

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

(U.G.—CCSS)

Core Course—Chemistry

CH 5B 10—ORGANIC CHEMISTRY—II

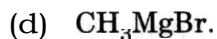
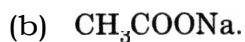
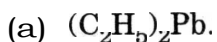
Time : Three Hours

Maximum : 30 Weightage

Write equations wherever necessary.

I. Multiple choice and fill in the blank type questions. Answer all *twelve* questions. Each question carries a weightage $\frac{1}{4}$:

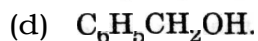
1 Which one of the following compounds is not an **organometallic** compound ?



2 Aldehydes react with **hydrazines** to form _____

(a) **Hydrazones**.(b) **Semicarbazones**.(c) **Oximes**.(d) **Phenylhydrazones**.

3 Which one of the following will give **iodoform** test ?



4 Conversion of phenol into **salicylaldehyde** proceeds through a reactive intermediate called :

(a) **Carbonium ion**.(b) **Carbanion**.(c) **Carbene**(d) **None of these**.

5 The carbon atom of carbonyl group is _____ hybridized.

(a) dsp^2 .(b) sp .(c) sp^3 .(d) sp^2 .

6 Ethylene oxide reacts with **Grignard** reagent to give :

(a) **Tertiary alcohol**.(b) **Ketone**.(c) **Primary alcohol**(d) **Secondary alcohol**.

7 Which one of the following acids on hydrolysis gives aniline?

(a) **Anthranilic acid**.(b) **Adipic acid**.(c) **Phthalic acid**.(d) **Oxalic acid**.

8 In **Wurtz** reaction, the reagent used is _____

(a) Zn/HCl .(b) **Anhydrous $AlCl_3$** .(c) **Ni**.(d) **Na**.**Turn over**

- 9 When ethylmethyl ether is treated with HI, the resulting iodide will be _____
 (a) Ethyl iodide. (b) Methyl iodide.
 (c) Both ethyl and methyl iodide. (d) None of these.
- 10 Phthalic acid reacts with resorcinol in presence of conc. sulphuric acid to give :
 (a) Phenolphthalein. (b) Fluorescein.
 (c) Alizarin. (d) Coumarin.
- 11 Reaction of Grignard reagent with ketone followed by hydrolysis gives :
 (a) Primary alcohol (b) Secondary alcohol.
 (c) Tertiary alcohol (d) None of these.
- 12 Which one of the following acids on heating decarboxylate to phenol ?
 (a) Phthalic acid. (b) Salicylic acid.
 (c) Malic acid. (d) Benzoic acid.

(12 x ¼ = weightage)

II. Short Answer Type Questions. Answer all *nine* questions. Each question carries a weightage 1 :

- 13 Give the method of preparation of carboxylic acid from alkenes.
- 14 What is benzoin condensation ?
- 15 How will you convert acetaldehyde to lactic acid ?
- 16 Explain Diels-Alder reaction.
- 17 What is aldol condensation ?
- 18 Benzoic acid is stronger than its saturated analogue cyclohexane carboxylic acid. Give reasons.
- 19 Write the mechanism of addition of HCN to acetaldehyde.
- 20 How will you convert acetaldehyde to acetone ?
- 21 Explain a method of preparation of phenetole.

(9 x 1 = 9 weightage)

III. Short Essays or Paragraph Questions. Answer any *five* questions. Each question carries a weightage 2 :

- 22 Write short notes on : (i) sigmatropic rearrangement ; (ii) modes of rotation.
- 23 Give the mechanism of : (i) Cannizzaro's reaction ; (ii) Perkin reaction.
- 24 Discuss the mechanism of acid and base catalysed cleavage of epoxides.
- 25 Give a method of preparation of Grignard reagent. How does it react with : (i) CH_3CHO ; (ii) CO_2 .
- 26 Give an account of acidity of carboxylic acids.
- 27 Discuss the mechanism of Claisen rearrangement.

(5 x 2 = 10 weightage)

IV. Essay Questions. Answer any *two* questions. Each question carries a weightage 4 :

28. (a) Discuss the mechanism of dehydration of alcohols.
(b) Explain the mechanism of **Reformatsky** reaction.
29. (a) Give a method of preparation of **phthalic acid** and how will you convert it into : (i) benzene ;
(ii) phenolphthalein.
(b) Discuss Cope rearrangement.
30. (a) How is vanillin prepared from **Eugenol** ? What are its uses ?
(b) Explain **Zeisel's** method of estimation of **alkoxy** group.

(2 x 4 = 8 weightage)