(6 pages) Reg. No. : _____

Code No. : 20879 E **Sub. Code : EEMI 11**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2024

First Semester

Microbiology

Elective — 1 — 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 is an example of epimers?
   (a) Glucose and ribose
   (b) Glucose and Galactose
   (c) Galactose, mannose and glucose
   (d) Glucose, mannose and ribose

2. All of the following are complex lipids, except
   (a) Phosphatidic acid (b) Cerebroside
   (c) Cardiolipin (d) Cholesterol

3. Which of the following is an essential amino acid?
   (a) Cysteine (b) Asparagine
   (c) Glutamine (d) Phenylalanine

4. The protein that provides strength and support to connective tissues, such as skin, tendons and bone is _____.
   (a) Insulin (b) Collagen
   (c) Myoglobin (d) Hemoglobin

5. Type 2 Diabetes mellitus is also known as _____.
   (a) NIDDM (b) IDDM
   (c) IIDM (d) IIMD

6. Genetic deficiency of lipoprotein lipase cause hyper lipoprotienemia of the following type _____
   (a) Type I (b) Type II a
   (c) Type II b (d) Type V

7. In classic Phenylketonuria which enzyme is defective?
   (a) Phenylalanine hydrolase
   (b) Dihydro biopterin reductase
   (c) Dihydro biopterin synthetase
   (d) None of the above

8. Alkaptonuria is due to the deficiency of _____
   (a) Phenylalanine hydroxylase
   (b) Homogentisic acid oxidase
   (c) Tyrosinase
   (d) None of the above

9. Which of the following enzyme is not used in the diagnosis of myocardial infarction?
   (a) Aldolase
   (b) Aspartate Transaminase
   (c) Creatine Kinase
   (d) Lactate dehydrogenase

10. Highest elevation with AST is seen in viral _____.
   (a) Hepatitis (b) Meningitis
   (c) Influenza (d) Pneumonia

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Describe the structure of Glucose.

Or

(b) Write the biological significance of LDL and HDL.

12. (a) Write about the biological significance of amino acids.

Or

(b) List out the functions of proteins.

13. (a) Give a short note on Diabetes mellitus.

Or

(b) Briefly explain sphingolipidoses.

14. (a) Give an account on Alkaptonuria.

Or

(b) What is aminoaciduria? Explain.

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

Or

(b) Write about gastric function tests.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Elaborate the general properties, functions and classifications of monosaccharides.

Or

(b) Briefly explain the classification of lipids.

17. (a) Describe the classification of amino acids.

Or

(b) Elaborate the structure of proteins with neat diagrams.

18. (a) Explain the following disorders of carbohydrate metabolisms.

(i) Hypoglycemia

(ii) Ketoacidosis

(iii) Galctosemia

Or

(b) Elaborate the following disorders of lipid metabolisms.

(i) Hyperlipidemia

(ii) Hyper lipoprotienemia

(iii) Hyper cholesterolemia

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

Or

(b) Briefly explain the following disorders.

(i) Phenyl ketonuria

(ii) Tyrosinemia

20. (a) Discuss the biochemical tests which are done to assess the functions of kidney.

Or

(b) Explain the clinical significance of :

(i) Aspartate Amino transferases

(ii) Alanine Amino transferases and

(iii) Creatine Kinase

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