (10)

b) Discuss the salvage pathway for synthesis of Phosphatidyl Choline with reactions, enzymes & structures. (04)

OR

Q4 a) Describe the formation of triglycerides with reactions, enzymes & structures. (06)

(P.T.O.)

- b) Discuss the formation of ketone bodies with reactions, enzymes & structures. Under what conditions does it occur? What is the importance of ketone bodies? (08)

Section –II: Attempt any 7:

(14)

- 1 Write any two the significance of oxidative stage of PPP.
- 2 What is Glycogenin? Write the full form ATP.
- 3 Name any one enzyme involved in the bypass reaction of Gluconeogenesis & Write complete reaction catalysed by it.
- 4 Define Ureotelic & Uricotelic animals with examples.
- 5 What is Decarboxylation of amino acids? Give one example.
- 6 Draw labeled schematic diagram of Glucose Alanine cycle.
- 7 Name the defective enzyme in Gaucher's disease & Tay-Sachs disease.
- 8 How is fatty ^{Acid} transported inside the mitochondria?
- 9 What is the full form of ACP of Fatty acid Synthase complex? What is its role?
- 10 What are anaplerotic reactions of TCA cycle? Give one example of it.
- 11 Draw labeled schematic diagram of Chemiosmotic theory for ATP formation in oxidative phosphorylation.
- 12 Which are the three forms of beta subunits in ATP Synthase complex? How do they vary from each other?