LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **CHEMISTRY**

SIXTH SEMESTER – **APRIL 2018**

CH 6610/CH 6604 – CHEMISTRY OF NATURAL PRODUCTS

Date: 03-05-2018 Dept. No. Max. : 100 Marks

Time: 01:00-04:00

PART – A

Answer ALL the questions **(10 x 2 = 20 marks)**

1. What are Alkaloids? Give the structure of piperine.
2. Give the Zeisel method for detecting alkoxy groups in the alkaloids.
3. What is isoprene rule? Indicate the isoprene units in the structure of Citral.
4. What happens when Citral is treated with aqueous Na_2CO_3.
5. What are Anthocyanins?
6. Give the biological importance of Flavones.
7. Give the structure of Uric acid.
8. What are Steroids? Give its biological importance.
9. What are dyes? Give two important conditions for a coloured compound to act as a dye.
10. Give the structure of Indigotin.

PART – B

Answer any EIGHT questions: **(8 x 5 = 40 marks)**

11. Discuss the degradative and synthetic evidences leading to the structure of Nicotine.
12. How will you obtain piperic acid from piperine? Establish the structure of piperic acid.
13. What are terpenoids? How are they classified?
14. Give the synthesis of β-carotene.
15. Give any two general methods for isolation of mono and sesqui-terpenoids from plants.
16. Write short notes on i. Flavones ii. Flavonoids.
17. Give a brief account on structural elucidation of Quercetin.
18. How would you convert Cholesterol into estrone.
19. a) What are Purines? Give two examples.
    b) Discuss the evidence that leads to the structure of Uric acid.
20. Describe the classification of dyes on the basis of their structure.
21. Give any one method of preparation and uses of Inidgo.
22. Discuss the synthesis of the following: i. Xanthine ii. Theophylline.

PART – C

Answer any FOUR questions: **(4 x 10 = 40 marks)**

23. a) How would you distinguish Anthocyanins and Flavanoids by colour reactions?
b) Establish the structure of Cyanidin chloride. Confirm its structure by its synthesis.

24. Give a brief account on the structural elucidation of cholesterol by chemical degradation.

25. a) Write short notes on i. Mordant dyes ii. Azo Dyes. b) How is the structure of Alizarin established?

26. Explain the structrure and synthesis of the following Alkaloids i. Nicotine ii. Papaverine.

27. Explain the following: i. Synthesis of Vitamin A_1 by Reformatsky method. ii. Exhaustive methylation.

28. Outline the synthesis of i. Geraniol ii. Flavones (Baker – Venkatraman method).

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