

2012
B.A./B.Sc. (General) Third Semester
Chemistry
Paper – X: Organic Chemistry – A
(Same for B. Sc. Microbial and Food Technology)

Time allowed: 3 Hours

Max. Marks: 22

NOTE: Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit- I – IV.

x-x-x

UNIT – I

- I. a) What are 1^o, 2^o and 3^o alcohols? Starting with Grignards reagent, how would you obtain each of them?
- b) How will you convert?
- i) Phenol to Salicylaldehyde
- ii) Phenol to phenolphthalein. (2x2)
- II. a) What is Reimer - Tiemann reaction? Give its mechanism.
- b) Complete:-
- i) $\text{Glycerol} + \text{KHSO}_4 \xrightarrow{\Delta}$
- ii) $\text{Glycerol} + \text{HIO}_4 \longrightarrow$ (2x2)

UNIT – II

- III. a) Complete the Carbonyl group and ethylenic double bond.
- b) How will you prepare acetaldehyde by ozonolysis. (2x2)
- IV. a) What is oppenauer alcohol oxidation? Explain with example.
- b) How will you prepare:-
- i) Acetophenone
- ii) Benzophenone by Friedel crafts reaction (2x2)

P.T.O.

(2)

UNIT – III

- V. a) Discuss acidity of α -hydrogens.
- b) Give reaction of acetone with
- Semicarbazide
 - Phenylhydrazine (2x2)
- VI. a) Give following reactions with mechanism
- Reformatsky reaction
 - Aldol condensation
- b) Prepare:-
- Cinnamaldehyde by claisen reaction
 - Benzoin by Benzoin condensation (2x2)

UNIT – IV

- VII. a) Out of formic acid and acetic acid which is more acidic and why?
- b) Write products of following reactions:
- $\text{CH}_3\text{-CH}=\text{CHCHO} \xrightarrow{(O)}$
 - $\text{CH}_2=\text{CHCOOH} \xrightarrow{\text{H}_2[\text{Ni}]}$ (2x2)
- VIII. a) Draw structure of citric acid.
- b) What is esterification? Give its mechanism. (2x2)

UNIT – V

- IX. Answer the following:-
- Lemon alcohols are soluble in water but higher members are not. Explain.
 - How is phenol prepared by Dow's Process?
 - What is urotropine? Give its structure.
 - Give Haloform reaction for preparation of Carboxylic acids. (4x1½)

x-x-x