QP Code: P25DRIS001

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

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

I SEMESTER (CBCSS - PG) DEGREE EXAMINATIONS, OCTOBER 2025
(Regular/Improvement/Supplementary)
M. Sc. Biology
BIO1C01 : BIOCHEMISTRY
2024 Admission Onwards

Time:3 Hours **Maximum Weightage:30**

Part A
*Short answer type questions. Answer **any four**. Weightage **2** for each.*
(4x2 = 8 Weightage)

1. Define enthalpy.
2. What is meant by specificity in enzyme action?
3. Explain the structure and function of hyaluronic acid.
4. Illustrate the primary functions of ceruloplasmin in the human body.
5. Describe the role of NAD+ & FAD+ in Kreb's Cycle.
6. Which type of bond is responsible for the formation of the α-helix and β-sheet structures in proteins?
7. Function of phenylalanine in human metabolism and what happens if its metabolism is disrupted?

Part B
*Short essay-type questions. Answer **any four**. Weightage **3** for each.*
(4x3 = 12 Weightage)

8. Give a note on compound lipids.
9. Differentiate between cori cycle and glucose alanine cycle.
10. What are amino acids? Discuss briefly the classification of amino acids.
11. State the application of lipase enzyme.
12. Differentiate between allosteric enzyme and Isoenzyme.
13. List out the contribution of HMG CoA reductase in cholesterol biosynthesis and its regulatory mechanisms.

Turn Over

14. What is the pathophysiological mechanism behind gout caused by uric acid crystal deposition in joints?

Part C

*Essay-type questions. Answer **any two**. Weightage **5** for each.*
(2x5 = 10 Weightage)

15. Explain the significance of salvage pathways in nucleotide biosynthesis and their regulation.
16. Elaborate the Watson-Crick Model of DNA with the figure.
17. What is lactose intolerence and briefly discuss the treatment modality?
18. How would you use Polenske Number to differentiate bewteen butter and vegetable fat.

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