

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – CHEMISTRY

IFTH SEMESTER – NOVEMBER 2022

17/18UCH5ES01 – BIOCHEMISTRY AND NATURAL PRODUCTS

Date: 30-11-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART – A

Answer ALL Questions.

(10 x 2 = 20)

1. Differentiate between plant and animal cells.
2. Define the term: Denaturation of proteins.
3. What are glycolipids?
4. Give an example for enzyme specificity.
5. What are polysaccharides? Give an example.
6. Define the term: electron transport chain.
7. Write the structure of camphor.
8. State isoprene rule.
9. Write the structure of cholesterol.
10. Mention any two medicinal uses of flavonoids.

PART – B

Answer any EIGHT Questions.

(8 x 5 = 40)

11. Discuss Strecker's synthesis of amino acids.
12. How is N-terminal of an amino acid determined by Edman's method?
13. Discuss the mechanism of co-enzyme action.
14. What is immobilization of enzymes? Mention its advantages and disadvantages.
15. Define the following as properties of fatty acids. Mention their importance.
(a) acid number (b) Polenske number (c) Reichert-Meissl number
16. Discuss β -oxidation theory of fatty acids.
17. Describe the first five steps in glycolysis.
18. Explain the replication of DNA in brief.
19. Describe the synthesis of papavarine.
20. What are terpenoids? Explain the classification of terpenoids.
21. Describe the spectral techniques used in the characterization of a flavanone.
22. Explain the synthesis of cyanidine chloride.

PART – C

Answer any FOUR Questions.

(4 x 10 = 40)

23. Describe the steps involved in the separation and purification of proteins by dialysis and gel filtration.
24. Explain the factors affecting the enzyme activity.
25. What are phospholipids? Explain the types of phospholipids.
26. Draw and explain the steps involved in TCA cycle.
27. Discuss the determination of hydroxyl group, carboxyl group, oxo group and methoxy group present in alkaloids.
28. Explain the structural elucidation and synthesis of geraniol.

@@@@@