QP Code: U25B035

Reg. No : .....
Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

II SEMESTER (FYUGP) DEGREE EXAMINATION, MARCH 2025
B.A/B.Sc/B.Com/BSW
BCH2MN101 : LIFE MOLECULES
2024 Admission Onwards
(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

*Answer **all**. Each question carries **3** Marks* ***(Ceiling: 24 Marks)***

1. Define reducing sugar. [BTL1]
2. Name three color reactions of amino acids. [BTL1]
3. Define ultracentrifugation. [BTL2]
4. What are compound lipids? [BTL1]
5. Compare the structures of maltose and sucrose. [BTL3]
6. State the difference between SDS-PAGE and native PAGE. [BTL2]
7. Mention the principle of gas chromatography. [BTL3]
8. Explain the difference between saturated and unsaturated fatty acids. [BTL2]
9. Describe the principle of protein precipitation using ammonium sulfate. [BTL3]
10. Why is the α-helix structure stable? [BTL3]

Section B

*Answer **all**. Each question carries **6** Marks* ***(Ceiling: 36 Marks)***

11. Explain the structured organisation of proteins. [BTL3]
12. Write down the base pairing rule and hydrogen bonding in DNA. [BTL2]
13. Discuss the factors that contribute to lipid rancidity and ways to prevent it. [BTL4]
14. Write a short note on epimers and anomers of monosaccharides. [BTL2]
15. Write a note on steroids and their structure. [BTL2]
16. Give a short description of the derivatives of monosaccharides. [BTL2]
17. Draw the structures of aromatic amino acids. [BTL2]
18. Explain the principle of colorimetry and its applications in biochemical analysis. [BTL3]

Turn Over

Section C

*Answer **any one**. Each question carries **10** Marks* ***(1x10=10 Marks)***

19. Explain the structure of DNA as proposed by Watson and Crick. Discuss the significance of complementary base pairing and the antiparallel nature of DNA strands. [BTL2]

20. Describe the structure and functions of heteropolysaccharides, highlighting their similarities and differences. [BTL1]

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