

Question Paper

Exam Date & Time: 14-Feb-2024 (10:00 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER BSc. HEALTH SCIENCE DEGREE EXAMINATION - FEBRUARY 2024
SUBJECT: BHS - 301- BIOCHEMISTRY

Marks: 40

Duration: 120 mins.

Answer all the questions.

1) Answer the following in short

- 1A) Define gluconeogenesis. Write the sites and sub-cellular sites. (2)
- 1B) Name ANY TWO enzymes involved in the digestion of starch and write the reactions. (2)
- 1C) Mention the coenzyme forms and TWO functions of niacin. (2)
- 1D) List the symptoms associated with type I diabetes mellitus. (2)
- 1E) Explain the reaction catalyzed by acetyl CoA carboxylase in de novo synthesis of fatty acids. (2)
- 1F) Explain the process of emulsification of lipids. (2)

2) Answer the following in brief

- 2A) Classify monosaccharides giving examples. (3)
- 2B) Write the reactions of the TCA cycle that produce NADH, indicating the enzyme and coenzymes (3)
- 2C) Explain the biochemical events in the myocardium following the rupture of an atherosclerotic plaque in the coronary artery. (3)
- 2D) Describe transamination reactions with TWO examples. (3)
- 2E) Define lipolysis and describe the reactions of lipolysis. (3)
- 2F) Describe the allosteric and hormonal regulation of glycogen synthesis. (3)

3) Answer the following:

- 3A) Explain the secondary and tertiary structure of proteins. (5)
- 3B) With regard to noncompetitive enzyme inhibition, write the following: (5)
- i) Characteristic features
 - ii) Michaelis-Menten plot and double reciprocal plot
 - iii) One example
- (2+2+1 = 5 marks)

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