

E 1086

(Pages : 3)

Reg. No.....

Name.....

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2015**

**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 Chemical structure of Catechol is ———.
- 2 Bossche's reagent is ———.
- 3 How is semicarbazide prepared ?
- 4 Name the reagents used in Reimer-Tiemann reaction.
- II. 5 Give one synthetic use of methyl Lithium.
- 6 Draw the structure of Anthracene 2, 7-Disulphonic acid.
- 7 How will you convert Naphthalene into Naphthol ?
- 8 What is Wittig reaction ?
- III. 9 Phenol and P-nitro Phenol, more acidic is ———.
- 10 Draw the structure of Two Isomeric Naphthols.
- 11 Give one use of Resorcinol.
- 12 How is Benzene sulphonic acid prepared ?
- IV. 13 Name any *two* functional derivatives of carboxylic acid.
- 14 What is power alcohol ?
- 15 Distinguish between Maleic and Fumaric acid.
- 16 Write the Tautomeric forms of Ethyl aceto-acetate.

(4 × 1 = 4)

**Turn over**

**Section B**

Answer any **five** questions.

Each question carries a weight of 1.

- 17 What are Epoxide ? How are they prepared ?
- 18 Explain one synthetic use of Reformatsky reaction.
- 19 Suggest one method for the preparation of Tertiary Butyl alcohol.
- 20 Illustrate the specific use of Aluminium isopropoxide.
- 21 Give an example for Baeyer-Villiger oxidation.
- 22 Explain the preparative use of Williamson's synthesis.
- 23 Arrange the isomeric nitrophenol in the order of increase in acid strength. Justify your answer.
- 24 How is Quinol prepared from Benzene ?

(5 × 1 = 5)

**Section C**

Answer any **four** questions.

Each question carries a weight of 2.

- 25 Outline the method to estimate the number of methoxyl group present in a compound.
- 26 Describe the Grignard synthesis of the following compounds :
  - (i) Trimethyl acetic acid.
  - (ii) Secondary Butyl alcohol.
- 27 Write the products formed when acetone is subjected to :
  - (a) Clemmensen's reduction.
  - (b)  $\text{LiAlH}_4$  reduction.
- 28 Explain three synthetic applications of Acetoacetic ester.
- 29 How will you prepare Ethanol from Methanol and Vice Versa ?
- 30 Explain the following :—
  - (a) Lederer-Mannase reaction.
  - (b) Meerwein-Ponndorf Verley reduction.

(4 × 2 = 8)

**Section D**

Answer any **two** questions.

Each question carries a weight of 4.

- 31 (a) Starting from Acetic acid how can you prepare Molonic ester. How is Adipic acid prepared from Malonic ester ?
- (b) Explain the action of heat on Urea. What is Biuret test ?

- 32 Explain the mechanisms of :
- (a) Benzoin condensation.
  - (b) Wolf Kishner reduction.
  - (c) Fries Rearrangement.
  - (d) Pinacol-Pinacolone rearrangement.
- 33 How are the following prepared :—
- (i) Anthranilic acid.
  - (ii) Citric acid.
  - (iii) Coumarin.
  - (iv) Benzene sulphonyl chloride.

(2 × 4 = 8)