



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

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

SIXTH SEMESTER – APRIL 2017

**CH 6616- CHEMISTRY OF NATURAL PRODUCTS**

Date: 22-04-2017  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**SECTION A (10x2=20)**  
**ANSWER ALL QUESTIONS**

1. How are alkaloids formerly classified?
2. Mention some of the physical properties of alkaloids.
3. State “Special isoprene rule”
4. What are carotenoids? Cite an example.
5. What are anthocyanins? Cite an example.
6. Quercetin which is a flavonoid is also known as a phenolic. Why?
7. Explain how steroids are classified?
8. Draw the structure of caffeine.
9. What are natural dyes? List some examples.
10. Draw the structure of indigoitin.

**SECTION B (8x5=40)**  
**ANSWER ANY EIGHT QUESTIONS**

11. Explain the synthesis of nicotine.
12. Write the biological properties of papaverine.
13. Explain how menthol can be synthesized?
14. Outline the general methods of determining the structure of terpenoids.
15. Briefly explain Hoffman’s exhaustive methylation?
16. Write the general methods for the elucidation of the structure of flavones.
17. Explain Robinson synthesis of anthocyanins.
18. How is uric acid synthesized?
19. Briefly explain the stereochemistry of steroids.
20. Explain briefly the biological importance of purines with respect to DNA and RNA.
21. What are chromophores and auxochromes? Cite an example for each.
22. Explain the different methods of isolation and purification of natural dyes.

**SECTION- C ( 4 X 10=40)**  
**ANSWER ANY FOUR QUESTIONS**

23. a) Discuss the general methods of structural elucidation of alkaloids. (5)  
b) Draw the structure of coniine and piperine. (5)
24. a) Explain the structure and function of Vitamin-A. (5)  
b) How is  $\beta$ -carotene synthesized? (5)
25. a) Write a note on the geometrical isomerism exhibited by carotenoids. (5)  
b) Write a note on spectral properties of steroids. (5)
26. a) Write a note on the colour and structure of cyanidine chloride. (5)  
b) Explain the synthesis of cyanidine chloride from phloroglucinol. (5)
27. Illustrate the biosynthesis of cholesterol.
28. Write the structural elucidation of alizarin with neat reaction.

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