QP CODE: 23126980

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Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

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

49C6BC8A

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. What are benzenoid compounds ? Give an example.
2. Define formal charge.
3. Define the term optical isomerism.
4. Why trans 2-butene is stable than cis 2 -butene?
5. Draw the conformations of cyclohexane molecule.
6. Write the decreasing order of stability of various conformations of cyclohexane.
7. Convert 1,2 diphenyl ethanol to stilbene.
8. How alcohols are converted to alkyl halides?
9. What happens when methyl cyanide is treated with excess methyl magnesium bromide?
10. Toluene is nitrated more readily than benzene?
11. Give the commercial method of synthesis of chlorobenzene.
12. How will you convert 1,3-butadiene to cyclohexene?

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. What is dipole moment?

14. What are the different types of addition reactions?

15. Draw the structure of
    1) (R)- Glyceraldehyde 2) (S)-Lactic Acid 3) (R)-2 chloro butane 4) (R) Tartaric acid

16. Calculate the angle strain in the following molecules
    a) cyclobutane b) cyclopropane c) cyclohexane d) cyclopentane

17. Differentiate Wurtzs reaction and Wurtz Fittig reaction.

18. Explain: Acetylene is more acidic than ethane.

19. What are anti-aromatic and non aromatic compounds ? Give one example for each.

20. Sulphonation of Naphthalene gives Naphthalene-1-sulphonic acid at 80 ^{o}C and naphthalene-2-sulphonic acid at 160 ^{o} Why?

21. How will you differentiate between suprafacial and antrafacial addition?

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Give any two methods of preparation of carbenes. Discuss the different types of carbenes and their structure.

23. Explain the stereochemistry of tartaric acid.

24. Discuss the effect of the folllowing on SN_2 reaction
    a) Nature of nucleophilic reagent, b) polarity of the solvent, c) concentration of nucleophilic reagent

25. Give the molecular orbital picture of anthracene.

(2×10=20)