QP CODE: 23104202

23104202

Reg No : .....

Name : .....

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

4D90CEBB

Time: 3 Hours

Max. Marks : 60

core

Part A

*Answer any **ten** questions.*

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

1. Write the structural formulae of the following compounds
   a) Hept-1-en-4-yne b) pent- 3-en-1-oic acid
2. Define formal charge.
3. Define the term optical isomerism.
4. What is meant by a racemic mixture?
5. Differentiate configuration from conformation.
6. Draw the structure of E-1-Bromo-1-Chloro-2-methyl,1-butene
   Z-3-Methyl-2- Hexene
7. What happens when 2-Methyl propene is treated with ordinary water in the presence of acid?
8. How will you convert acetylene to 1-butyne?
9. Acetylene is less reactive than ethylene.Explain Why?
10. Why cyclohexene with 2 pi electrons is not aromatic?
11. Convert benzene to m-nitrotoluene.

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. Briefly discuss +M and -M effect.
14. What is meant by steric hindrance? Explain in detail with examples of each type.
15. Write the rules for determining R-S configuration.
16. Which is more stable : axial methyl cyclohexane or equitorial methyl cyclohexane. Why?
17. Explain the free radical substitution reaction involved in halogenation.
18. What happens when HCl is added to 3,3-dimethyl-1-butene?
19. Give a short description on non benzenoid aromatics.
20. Draw the planar structure of Anthracene-2,7 disulphonic acid .
21. Briefly explain sigmatropic rearrangements.

(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 n- butane using energy diagrams
24. Discuss the mechanism and stereochemistry of bimolecular nucleophilic substitution.
25. Give an account for the observed reactivity and orientation in nucleophilic aromatic substitution reaction.

(2×10=20)