



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – CHEMISTRY

SECOND SEMESTER – NOVEMBER 2016

CH 2955 - BIO-ORGANIC CHEMISTRY

Date: 14-11-2016
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part-A

Answer ALL questions.

(10 × 2= 20)

1. What are anomers? Give an example
2. Write a short note on isoprene rule.
3. Comment on the stereochemistry of the product obtained by oxidation of abietic acid with KMnO_4 .
4. Define Donnan effect.
5. What is a nucleoside? Give an example.
6. What is known as mutarotation? Give an example.
7. Draw the structure of Cortisone.
8. What are the natural sources of steroids? Give any two examples.
9. Draw the resonance structures of 2-phenyl benzopyrylium chloride.
10. How does conjugation influence the color of anthocyanins?

Part-B

Answer any EIGHT questions.

(8 × 5= 40)

11. How is the ring size of sugar determined by oxidizing methyl glycosides with HIO_4 ?
12. How could D-(+)-Glucose be converted into D-(+)-mannose?
13. Explain the general methods of structural elucidation of alkaloids.
14. Write in detail about the functions of morphine and squallene.
15. Explain the catabolism of amino acid in urea cycle.
16. Discuss the tertiary structure of protein.
17. Describe N- terminal amino acid analysis of proteins.
18. Prove that hydroxyl group is present at C-3 position with β orientation in cholesterol.
19. Write briefly about the stereochemistry of steroids.
20. Explain the synthesis of Oestrone.
21. Define flavonoids. How are they classified?
22. Explain the reaction sequence of the formation of anthocyanin skeleton using Robinson's Method.

Part-C

Answer any FOUR questions.

(4 × 10= 40)

23. Mention the importance of starch, dextrin, glycogen, pectins and cellulose.
- 24 a. Explain the synthesis of zingiberine. **(5)**
b. How will you elucidate the structure of Vitamin A? **(5)**
- 25 a. Explain the principle involved in the separation of protein by electrophoretic method. **(6)**
b. Discuss trans amination of amino acid. **(4)**
- 26 a. Write a detailed account on the structural elucidation of cyanin chloride. **(7)**
b. How is flavonone converted to isoflavone? **(3)**
27. Discuss the synthesis of Cholesterol.
28. Write the steps involved in the biosynthesis of flavonoids. Explain the reactions.
