



**MAR IVANIOS COLLEGE (AUTONOMOUS)**  
**THIRUVANANTHAPURAM**

Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2018

First Degree Programme under CBCSS

Core Course: Chemistry – VII

AUCH641: Organic Chemistry – II

(Common for **Regular** – 2015 and **Reappearance** – 2014 Admn.)

Time: 3 Hours

Max. Marks: 80

## SECTION – A

*Answer ALL questions in a word or one or two sentences.*

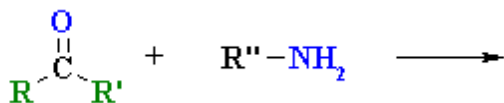
1. Alcohols have a higher boiling point than the corresponding ethers because of \_\_\_\_\_.
2. Give the structure of picric acid.
3. Aldehydes undergo \_\_\_\_\_ addition reactions.
4. Give an example of a Grignard reagent.
5. Draw the structure of malic acid.
6. Gun cotton is \_\_\_\_\_.
7. What are essential oils?
8. What is isoelectric point?
9. What does “D” mean in the name  $\alpha$  D glucose?
10. Methyl magnesium bromide reacts with formaldehyde to give \_\_\_\_\_.

(10 × 1 = 10 Marks)

## SECTION – B

*Answer any EIGHT questions, not exceeding a paragraph.*

11. What are crown ethers?
12. Which is more acidic, phenol or aliphatic alcohol? Why?
13. Are aldehydes more reactive than ketones? If so, why?
14. Complete the reaction.



15. Draw the structure of citric acid. What is it used for?
16. Which has a higher pK<sub>a</sub> value, formic acid or acetic acid? Why?
17. What is an epimer? Give an example.

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18. What is mutarotation?
19. What is denaturation of proteins? Explain.
20. Mention any two methods of preparation of amino acids.
21. Explain isoprene rule.
22. What is saponification value?

(8 × 2 = 16 Marks)

### SECTION – C

*Short essay type : Answer any SIX questions.*

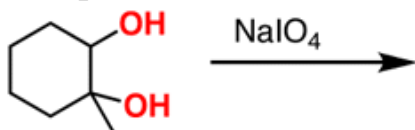
23. Outline the method to distinguish between primary, secondary and tertiary alcohols.
24. What happens when alkyl benzoate when treated with  $AlCl_3$ ? Explain with mechanism.
25. a). Give an example of a ketopentose and an aldo tetrose. (2 Marks)  
b). Convert benzene to anthranilic acid.
26. Write a note on structure of proteins.
27. Write down the mechanism of epimerisation.
28. How is glucose converted to fructose?
29. Explain the structure of DNA.
30. Write a note on chemistry of vision.
31. What are essential and non – essential amino acids?

(6 × 4 = 24 Marks)

### SECTION – D

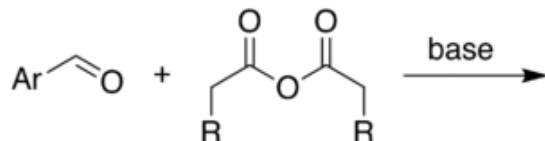
*Long essay type : Answer any TWO questions.*

32. a). Outline the mechanism of Reimer – Tiemann Reaction. 8 Marks  
b). Complete the reaction and write the mechanism.



2 + 5 Marks

33. a). How is caprolactum synthesised ? Name and explain the reaction mechanism. 6 Marks  
b). Outline the mechanism Benzoin condensation. Highlight the properties of the reagent used 7 Marks  
c). Complete the reaction



2 Marks

34. a). Write a note on structure elucidation of Nicotine. 10 Marks  
b). Write a note on wittigs reaction. 5 Marks
35. a). Write a note on replication of DNA. 5 Marks  
b). Write a detailed note on the structure elucidation of glucose. 10 Marks

(2 × 15 = 30 Marks)