

B.Sc. (CBCS Pattern) Semester - II
USCCHT03 - Chemistry Paper-I (Organic Chemistry)

P. Pages : 2

Time : Three Hours



GUG/S/23/11574

Max. Marks : 50

1. a) Discuss the mechanism of SN^1 reaction with energy profile diagram. 5
- b) Give the Benzyne mechanism. 5

OR

- c) Write a notes on Sandmeyer's reaction. 2½
- d) Explain Williamson's ether synthesis. 2½
- e) Discuss the Bimolecular elimination reaction. 2½
- f) Compare the reactivity of alkyl halide and aryl halide. 2½
2. a) Discuss the pinacol-pinacolone rearrangement reaction. 5
- b) Explain the preparation of primary secondary and tertiary alcohol using Grignard Reagent. 5

OR

- c) Discuss the acidic nature of phenol. 2½
- d) Write a note on the Gattermann-Koch reaction. 2½
- e) Explain the relative reactivity of alcohols and ethers. 2½
- f) Discuss Oppeneauer oxidation reaction. 2½
3. a) Discuss structure and reactivity of carbonyl group. 5
- b) Explain the following: 5
- i) Rosenmund Reaction ii) Wittig Reaction.

OR

- c) Write a note on MPV Reduction. (Meerwein-Pondorff-Verley Reduction) 2½
- d) Explain Benzoin condensation. 2½
- e) Write a note on Friedal Craft's acylation reaction. 2½
- f) Give the synthesis of acetaldehyde from ethyl alcohol. 2½

4. a) What is acidity of carboxylic acid. Discuss the effect of substituents on acidity of carboxylic acid? 5
- b) Explain the mechanism of esterification reaction in acidic condition. 5

OR

- c) How will you prepare urea from phosgene? 2½
- d) Explain the action of heat on phthalic acid. 2½
- e) Write a note on Reformatsky reaction. 2½
- f) Give any two methods for preparation acetyl chloride. 2½
5. Answer **any ten**. 10

- a) Draw energy profile diagram of SN² Reaction.
- b) Complete the following reaction.
- $$\text{C}_2\text{H}_5\text{OH} \xrightarrow[95\%]{\Delta} \text{---?---?}$$
- H_2SO_4
- c) What is aryl halide?
- d) What are reagents used in nitration reaction?
- e) Give the structure of phenol.
- f) What is ether?
- g) Write the formula of propanal.
- h) What is aldal?
- i) What is necessary condition to give Cannizzaro reaction?
- j) Give the structure of Succinic anhydride.
- k) What is ester?
- l) What happens when soda lime heated with Carboxylic acid?
