

E 2048

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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2016

Fourth Semester

Core Course—BASIC ORGANIC CHEMISTRY—I

(Common for B.Sc. Chemistry – Model I and Model II B.Sc. Petrochemicals and
B.Sc. Chemistry Environment and Management)

[Prior to 2013 Admissions]

Time : Three Hours

Maximum Weight : 25

Section A

Answer all questions.

Each bunch of four questions carries a weight of 1.

- I. 1. What are Epoxides ?
2. Give one specific use of LiAlH_4 .
3. What are Grignard reagent ?
4. IUPAC name of Acrolein is _____.
- II. 5. Structural formula of coumarin is _____.
6. Draw the structure of Resorcinol.
7. What is Semi carbazide ?
8. Give one use of P-Toluene Sulphonyl chloride.
- III. 9. Zeisel's method is used for _____.
10. Acid chloride is prepared by the action of _____ on Acid.
11. What is Kolbe Reaction ?
12. Draw the structure of 9, 10 Anthra Quinone.
- IV. 13. Give the structure of Two isomeric Naphthols.
14. Structure of Phenanthrene is _____.
15. What is the Product formed when urea is treated with oxalic acid ?
16. Williamson's synthesis is used for the Preparation of _____.

(4 × 1 = 4)

Section B

Answer any five questions.

Each question carries a weight of 1.

17. What is tautomerism ? Explain it in the context of Ethylacetoacetate.
18. Guanidine is Basic. Give reason.

Turn over

19. How is Methyl Lithium prepared ? Give one synthetic use of it.
20. What is the action of alkyl magnesium halides on Epoxides ? Explain with an example.
21. What is Hell-Volhard-Zelinsky reaction ? Explain with an equation involved.
22. Explain why Aromatic aldehydes and Ketones are less reactive than their Aliphatic counterparts.
23. What is Benzoin condensation ?
24. Account for the fact that picric acid is a strong acid though it is a Phenol.

(5 × 1 = 5)

Section C

Answer any **four** questions.

Each question carries a weight of 2.

25. How will you differentiate between Primary, Secondary and Tertiary alcohols ?
26. How can you effect the following conversions :—
 - (a) Cinnamic acid by applying Knoevenagel reaction ;
 - (b) Methanol to Ethanol.
27. Explain :
 - (a) Claisen-Schmidt condensation ;
 - (b) Meerwein-Ponndorf-Verley reduction.
28. Write Briefly on effect of substituents on the acidity of Phenol.
29. Give one method for the manufacture of urea. What is Biuret test ?
30. How are the following prepared :—
 - (a) Acrylic acid ;
 - (b) Malic acid ;
 - (c) Guanidine.

(4 × 2 = 8)

Section D

Answer any **two** questions.

Each question carries a weight of 4.

31. Discuss the following with mechanisms :—
 - (a) Baeyer-Villiger oxidation.
 - (b) Wolf-Kishner reduction.
 - (c) Pinacol-Pinacolone rearrangement.
32. Explain any four synthetic uses of Malonic ester.
33. Give two methods for the preparation of Benzaldehyde. Explain the following reactions of Benzaldehyde with mechanism :—
 - (a) Cannizzaro reaction.
 - (b) Perkin reaction.

(2 × 4 = 8)