

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University,

Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages)

Reg. No:

Question. Code No : 25E01506

Sub Code : 24UEMB11

UG Degree - End Semester Examinations, April 2025

Second Semester

B.Sc. MICROBIOLOGY

Elective - Basic and Clinical Biochemistry

(For those who joined in July 2024 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART - A ($10 \times 1 = 10$ Marks)

Answer ALL Questions

Choose the correct answer :

1. Sucrose is also called as

(a) Dextrose

(b) Laevose

(c) Invert sugar

(d) Milk sugar

2. Which one is primary storage of food in animals is through _____
- (a) Glucose (b) Galactose
(c) Glycogen (d) Fat
3. Zwitter ion in aqueous solution is _____
- (a) Anomalous (b) Acidic
(c) Amphoteric (d) Basic
4. Proteins are polymers of amino acids that are connected by
- (a) Glycosidic linkage (b) Peptide linkage
(c) Phosphodiester linkage (d) Vanderwaal linkages
5. Diabetes mellitus is caused due to the deficiency of which hormone?
- (a) Glucagon (b) Epinephrine
(c) Insulin (d) None of the above
6. Which of the following is a common lipid metabolism disorder characterized by elevated levels of triglycerides in the blood?
- (a) Hypertriglyceridemia (b) Hypolipidemia
(c) Hypercholesterolemia (d) Hypolipoproteinemia
7. Which of the following is non-essential amino acid?
- (a) Serine (b) Leucine
(c) Methionine (d) Lysine

8. Which of these is a hereditary disease caused due to an error in amino acid metabolism?
- (a) Hyperammonemia (b) Albinism
(c) Ketoaciduria (d) Homocystinuria
9. Which of the following is liver function test?
- (a) Alkaline phosphatase (b) INR, AST/ALT
(c) Bilirubin (d) All the above
10. Which of the following is not a clinical application of creatine kinase isoenzyme?
- (a) Leukemia (b) Hypothyroidism
(c) Damage of heart tissue (d) Myopathy

PART – B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Elaborate the notes on properties of fructose.

(OR)

- (b) Illustrate the structure of cholesterol.

12. (a) Enlist the functions of amino acids.

(OR)

- (b) Highlights the properties of proteins.

13. (a) Write down the causes and treatment of hypoglycemia.

(OR)

(b) Summarize the causes and treatment of hyperlipidemia.

14. (a) What is Alkaptonuria and explain the symptoms and diagnosis of alkaptonuria.

(OR)

(b) Write an essay on the causes and treatment of tyrosinemia.

15. (a) Write an account on hepatic functional tests.

(OR)

(b) Examine the principles and function of creatine kinase.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

16. (a) Classify the carbohydrates with suitable explanations.

(OR)

(b) Essay on the properties and functions of lipids.

17. (a) List out the classification and structure of amino acids.

(OR)

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

18. (a) What is diabetes mellitus and explain their causes and treatments?

(OR)

(b) Essay on the disorders of lipid metabolism with examples.

19. (a) Illustrate the causes and symptoms of phenylketonuria.

(OR)

(b) Elaborate the notes on homocystineuria with suitable explanations.

20. (a) Essay an assessment and clinical manifestations of gastric and intestinal functions.

(OR)

(b) Interpret the principles and clinical significance of diagnostic enzymology.