D 12750 **(Pages : 3)** **Name.....**

Reg. No.....

FIRST SEMESTER (CBCSS—UG) DEGREE EXAMINATION, NOVEMBER 2021

Biochemistry

BCH 1C 01—BIOCHEMISTRY—I

(2021 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Hemoglobin has ———— structure.
   (a) Primary. (b) Secondary.
   (c) Tertiary. (d) Quaternary.
2. Which of the following is a purine ?
   (a) Thymine. (b) Adenine.
   (c) Cytosine. (d) Uracil.
3. Beta oxidation occurs in ————.
   (a) Fats. (b) Steroids.
   (c) Fatty acids. (d) Phospholipids.
4. Starch will give ———— colour with iodine.
5. Length of one turn of helix in B-form of DNA is approximately ————.
6. The most common secondary structure of protein is ————.
7. The amino acid that contains thiol group is ————.
8. Name a poly unsaturated fatty acid.
9. Which is the test used to distinguish a carbohydrate from an amino acid ?

(9 × 1 = 9 marks)

Turn over

Section B

Answer atleast **six** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall ceiling 18.

10. Discuss the structure of tRNA with a diagram.
11. Define Zwitter ion and isoelectric pH.
12. Briefly explain the Miller and Urey experiment.
13. (a) Differentiate between epimers and anomers.
    (b) Explain mutarotation.
14. Write the structures of : (a) Maltose ; and (b) Sucrose.
15. (a) What are sphingolipids ? Write the structure of sphingomyelin.
    (b) Define rancidity.
16. (a) Draw the ultrastructure of a cell.
    (b) Name the organelle involved in protein synthesis.
17. Briefly describe the steps involved in sequencing of proteins.

(6 × 3 = 18 marks)

Section C

Answer atleast **three** *questions.*
Each question carries 7 *marks.*
All questions can be attended.
Overall ceiling 21.

18. Define saponification number and iodine number. Also give their significance.
19. (a) What do you mean by reducing sugars ?
    (b) Differentiate between reducing and non-reducing sugars.
20. (a) Define a nucleotide.
    (b) Differentiate between nucleotide and nucleoside.
    (c) Draw the structure of cAMP.

21. (a) Name the bond stabilising the primary structure of proteins.

(b) Write any two reactions of proteins.

(c) Briefly describe denaturation of proteins.

22. (a) Write briefly on mucopolsaccharides, indicating the structure of anyone.

(b) Give the two components of starch. Differentiate between them.

(3 × 7 = 21 marks)

Section D

Answer any **one** *question.*
Each question carries 12 *marks.*

23. Elaborate on the classification of lipids.

24. Discuss the double helical structure of DNA.

(1 × 12 = 12 marks)