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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2022

Fourth Semester

Core Course—BASIC ORGANIC CHEMISTRY—I

[Common for B.Sc. Chemistry Model I, II, B.Sc. Petrochemicals and B.Sc. Chemistry Environment and Water Management]

(2013—2016 Admissions)

Time : Three Hours Maximum Marks : 60

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is mean by oxidative cleavage ?
2. How would you distinguish between aliphatic and aromatic ketone ?
3. What is a Wittig reagent ?
4. What is difference between epoxide and ether ?
5. What is the importance of acid chlorides ?
6. How urea is prepared ?
7. What is keto-enol tautomerism ?
8. What is the use of naphthyl amine ?

(8 × 1 = 8)

Part B

Answer any **six** *questions.*
Each question carries 2 *marks.*

9. Give a method to prepare 4-nitrophenol.
10. Why aldehyde is more reactive than ketones ?
11. What is Perkin reaction ?
12. How will you convert acetone to methyl acetate in single step ? Write down reaction conditions.
13. Discuss two methods of synthesis of an epoxide.

Turn over

14. Flow acrylic acid is prepared ?

15. Why CCl_3-COOH is stronger than CH_3-COOH ?

16. What is Reformatsky reaction ?

17. What is the mechanism of enamine reaction ?

18. What is the structure of naphthalene ? Discuss its main reaction.

(6 × 2 = 12)

Part C

Answer any **four** *questions.*
Each question carries 4 *marks.*

19. Compare the acidity of 2-chlorophenol and 3-chlorophenol.

20. Discuss the mechanism of Claisen rearrangement.

21. Discuss the methods of formation of Coumarin. What are its main reactions ?

22. What are the factors that stabilize a carboxylate ion ?

23. Why dry ether I required as a solvent for Grignard reactions ? What are the main reactions of Grignard reagent.

24. Briefly explain the synthetic applications of malonic ester.

(4 × 4 = 16)

Part D

Answer any **two** *questions.*
Each question carries 12 *marks.*

25. a) Discuss the mechanism of pinacol-pinacolone reaction.
    b) Discuss the method to distinguish between primary and secondary alcohols.

26. a) Discuss the mechanism of Claisen condensation.
    b) Describe the mechanism of Meerwein-Ponndorf-Verley reduction.

27. a) Explain the mechanism of decarboxylation.
    b) Discuss the mechanism of Hell Volhard Zelinsky Reaction.

28. Explain the preparation and reactions of benzene sulfonic acid. What is its use ?

(2 × 12 = 24)