



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc. DEGREE EXAMINATION – CHEMISTRY**

**SECOND SEMESTER – APRIL 2014**

**CH 2955 - BIO-ORGANIC CHEMISTRY**

Date : 05/04/2014

Dept. No.

Max. : 100 Marks

Time : 09:00-12:00

**Part-A**

**Answer all the questions. Each carries two marks.**

1. What is anomeric effect?
2. Mention the industrial and biological importance of cellulose.
3. List the purine and pyrimidine bases in DNA with structure.
4. Give an example for transamination and deamination of amino acids.
5. Suggest a test to identify the methoxy groups in papaverine.
6. State isoprene rule and mention its use.
7. Write the configuration of substituents in steroids.
8. Write the functions of cholesterol.
9. What happens when flavones are fused with KOH? Give the reaction.
10. Draw the structures of isoflavone and flavones.

**Part-B**

**Answer any eight questions. Each carries five marks.**

11. Draw the possible conformers of aldohexose and name them.
12. Explain epimerization with an example.
13. Explain the preparation of (a) amino sugar and (b) glycoside.
14. Discuss the C-terminal and N-terminal amino acid analysis with suitable examples.
15. Explain denaturation and renaturation with examples.
16. Explain the importance of Hoffmann exhaustive methylation in determining the structure of terpenoids.
17. Explain the synthesis of papaverine.
18. Suggest a suitable method to synthesize zingiberine.
19. What are sex hormones? How are they classified? Mention their functions.
20. Explain the synthesis of oestrone.
21. How is cyaniding chloride isolated from cyanin chloride? Write any one method to synthesize cyanidin chloride.
22. Write a note on flavonoids and their functions.

**Part-C**

**Answer any four questions. Each carries ten marks.**

23. Discuss the determination of the ring size of monosaccharides with evidences.
- 24a. Explain the three dimensional structure of protein.
- b. Write any five differences between DNA and RNA. (5+5)
25. Elucidate the structure of cocaine.
26. Discuss the general method of determining the structure of terpenoids.
27. Explain the reactions of bio-synthesis of cholesterol.
28. Elucidate the structures of (a) pelargonidin chloride and (b) hirsutidin chloride. (5+5)

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