

561202

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024
CUFYUGP

BCH 1MN101 Biochemistry

2024 Admission onwards

Maximum Time: 2 Hours

Maximum Marks: 70

Section A

[Answer All. Each question carries 3 marks] (Ceiling: 24 Marks)

1. Mention the function of the Golgi apparatus.
2. Identify the four major types of biological macromolecules. Briefly state the primary function of each.
3. What is Brownian movement? Why is it significant in the study of colloids?
4. Define covalent bonds. How do they differ from ionic bonds?
5. Why is water considered the universal biological solvent?
6. Explain the concept of isomerisation with an example.
7. Differentiate between osmosis and diffusion.
8. How are polysaccharides classified?
9. What is a carbonyl group (C=O)? Distinguish between an aldehyde and a ketone.
10. What is decarboxylation? Give an example of a reaction that illustrates this process.

Section B

[Answer All. Each question carries 6 marks] (Ceiling: 36 Marks)

11. Explain the functions of lipids.
12. Give an account of digestion and absorption of proteins.
13. Discuss the dissociation of weak acids in water mentioning an example.
14. Discuss briefly the mechanisms of transport across biomembranes.
15. Describe the reaction mechanism of the reduction of a ketone to an alcohol.
16. Illustrate the ultrastructural details of a plant cell.
17. Discuss the process of electrophoresis and its applications in the study of colloids.
18. Comment on dipole-dipole interactions.

Section C

[Answer any one. Each question carries 10 marks] (1x10=10 marks)

19. Discuss how various bonds and interactions contribute to the structure and function of biomolecules.
20. Elaborate on the preparation methods of colloidal systems, focusing on both chemical and physical methods. Provide examples for each method.

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