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Reg. No. : .....

Name : .....

**Sixth Semester B.Sc. Degree Examination, March 2021**

**First Degree Programme Under CBCSS**

**Chemistry**

**Core Course X**

**CH 1641 – ORGANIC CHEMISTRY – II**

**(2015-2016 Admission)**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

(Very short answer type questions)

Answer all questions. Each question carries 1 mark.

1. What is a depeptide?
2. What are grignard reagents?
3. What happens when tartaric acid is heated?
4. Give the Haworth furanose structure of  $\alpha$  - D fructose.
5. What is blasting gelatin?
6. Define isoelectric point.
7. Give the name and structure of an acidic amino acid.
8. What happens when an  $\alpha$  - amino acid is treated with nitrous acid?
9. Define iodine value.
10. Give the structure of ascorbic acid.

**(10 × 1 = 10 Marks)**

P.T.O.

## SECTION – B

(Short answer questions)

Answer any **eight** questions. Each question carries **2** marks.

11. How is benzene converted into picric acid?
12. Explain the acidic behaviour of phenol.
13. How is phenol converted into salicylaldehyde. Name the reaction.
14. How is acetone and propanal distinguished?
15. How does formic acid react with ammoniacal silver nitrate solution?
16. How is acetaldehyde converted into lactic acid?
17. What is meant by anomer? Give examples.
18.  $\text{NaHSO}_3$  does not react with glucose. Why?
19. What are zwitter ions?
20. Give the action of benzoyl chloride on glycine.
21. State and illustrate special isoprene rule.
22. Give the structures of nicotine and Vitamin A.

**(8 × 2 = 16 Marks)**

## SECTION – C

(Short Essay Questions)

Answer any **six** questions. Each question carries **4** marks.

23. Explain Reimer Tiemann reaction with an example. Give the mechanism.
24. How is methoxy group estimated?
25. Explain benzoin condensation. Give the mechanism.
26. Discuss the mechanism of Cannizzaro's reaction.

27. Explain H.V.Z. reaction.
28. What is meant by epimerization? Illustrate it with an example showing the mechanism.
29. How will you convert glucose into fructose?
30. Explain the colour tests of proteins.
31. Write briefly on chemistry of vision.

(6 × 4 = 24 Marks)

### SECTION – D

(Long Essay Questions)

Answer any **two** questions. Each question carries **15** marks.

32. What are alkaloids? How are they extracted? Establish the structure of cocaine. (15)
33. (a) Discuss the solid phase synthesis of proteins. (7)  
 (b) Give an account of the structure of proteins. (8)
34. (a) Explain the term mutarotation with mechanism (5)  
 (b) How is a keto hexose converted into an aldo hexose. (5)  
 (c) How does fructose react with phenyl hydrazine? Give equation. (5)
35. (a) Discuss the uses of Lithium aluminium hydride and sodium borohydride as reducing agents highlighting the differences between the two. (5)  
 (b) Give the mechanism of the reactions. (10)

(2 × 15 = 30 Marks)