

## ORGANIC CHEMISTRY-II

(Common for B.Sc., Biotech., B.Sc., Industrial Microbiology)  
Semester - IV

Time Allowed : Three Hours]

[Maximum Marks : 35

Note : The candidates are required to attempt *two* questions each from Section A and B carrying 7 marks each and the entire Section C consisting of 7 short answer type questions carrying 1 marks each.

### Section : A

1. (a) What is Hell-Volhard-Zelinsky (HVZ) reaction? Give its mechanism also. 2.5  
(b) (i) What is the effect of electron withdrawing group (NO<sub>2</sub>) on acidic strength of aromatic acids?  
(ii) What is the effect of halogens on acidic strength of alliphatic acids. 2.5  
(c) Silver salt of a carboxylic acid reacts with bormine in dry CCl<sub>4</sub> to form different products. 1 1/2  
What is the name of this reaction and what are the products formed?
  2. (a) Describe relative order of reactivity of acid derivatives. 3  
(b) Compare alkyl and acyl nucleophilic substitution reactions. 2 1/2  
(c) Write a note on *Schotten-Baumann* reaction. 1 1/2
  3. (a) Describe about Malonic Ester synthesis for the preparations of succinic acid. 3  
(b) What are Hydroxy acids? What is the effect of heating on these acids? 2 1/2  
(c) What is Rochelle Salt? What is its role in Fehling solution? 1 1/2
  4. (a) Describe about Arndt-Eistert's homologation method of acids. 3  
(b) Give the mechanism of acidic and alkaline hydrolysis of acid derivatives. 2 1/2  
(c) What is the cause of highly acidic nature of carboxylic acids? 1 1/2
- ### Section : B
5. (a) Can ethers be cleared by concentrated halogen acids? If yes, how and what is the points of cleavage in various mixed ethers? 3  
(b) What are Epoxides? Discuss Epoxidation of alkenes, a methods of synthesis of epoxides. 2 1/2  
(c) Discuss briefly nucleophilic ring opening reaction of erpoxides. 1 1/2
  6. (a) (i) What is he difference between fats and oils. 3  
(ii) Write a note on Rancidification. 2 1/2  
(b) What are detergents? How are they similar or different from soaps? 1 1/2  
(c) What is Iodine Valve? 3
  7. (a) Give the mechanism of nitration of benzene alongwith evidencels. 3  
(b) Describe different reduction reactions of nitroarenes in acidic and alkaline medium. 2 1/2  
(c) How is picric acid prepared from phenol? 1 1/2
  8. (a) Discuss Hinberg's method to distinguish between primary, secondary and tertiary amines. 3  
(b) Give curtius rearrangement method for the preparations of primary amines. 2 1/2  
(c) How do you protect amino group during electrophilic substitution reaction of aromatic amines? 1 1/2

### Section : C (Compulsory)

9. Write a brief note on the following :
  - (i) What are oxirane?
  - (ii) Define acid value of oils and fats.
  - (iii) What happen to ethers on long exposure to air?

- [www.questionpaperresult.com](http://www.questionpaperresult.com)
- (iv) Give the chemical equation of Friedel–Craft acylation reaction of acid-anhydrides.
  - (v) What are tautomers of nitroalkanes ?
  - (vi) Write a reaction (Laboratory Method) of preparation of Urea.
  - (vii) Give the relative order of basic strength of alliphatic amines, ammonia and aromatic amines. 1×7=7
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