

20U405

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Name:

Reg.No:

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U CHE4 B04 - ORGANIC CHEMISTRY - I

(Chemistry - Core Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

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

1. Name two groups which show +I effect.
2. Draw the resonance structures of aniline.
3. Which is more stable -cis-but-2-ene or trans-2-but-2-ene?
4. The conformations of ethane cannot be isolated. Why?
5. What is specific rotation?
6. What is meant by Polarized light?
7. What is meant by Kharasch effect? Illustrate with an example.
8. What is an SN1 reaction?
9. How is propanone converted to propane?
10. Explain Kolbe's electrolysis with an example.
11. Show that athracene is aromatic based on Huckel's rule.
12. What is the product obtained when benzene undergoes bromination? Give the equation.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. Bring out the distinguishing features of inductive effect and electromeric effect.
14. Discuss the stability order of primary, secondary, tertiary alkyl free radicals.

15. Discuss the optical isomerism of lactic acid. Draw the pictures of the different isomers.
16. Explain oxymercuration-demercuration reaction of alkenes with a suitable example.
17. Explain the term Walden inversion.
18. Explain according to Huckel's rule how indole and pyridine become aromatic.
19. What is meant by sulphonation? Discuss the mechanism of sulphonation of benzene.

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. Differentiate between configuration and conformation. Draw the conformation of ethane and cyclohexane. Explain the relative stability of conformations.
21. Discuss the factors affecting the reactivity of alkyl halides in SN2 reactions.

(1 × 10 = 10 Marks)
