LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

U.G. DEGREE EXAMINATION – **ALLIED**

THIRD SEMESTER – **APRIL 2023**

UCH 3403 – BIOCHEMISTRY FOR BIOLOGY

Date: 12-05-2023 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

Part-A

Answer ALL questions. **(10 × 2 = 20)**

1. Give the classification of amino acids with suitable examples.
2. What is Zwitterion?
3. What are proteins? Give its importance.
4. What are the pyrimidine bases present in RNA and DNA?
5. What are essential fatty acids? Give an example.
6. Define Reichert-Meissl number.
7. What are disaccharides? Give an example with structure.
8. List the biological importance of carbohydrate.
9. What is isoprene rule?
10. Write any two biological importance of alkaloids.

Part-B

Answer any EIGHT questions. **(8 × 5 = 40)**

11. Write the following protein tests (a) Biuret (b) Ninhydrin.
12. Illustrate the factors that influence enzyme activity.
13. Write the mechanism of Enzyme action.
14. Describe the translation and transcription processes.
15. Describe the significance of enzymes in the process of DNA replication.
16. What are glycerides? Explain complex lipids and non-glycerides.
17. What is hydrogenation of oils? Give the structure of phospholipids.
18. What is saponification? Compare fats and oils.
19. Draw the Fischer and Haworth structures of glucose and fructose.
20. Explain the classification of carbohydrates with suitable examples.
21. How is nicotine extracted from tobacco leaves?
22. Give the structure and functions of camphor.

Part-C

Answer any FOUR questions. **(4 × 10 = 40)**

23. Discuss in detail the primary and secondary structures of proteins with suitable diagram.
24. Give the difference between DNA and RNA.
25. a) How are reducing and non-reducing sugars differentiated? (5)
    b) Give any two tests for carbohydrates. (5)
26. Explain the properties of triacylglycerol with suitable reactions.
27. Describe the structure and sources of the following. (4+3+3)
    (i) sucrose (ii) maltose (iii) lactose.
28. Explain the structure and function of the following. (4+3+3)
    (a) papaverine (b) citral (c) α-pinene

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