(Pages : 3) **M – 2591**

Reg. No. : .....

Name : .....

Second Semester B.Sc. Degree Examination, December 2021

Career Related First Degree Programme Under CBCSS

Group 2(a) – Botany and Biotechnology

Complementary Course II

BB 1231 BIOMOLECULES

(2020 Admission Regular)

Time : 3 Hours Max. Marks : 80

SECTION – A

Very short answer type-maximum two sentences. Answer **all** questions.

1. Name the monomeric unit of chitin.
2. Define peptide bond.
3. Name the nitrogenous base present in Lecithin.
4. Write down the monomers and glycosidic bond in lactose.
5. Name the nitrogenous bases present in DNA.
6. Write the coenzyme involved in transamination reaction.
7. Define Km.
8. Name the amino acid with guanidino group.
9. Name the test that can differentiate a reducing sugar from a non-reducing sugar.
10. Define zwitter ion.

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

Short answer questions not exceed **one** paragraph. Answer any **eight** questions. Each question carries **2** marks.

11. State two functions of cholesterol.
12. Differentiate nucleoside from nucleotide.
13. What is an imino acid? Give an example.
14. Draw the structures of pyrimidine bases present in RNA.
15. Explain the optical isomerism with example.
16. What are epimers and anomers?
17. Differentiate the structures of ribose and deoxyribose.
18. Define isoelectric point and write down its significance.
19. Illustrate glycosidic linkage with example.
20. What is enzyme inhibition? Mention different types.
21. What are phospholipids? Write down an example.
22. List out the name of four co-enzymes?
23. Explain osazone test and mention the significance of the reaction.
24. Write notes on mutarotation.
25. List out the functions of triglycerides.
26. Write notes on Liebermann—Burchard reaction.

(8 × 2 = 16 Marks)

SECTION – C

Short essay not exceeding **120** words. Answer any **six** of the following. Each question carries **4** marks.

27. Explain the tertiary structure of proteins.
28. List out the different types of enzyme specificity

29. Give the structural representation of (a) phosphatidyl inositol, (b) Cholesterol (c) α D glucose (d) Glycine.

30. Discuss on precipitation reactions of protein.

31. What is Line weaver-Burk equation?

32. Justify the statement that the enzymes are sensitive to pH.

33. Explain competitive inhibition and noncompetitive inhibition.

34. Describe the structure and importance of starch.

35. Discuss about the colour reactions of amino acids?

36. Give a brief note on glutathione.

37. Give an account of protein denaturation.

38. Write an account of the nomenclature of enzymes.

(6 × 4 = 24 Marks)

SECTION – D

Long essay. Answer any **two** of the following. Each question carries **15** marks.

39. Explain the classification of lipids with examples.

40. Explain different classes of enzymes.

41. Elaborate the structure of DNA according to Watson and Crick.

42. Detail the classification of carbohydrates.

43. Explain different types of RNA.

44. Describe the structure and functions of hemoglobin.

(2 × 15 = 30 Marks)

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