D 131445 **(Pages : 2)** **Name.....**

Reg. No.....

THIRD SEMESTER (CBCSS—U.G.) DEGREE EXAMINATION
NOVEMBER 2025

Chemistry, Industrial Chemistry, Polymer Chemistry

CHE3C03—ORGANIC CHEMISTRY

(2020-2023 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer up to 20 *marks.*

Each question carries 2 *marks.*

1. Give two synthetic applications of benzene diazonium chloride.
2. What are benzenoid and non-benzenoid aromatic compounds ? Give examples.
3. Explain Hoffmann Bromamide reaction.
4. What is meant by denaturation of proteins ?
5. Explain hyperconjugation and exemplify it with propene.
6. Discuss the acidity of mono chloro-, dichloro- and trichloro -acetic acid.
7. Explain wurtz reaction.
8. Give briefly the significance of Luca's test. What is Luca's reagent ?
9. Sketch the conformers of ethane. Which is the stable one ?
10. What are geometrical isomers ? Explain the geometrical isomerism shown by 2- butene.
11. Give one method for preparation of carboxylic acid. Exemplify.
12. Differentiate between enantiomers and diastereomers.

(Ceiling of marks : 20)

Turn over

Section B (Paragraph)

Answer questions up to 30 *marks.*

Each question carries 5 *marks.*

13. Write a short note on and DNA fingerprinting and its application.

14. Compare the electron density in benzene, nitrobenzene and aniline and comment on the order of reactivity towards electrophilic substitution reaction.

15. Explain mesomeric effect with examples.

16. Give the source, structure and uses of citral and menthol.

17. Discuss S_N2 reactions in alkyl halides.

18. Explain iodoform test.

19. Write a short note on primary, secondary and tertiary structure of proteins.

(Ceiling of marks : 30)

Section C (Essay)

Answer any **one** *question.*

The question carries 10 *marks.*

20. (a) Discuss the double helix structure of DNA. (5 marks)

    (b) Write a note on the preparation and uses of methyl orange. (5 marks)

21. (a) Discuss the structure and stability of benzene (6 marks)

    (b) Explain the term optical activity and discuss optical isomerism in lactic acid. (4 marks)

[1 × 10 = 10 marks]