K23U 3412

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, November 2023
(2019 to 2022 Admissions)
CORE COURSE IN CHEMISTRY/POLYMER CHEMISTRY
3B04CHE/PCH : Organic Chemistry – I

Time : 3 Hours Max. Marks : 40

***Instruction** : Answer the questions in **English** only.*

SECTION – A

Very short answer type – **Each** carries **1** mark. Answer **all 4** questions. **(4×1=4)**

1. The reagent used to convert acetaldehyde to propene is
2. Give an example of chromophore unit.
3. Give an example for asymmetric molecule.
4. Hybridization of carbon in carbocation is

SECTION – B

Short answer type – **Each** carries **2** marks. Answer **any 7** questions out of 10. **(7×2=14)**

5. Differentiate addition and condensation polymerization.
6. Which is more acidic in the case of 2-chloropropanoic acid and 3-chloropropanoic acid ? Why ?
7. Explain the difference between symmetric and asymmetric molecule.
8. Differentiate LDPE and HDPE.
9. How alizarin is synthesized ?
10. Explain Wittig reaction.

P.T.O.

11. What are the difference between conformation and configuration ?

12. Define Huckel rule of aromaticity.

13. Discuss the preparation and reaction of cabanions.

14. Which will undergo nitration more readily : Toluene or benzene ? Why ?

SECTION – C

Short essay type – **Each** carries **3** marks. Answer **any 4** questions out of 6. **(4×3=12)**

15. Which is more basic NF3 or $(CH_3)_3N$? Why ?

16. Explain optical isomerism in compounds without any stereo centre with example.

17. What is Reformatsky reaction ? Discuss one application.

18. Discuss the preparation of a) Phenol-formaldehyde b) Polyurethane.

19. State Cahn-Ingold and Prelog rule. Draw the R and S form of Lactic acid.

20. What is electrophilic substitution reaction ? Explain Friedel-craft acylation.

SECTION – D

Long essay type – **Each** carries **5** marks. Answer **any 2** questions out of 4. **(2×5=10)**

21. What are carbocations ? Give an account of their structure and stability.

22. a) Discuss any two methods of determination of reaction mechanism.

    b) Give an account of preparation and application of Aluminium isopropoxide. **(2+3)**

23. What is meant by Racemization and Resolution ? Explain any 3 method of resolution technique.

24. a) How benzene can be converted to nitrobenzene ? Give mechanism.

    b) Discuss Zeigler-Natta polymerization of alkene. **(2+3)**

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