QP CODE: 24026877

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2024

Third Semester

Core Course - CH3CRT03 - ORGANIC CHEMISTRY-I

Common to B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry & B.Sc Chemistry Model III Petrochemicals

2017 Admission Onwards

B1060EC1

Time: 3 Hours Max. Marks : 60

core

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Write the IUPAC name of acetone.
2. Define formal charge.
3. What is an asymmetric carbon?
4. State the difference between meso compound and racemic mixture.
5. Draw the structure of (-) erythrose and (-) Threose.
6. Draw the structure of E-1-Bromo-1-Chloro-2-methyl,1-butene
   Z-3-Methyl-2- Hexene
7. What is meant by Baeyer's reagent?
8. What is the action of sodamide and liquid ammonia on vicinal dihalides?
9. Write chemical reaction of acetylene with ammoniacal Cu_2Cl_2 solution.
10. Toluene is nitrated more readily than benzene?
11. Draw the structure of anthracene.
12. What is the role of dienophile in a Diels -alder reaction?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain the term hyperconjugation with example.
14. What is meant by steric hindrance? Explain in detail with examples of each type.
15. What is asymmetric synthesis? Explain with example.
16. Explain 1,3-diaxial interactions in methyl cyclohexane .
17. Why do we require high temperature or exposure to high energy UV for successful chlorination of methane?
18. Explain the reaction of cis-2-butene and trans -2butene with dilute alkaline $KMnO_4$.
19. Heterocyclic compounds like pyrrole, furan and pyridine are classified as heteroaromatics. Justify.
20. Benzyl chloride can be used in Friedel Crafts reaction with benzene but chlorobenzene cannot. Explain.
21. Explain the stereochemistry involved in the formation of 1,3- cyclohexadiene from cis -1,3,5-hexatriene.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Briefly explain the formation of reactive intermediates.
23. Discuss the stability of various conformers of cyclohexane.
24. Give the synthetic applications of Girgnard reagent.
25. What are the important criteria for a molecule to show aromaticity? Discuss the significance on the basis of molecular orbital Theory.

(2×10=20)