(i) Printed Pages : 2 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 2 5 1

Exam. Code : 0 0 0 3

B.A./B.Sc. (General) 3rd Semester

(1129)

CHEMISTRY

Paper : (X : Organic Chemistry–A)

(Same for B.Sc. Microbial & Food Technology)

Time Allowed : Three Hours] **[Maximum Marks : 22**

Note :— Attempt any **FIVE** questions in all including Question No. **9** which is compulsory question and selecting **ONE** question from each Unit **I–IV.**

UNIT—I

1. (a) With chemical equations, write the products of the following reactions :

   (i) Methyl alcohol with CH_3MgI

   (ii) Glycerol with $KHSO_4/\Delta$

   (b) Elaborate the mechanism of Reimer-Tiemann reaction. 2,2

2. (a) Illustrate the resonance stabilization of phenoxide ion.

   (b) Discuss the mechanism of Gatterman synthesis. 2,2

UNIT–II

3. Describe the synthesis of propanal using followings :

   (i) 1, 3-Dithianes

   (ii) Rosenmund reduction 2,2

4. (a) How will you prepare the acetophenone using acetonitrile ?

(b) Predict the products of reaction of substituted carboxylic acid with lithium alkyls. 2,2

UNIT—III

5. Describe the mechanism of followings :

(i) Aldol condensation

(ii) Knoevenagel condensation 4

6. Elaborate the following reactions with suitable examples (aldehydes and ketones) :

(i) Baeyer-Villiger oxidation

(ii) Meerwin-Ponndorf-Verley reduction 2,2

UNIT—IV

7. (a) Discuss the effects of substituents on acid strength of carboxylic acids.

(b) How will you prepare the followings ?

(i) α-Bromopropionic acid from propionic acid

(ii) Ethyl benzoate from benzoyl chloride 2,2

8. (a) Write the products of the following reactions :

(i) $CH_3CH = CHCHO \xrightarrow{[O]} ?$

(ii) $CH_2 = CHCOOH \xrightarrow{H_2(Ni)} ?$

(b) Give the preparation of succinic acid from ethylene bromide. 2,2

(Compulsory Question)

9. (a) Explain the carboxylation of phenol.

(b) Write the product of the reaction of benzaldehyde with phenylhydrazine.

(c) Elaborate Mannich reaction.

(d) Give the structural features of tartaric acid. 4×1.5=6