



Reg. No. :

Name :

VI Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.)
Examination, April 2021
(2014 – 2018 Admissions)
CORE COURSE IN CHEMISTRY
6B14CHE : Organic Chemistry – III



Time : 3 Hours

Max. Marks : 40

Instruction : Answer the questions in English only.

SECTION – A

Objective type. **Each** carries 1 mark. Answer **all 4** questions.

1. Represent the structure of vanillin.
2. Which compound is obtained when ethene is irradiated ?
3. Name the monomer of natural rubber.
4. Give one example for a sulpha drug. (4×1=4)

SECTION – B

Short answer type. **Each** carries 2 marks. Answer **any 7** questions out of 14.

5. Explain Norrish Type I and II cleavages.
6. What is isoelectric point of an amino acid ?
7. Illustrate isoprene rule with suitable example.
8. What is atom economy ?



9. Give a chemical test to differentiate acetaldehyde and benzaldehyde.
10. How is acetic acid converted to propionic acid ?
11. Outline the Strecker synthesis of amino acids.
12. Differentiate between a nucleoside and a nucleotide.
13. What is the difference between antipyretics and analgesics ? Give one example each.
14. Provide the different steps in benzidine rearrangement.
15. How is N terminal analysis of a peptide conducted ?
16. With the help of an equation, explain the reaction of Acetophenone with Zn-Hg/HCl.
17. Give the mechanism of formation of caprolactam from cyclohexanone oxime.
18. How is cinnamic acid prepared from benzaldehyde ? **(7×2=14)**

SECTION – C

Short essay/problem type. **Each** carries **3** marks. Answer **any 4** questions out of 8.

19. Give an account of the reduction of nitrobenzene under different conditions.
20. Analyze using FMO the addition of butadiene to ethane in thermal and photochemical conditions.
21. Write a note on the synthetic application of diethyl malonate.
22. Outline the mechanism of Claisen condensation and Reformatsky reaction.
23. Discuss Blancs rule with suitable examples.
24. How is mw assisted Hoffmann elimination conducted ?
25. Give three different applications of benzene diazonium chloride.
26. How is citric acid synthesized from glycerol ? **(4×3=12)**



SECTION – D

Long essay type. **Each** carries **5** marks. Answer **any 2** questions out of 6.

27. Give a detailed account of primary, secondary and tertiary structure of proteins.
28. Explain the twelve principles of green chemistry.
29. Discuss the Hinsberg and Hoffmann methods to differentiate primary, secondary and tertiary amines.
30. Give the mechanism of
 - a) Aldol condensation
 - b) Cannizzaro's reaction
 - c) Benzoin condensation.
31. Write a note on the structure of DNA and RNA.
32. How are dyes classified ? Give the structure of Fluorescein and Alizarin. **(2×5=10)**