

Question Paper

Exam Date & Time: 22-May-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Instructions: Answer ALL questions.

Medicinal Biochemistry [PBT 1.3T-S1]

Marks: 70

Duration: 180 mins.

Section A

Answer all the questions.

Long Answer Questions (3 x 10 marks = 30 marks)

- 1) What are the five main substrates for gluconeogenesis? Explain gluconeogenesis from pyruvate. (10)
- 2) With respect to the following disorders, write about the enzyme defect, biochemical manifestations, diagnosis, and treatment: (10)
 - i. Phenylketonuria
 - ii. Alkaptonuria
- 3) Explain the method, principle, and clinical significance of the ELISA test. (10)

Section B

Answer all the questions.

Short Answer Questions (6 x 5 marks = 30 marks)

- 4) Explain the fluid mosaic model with the help of a neat, labeled diagram. (5)
- 5) Write a note on factors affecting enzyme activity. (5)
- 6) Write about the reactions of fatty acid synthase complex in fatty acid biosynthesis. (5)
- 7) What is ketolysis? Write the reactions associated with it. (5)
- 8) Write a note on Meselson and Stahl experimental proof for semiconservative replication. (5)
- 9) Describe the mechanism of transcription in prokaryotes. (5)

Section C

Answer all the questions.

Give Reasons for the Following (5 x 2 marks = 10 marks)

- 10) Mitochondria is considered as the powerhouse of the cell. (2)
- 11) Koshland model explains the action of allosteric modulators. (2)
- 12) Symptoms associated with Crigler Najjar syndrome Type I is more severe as compared to Type II. (2)
- 13) Urea is produced only in the liver. (2)
- 14) The type of Jaundice can be characterized by the Van den Berg reaction. (2)

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