

Online Mode

Unique Paper Code : 32231403
Name of the Paper : Biochemistry of Metabolic Processes
Name of the Course : B.Sc. (Hons.) Zoology
Semester : IV, CBCS
Duration : 2 Hours
Maximum Marks : 75

Instructions for candidates:

1. Write your Roll No. on the top immediately
2. Attempt **FOUR** questions in all. Each question carries 18.75 marks.

Q1. Tissues actively involved in lipogenesis also have active pentose phosphate pathway. Why should there be a correlation between the two pathways. Explain the steps involved in *de novo* production of fatty acids.

Q2. How many molecules of ATP would be produced by glycolysis and TCA cycle, if Fructose 1, 6 biphosphate is the precursor? Explain the process diagrammatically.

Q3. Discuss chemiosmotic theory of oxidative phosphorylation in detail. How is inner mitochondrial membrane important for this process?

Q4. Why is the formation of Glutamine and Glutamate essential, prior to biosynthesis of Urea. Describe the process in detail.

Q5. What are ketone bodies and name a metabolic disease where these are overproduced. Elaborate the process of ketone body formation.

Q6. Discuss shuttle systems and their importance. Also add a note on inhibitors and uncouplers of electron transport chain.