QP CODE: 22100527

22100527

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, APRIL 2022

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

2B982263

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. Define formal charge.
2. What is a rearrangement reaction?
3. Define configuration.
4. What are enantiomers?
5. Draw the Newman Projection formula of cyclohexane.
6. What is meant by equitorial and axial bonds in cyclohexane?
7. Give any one method of preparation of alkenes.
8. Acetylene is less reactive than ethylene. Explain Why?
9. Write the method of preparation of Vinyl Magnesium Chloride.
10. Draw the structure of [14] annulene . Comment on its aromaticity.
11. How will you convert benzene to acetophenone?
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. Draw the structure of a) spiro [2.5] octane b)cyclohexane carbaldehyde c) 4 amino benzoyl bromide d) phenyl ethanoate e) 3- methyl butanamide

14. 'Methyl amine is a stronger base than ammonia'. Justify

15. Differentiate retention and racemisation?

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

17. Why do we require high temperature or exposure to high energy UV for successful chlorination of methane?

18. What is hydroxylation reaction? Discuss the hydroxylation of cis and trans 2 -butene with dilute alkaline $KMnO_4$.

19. Is pyrrole aromatic? Explain

20. Explain with mechanism electrophilic addition reaction with example.

21. Convert o-Allyl phenyl ether to o-allyl phenol.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Compare the relative stability of primary, secondary and tertiary carbocations with suitable examples.

23. Discuss Baeyer strain theory? Write its limitations.

24. Give the mechanism, stereochemistry and kinetics of SN_2 reactions.

25. Discuss the mechanism of the following reactions:
(a) Halogenation (b)Nitration (c) Sulphonation (d) Friedel- Crafts reaction

(2×10=20)