

Code No. : 30797 E Sub. Code : EEMI 11

B.Sc.(CBCS) DEGREE EXAMINATION,
NOVEMBER 2023

First Semester

Microbiology - Elective

BASIC AND CLINICAL BIOCHEMISTRY

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following are the major functions of carbohydrates?
- Storage
 - Structural frame work
 - Transport of materials
 - Both storage and structural frame work

2. LDL and HDL are commonly known as _____ and _____ respectively
- Good cholesterol and bad cholesterol
 - Bad cholesterol and good cholesterol
 - Assimilatory cholesterol and oxidative cholesterol
 - Oxidative cholesterol and assimilatory cholesterol
3. Which of the following is true regarding the solubility of amino acids?
- Mostly soluble in water and insoluble in organic solvents
 - They are only water soluble
 - They are soluble only in organic solvents
 - Mostly soluble in organic solvents and insoluble in water
4. Which level of protein structure is directly determined by the sequence of amino acids?
- Tertiary structure
 - Quaternary structure
 - Secondary structure
 - Primary structure

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5. What are the causes of Diabetes mellitus?
- Lack of insulin receptor in tissue cells
 - Lack of glucagon receptor in tissue cells
 - Both (a) and (b)
 - None of the above
6. Sphingolipidoses leads to the improper functioning of which organ?
- Liver
 - Brain
 - Stomach
 - Heart
7. What happens during Phenylketonuria?
- Accumulation of phenylalanine
 - Accumulation of tyrosine
 - Accumulation of tryptophan
 - All of the above
8. In Alkaptonuria _____?
- Patient's urine contains homogentisic acid
 - Urine becomes black
 - Urine contains phenylalanine
 - Both (a) and (b)

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9. Creatine Kinase is used as a diagnostic clue in which of the following?
- Pancreatitis
 - Hepatitis
 - Myocardial infraction
 - Pneumonitis
10. Which of the following is/are clinical significance of Aldolase _____
- Progressive muscular dystrophy
 - Viral hepatitis
 - Prostate cancer
 - All of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Briefly explain the classification of monosaccharides.
- Or
- (b) Describe the structure of oligosaccharides and polysaccharides.

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[P.T.O.]

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the types, characteristics and functions of polysaccharides

Or

- (b) Elaborate the general properties, functions, classification and biological significance of lipids.

17. (a) Describe general structure and functions of amino acids.

Or

- (b) Elaborate the general structure and functions of proteins.

18. (a) Explain the following in brief
(i) Diabetes mellitus (ii) Galctosemia

Or

- (b) Elaborate the biochemistry of disorders of lipid metabolisms with two examples.

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12. (a) Briefly explain the classification of amino acids.

Or

- (b) List out the biological significance of proteins.

13. (a) Give a short note on (i) Ketoacidosis
(ii) Hypoglycemia

Or

- (b) Briefly explain the following
(i) Hyperlipidemia (ii) sphingolipidoses

14. (a) Give an account on Phenylketonuria.

Or

- (b) What is aminoaciduria? Explain.

15. (a) Give short note on renal function tests.

Or

- (b) Write the clinical significance of ALT and AST.

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19. (a) Elaborate the biochemistry of disorders of amino acid metabolism with two examples.

Or

- (b) Briefly explain the following disorders
(i) Alkaptonuria (ii) Homocystineuria
(iii) Tyrosinemia

20. (a) Discuss in detail different liver function tests.

Or

- (b) Write the principles of diagnostic enzymology and give the biological significance of
(i) Creatine Kinase (ii) Lactate dehydrogenase
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