C 41200 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION APRIL 2023

Chemistry

CHE 4B 04—ORGANIC CHEMISTRY—I

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A (Short answers)

Answer questions up to 20 marks.

Each question carries 2 marks.

1. Name two groups with + 1 effect and – 1 effect.
2. What are free radicals ? How are they formed ?
3. Which is more stable but-1-ene or but-2-ene ? Why ?
4. Distinguish between enantiomers and diastereomers.
5. Draw the chair and boat forms of cyclohexane and indicate the axial and equatorial bonds.
6. Represent the E and Z isomers of 1-bromo-1-chloropropene.
7. Discuss any two tests for identifying unsaturation in organic compounds.
8. An alkene on ozonolysis gave only acetone as the product. Identify the alkene and write the equation for ozonolysis reaction.
9. What is the major product of dehydration of butanol-1 ? Explain.
10. State and explain Huckel's rule.
11. Which is more basic - pyrrole or pyridine ? Justify.
12. What are anti aromatic compounds ? Give two examples.

(Ceiling of marks : 20)

Turn over

Section B (Paragraph)

Answer questions up to 30 marks.
Each question carries 5 marks.

13. Explain the stability order of 1°, 2° and 3° carbocations.

14. Distinguish between intermolecular and intramolecular hydrogen bonding with suitable exa

15. Draw the planar representations of dextro, laevo and mesotartaric acids and explain their o activities.

16. State and explain Markovnikov's rule with a suitable example.

17. How will you convert : (i) Benzene to acetophenone ; (ii) Benzene to parabromotoluene ? equations.

18. Explain the directive influence of nitro group in aromatic electrophilic substitution.

19. Briefly discuss benzyne intermediate mechanism.

(Ceiling of mark

Section C (Essay)

Answer any **one** *questions.*
Each question carries 10 *marks.*

20. (a) Discuss the relative stability of the different conformations of butane with potential en diagram.

(b) Explain the geometrical isomerism in fumaric acid and maleic acid.

21. Illustrate the acidity of terminal alkynes with suitable reactions. Also explain the reason fo acidity of terminal alkynes.

(1 × 10 = 10 m