(Pages : 3) **G – 1407**

Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2019

First Degree Programme Under CBCSS

CHEMISTRY

Core Course – X

CH 1641 : Organic Chemistry – II

(2013 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

Very short answer type questions. Answer **all**. **Each** question carries **1** mark :

(1×10=10 Marks)

1. Give one test to distinguish methanol and ethanol.
2. How can you convert benzene into benzyl alcohol ?
3. Give the structure and chemical name of urotropin.
4. How does Fenton's reagent react with tartaric acid ?
5. Give the structure of a basic amino acid.
6. What is a zwitterion ?
7. Give the pyranose ring structure of glucose.
8. What is an anomer ?
9. What is meant by hardening of oils ?
10. How are proteins related to amino acids ?

SECTION – B

Short answer questions. Answer **any eight** questions. **Each** carries **2** marks : **(2×8=16 Marks)**

11. Phenol is acidic. Explain.
12. Give the mechanism of Perkin reaction.
13. Give two tests to distinguish acetaldehyde from acetone.
14. What is coumarin ? How is it prepared ?
15. How is benzene converted into adipic acid ?
16. What is meant by epimerisation ?
17. Glucose and fructose give the same product with phenyl hydrazine. Why ?
18. Write down the structure of citral and geraniol.
19. What are nucleic acids ? How do they differ ?
20. Define the terms acid value and saponification value.
21. Explain why soap is not giving ready lather with hard water.
22. Mention the functions and deficiency diseases of vitamin C.

SECTION – C

Short essay questions. Answer **any six** questions. **Each** question carries **4** marks : **(4×6=24 Marks)**

23. Explain the mechanism of pinacol-pinacolone rearrangement.
24. Give the structure of coniine. Establish it.
25. How will you convert benzophenone to benzanilide ? Give the name and mechanism of the reaction.
26. Write down the mechanism of the following reaction :
    a) Fries rearrangement
    b) Cannizzaro's reaction.
27. How is fructose converted into glucose ?

28. Write on the industrial applications of cellulose.

29. Give an account on the structure of proteins.

30. Explain any two methods of preparation of an α-amino acid.

31. How is DNA replicated ? What is meant by genetic code ?

SECTION – D

Long essay questions. Answer **any two**. **Each** question carries **15** marks :

(15×2=30 Marks)

32. Discuss :
    a) The mechanism of dehydration of alcohol in acid medium. **5**
    b) Williamson's synthesis of ether. **5**
    c) Lucas test to distinguish primary, secondary and tertiary alcohols. **5**

33. a) Discuss the different levels of protein synthesis. **5**
    b) How is citral and geraniol isolated ? State isoprene rule. **5**
    c) Discuss the colour tests of proteins. **5**

34. a) Explain the term mutarotation. Give the mechanism. **5**
    b) Give any one method for the conversion of an aldohexose to an aldopentose. **5**
    c) Explain the reaction between glucose and phenyl hydrazine. Give equation. **5**

35. a) Explain :
        i) Meerwein-Pondorf-Verley reduction
        ii) Reformatsky reaction
        iii) Hoffmann's degradation reaction
        iv) Clemmenson's reduction
        v) Isoelectric point.

    (5×2=10 Marks)

    b) Explain the mechanism of reduction of a carbonyl compounds with Lithium aluminium hydride and sodium borohydride. **(2×2.5=5 Marks)**