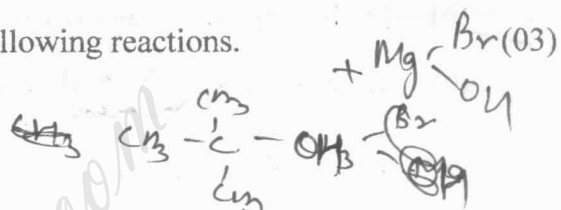
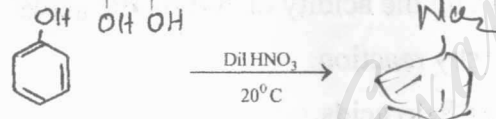


2010-2011  
B.Sc. (HONS.) (PART – II) EXAMINATION  
(CHEMISTRY)  
ORGANIC CHEMISTRY  
(CH – 212)

Maximum Marks: 26

Duration: Two Hours

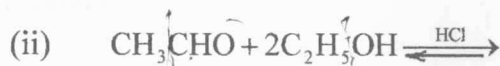
- Note: (i) Answer all questions.  
(ii) Marks are indicated against each question.

1. (a) Write the product and step<sup>-s</sup> involved in the following reactions.
- (i)  $\text{CH}_3 - \overset{\text{O}}{\parallel}{\text{C}} - \text{CH}_3 + \text{CH}_3\text{MgBr} \xrightarrow[\text{H}_2\text{O}]{\text{ether}}$  
- (ii)  $\text{C}_6\text{H}_5 - \underset{\text{OH}}{\underset{\text{OH}}{\text{C}}} - \underset{\text{OH}}{\text{C}} - \text{CH}_3 \xrightarrow{\text{H}^\oplus}$
- (iii) 
- (b) Answer any two of the following: (02)
- Acid and Base-catalyzed ring opening of epoxides.
  - Distinction between Primary, Secondary and Tertiary alcohols.
  - A method of formation of ether.
- (c) Give a brief account of any one of the following: (02)
- Fries rearrangement
  - Reimer – Tiemann reaction
2. (a) With suitable example, explain the following reactions: (03)
- Baeyer – villager oxidation reaction
  - Cannizzaro reaction
- (b) Give synthesis of the following compound using malonic ester: (02)
- $$\text{CH}_3 - \overset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \text{CH}_2\text{COOH}$$
- (c) Out line the mechanism of any one of the following: (02)
- Knoevenagel condensation
  - Witting reaction

OR

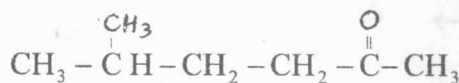
Contd....2

2'. (a) Give the structure of the product(s) formed in the following reactions: (03)



(b) Outline the mechanism of Benzoin condensation. (02)

(c) Give synthesis of the following compound using acetoacetic ester: (02)



3. Give an account of any three of the following: (2+2+2)

- (i) Effect of substituents on the acidity of carboxylic acids.
- (ii) Hell-Volhard-Zelinsky reaction.
- (iii) A method to prepare halo acids.
- (iv) Relative stabilities of Carboxylic acid derivatives.
- (v) Mechanism of esterification of carboxylic acids.

4. (a) Give mechanism of nucleophilic substitution in nitroarenes. (02)

(b) Describe a method to separate a mixture of Primary, Secondary and Tertiary amines. (02)

(c) How to prepare the following from benzene diazonium chloride: (02)

- (i) Phenol
- (ii) Bromobenzene

\*\*\*\*