

23U405

(Pages: 2)

Name :

Reg. No :

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2025

(CBCSS-UG)

(Regular/Supplementary/Improvement)

CC19U CHE4 B04 - ORGANIC CHEMISTRY - I

(Chemistry - Core Course)

(2019 Admission onwards)

Time: 2 Hours

Maximum: 60 Marks

Credit: 3

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Which is more stable-but-1-ene or but-2-ene? Why?
2. Draw the resonance structures of aniline.
3. Name two groups which show -I effect.
4. Draw the chair conformation of cyclohexane and mark the axial and equatorial bonds.
5. What are enantiomers? Give example.
6. Explain the term racemic mixture.
7. What is an elimination reaction? Give an example.
8. What is meant by Sabatier-Senderens reduction?
9. What is E2 reaction?
10. Explain Kolbe's electrolysis with an example.
11. Name and formulate two nonbenzenoid aromatic compounds.
12. What are activating groups? Give two examples.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Explain the different kinds of bond fission observed in organic reactions.
14. Explain the stabilisation of benzyl cation.
15. Distinguish between conformations and configurations.
16. When 3, 3 dimethyl butane 2-ol undergoes dehydration, the major product is 2, 3 dimethyl but-2-ene. Explain this observation.

17. Explain the term Walden inversion.
18. Name and formulate two heterocyclic compounds are aromatic. Explain their aromaticity on the basis of Huckel's rule.
19. Explain the mechanism of the reactions of benzene with methyl bromide in the presence of anhydrous aluminium chloride.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. Discuss and illustrate the significance of the various electron displacement effects in organic molecules.
21. Discuss the benzyne mechanism of nucleophilic aromatic substitution reaction.

(1 × 10 = 10 Marks)
