

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION DECEMBER 2018

B.Tech. (Biotech) IIIrd Semester

COURSE CODE: 10B11BT312

MAX. MARKS: 35

COURSE NAME: BIOCHEMISTRY

COURSE CREDITS: 03

MAX. TIME: 2HR

Note: All questions are compulsory. Carrying mobile phone during examinations will be treated as a case of unfair means.

Q1. A complex polymer of glucose is stored in specialized cells in humans and required for maintaining the blood glucose levels during absence of exogenous supply of glucose in body. (CO-IV)

- Name the polymer and define its significance in maintaining blood glucose levels. (2 marks)
- Name two sites in human body for storage of this molecule and which site has more efficiency of storage. (2 marks)
- Explain the biosynthesis of this molecule in human body (3 marks)

Q2. Define the following in brief. (3.5x2 = 7 marks) (CO-V)

- Trans-fatty acids; synthesis and their effects
- Cholesterol and its biological significance

Q3.a Fatty Acyl-CoA can't be transported into mitochondrial matrix, however its oxidation occurs in mitochondria. Explain the biological event by which the translocation of Fatty Acyl-CoA occurs into mitochondria. (3.5 marks) (CO-II)

Q3.b "Fatty acid beta oxidation and citric acid cycle has several similarities". Justify the statement by suitable example. (3.5 marks) (CO-II)

Q4. Explain the biochemical processes involved in (5+2 = 7 Marks) (CO-I)

- Amino acid catabolism (5 Marks)
- Degradation of Purines (2 Marks)

Q5. Define the role of pyruvate dehydrogenase complex in glucose metabolism and also show the diagrammatic representation of citric acid cycle. (7 marks) (CO-III)