K24U 3412

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (C.B.C.S.S. – O.B.E. – Regular/ Supplementary/ Improvement) Examination, November 2024
(2019 to 2023 Admissions)
CORE COURSE IN CHEMISTRY/POLYMER CHEMISTRY
3B04 CHE/PCH : Organic Chemistry – I

Time : 3 Hours

Max. Marks : 40

SECTION – A

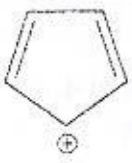
Very short answer type. **Each** question carries **1** mark. Answer **all 4** questions.

1. Suggest an example for aromatic annulenes.
2. Draw the most stable conformation of cyclohexane.
3. Give the monomer unit of natural rubber.
4. Suggest a method for the preparation of wittig reagent. **(4×1=4)**

SECTION – B

Short answer type. **Each** carries **2** marks. Answer **any 7** questions out of 10.

5. Explain electromeric effect with suitable example.
6. Briefly compare the basicity of ammonia and methyl amine.
7. Define Huckel's rule of aromaticity and state whether the following compound is aromatic, antiaromatic or nonaromatic.

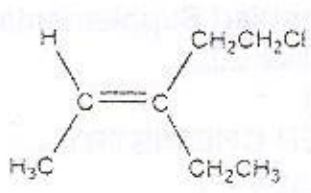


8. Explain the terms antiaromaticity and homoaromaticity.
9. Write any two postulates of Baeyer strain theory.

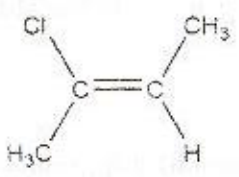
P.T.O.

10. Assign E, Z nomenclature of following molecules.

a)



b)



11. Distinguish between addition and condensation polymerization.
12. Briefly explain biodegradable polymers with examples.
13. Give the preparation and any two uses of PVC.
14. Discuss the structural importance of chromophores and auxochromes. **(7×2=14)**

SECTION – C

Short essay type. **Each** carries **3** marks. Answer **any 4** questions out of 6.

15. Explain Hyper conjugation effect with an example.
16. Discuss the acidic strengths of formic acid and acetic acid.
17. Briefly explain optical isomerism in biphenyls.
18. Suggest any three methods for the resolution of racemic mixtures and explain it.
19. How will you convert sulfanilic acid to methyl orange ?
20. Give the preparation and synthetic application of aluminium isopropoxide. **(4×3=12)**

SECTION – D

Essay type questions. **Each** carries **5** marks. Answer **any 2** questions out of 4.

21. Discuss the formation, structure and stability of carbenes and nitrenes.
22. Explain the mechanism of nitration and sulphonation of benzene.
23. Illustrate the stereochemistry in tartaric acid.
24. a) Suggest a method for preparation of N-Bromo Succinamide and give its synthetic application.
    b) Discuss the importance of Reformatsky reaction in organic synthesis. **(2×5=10)**

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