TB252793D

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, MARCH 2025

2023 ADMISSIONS SUPPLEMENTARY

HOME SCIENCE SEMESTER II - COMPLEMENTARY COURSE 1

CH2B01B23 - Basic Organic Chemistry

Time : 3 Hours **Maximum Marks : 60**

Part A

I. Answer any Ten questions. Each question carries 1 marks **(10x1=10)**

1. Identify the product formed due to Homolytic fission of bond.
2. Identify the hybridisation of Carbon in Carbonium ion.
3. Define α-elimination.
4. Predict the product that will be formed by electrophilic addition HBr to Propene in the absence of peroxide.
5. Define Inductive effect.
6. Recall any two examples of groups which show +M effect.
7. Identify the reason for the optical inactivity in racemic mixture.
8. Reproduce cis and trans forms of but-2-ene.
9. Draw the sawhorse projection of staggered and eclipsed form of ethane.
10. Give any two examples for condensation polymer.
11. Reproduce the structure of Terylene.
12. Discuss the term homopolymer with an example.

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Define bond fission. Describe briefly Homolytic and Heterolytic bond fission with reaction.
14. The order of stability of carbocation is Tertiary>Secondary>Primary while that of carbanion is Primary>Secondary>Tertiary. Explain this order.
15. Discuss Friedel Crafts alkylation with its mechanism.
16. Describe Baker-Nathan effect.
17. S_N2 reactions occur with inversion of configuration. Explain.
18. Discuss optical isomerism in lactic acid.
19. Explain the difference between enantiomers and diastereomers.
20. Compare chain growth polymer and step growth polymer.
21. Predict the advantages of synthetic rubber over natural rubber.

Part C

III. Answer any Two questions. Each question carries 10 marks **(2x10=20)**

22. Explain the different types of organic reactions, giving one example for each type.
23. Discuss Hyperconjugation. Explain its various applications.
24. Discuss the relative stability of conformations of butane with the help of energy diagram.
25. Explain preparation, properties and applications of Buna-S, Buna-N and Neoprene