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M.Sc. 4th Semester Examination, May-2016

CHEMISTRY

Paper-CH-506, XVI

Organic Special-VI

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt any five questions. Question No 1 is compulsory. Further attempt one question from each section. All questions carry equal marks.

1. (a) Write two applications of benzilic acid rearrangement.
- (b) Give one application of N-bromosuccinimide.
- (c) Convert maleic acid to mesotartaric acid by suitable organic reagent.
- (d) Write Favorskii rearrangement.
- (e) What do you understand by Friedal-Craft reaction?
- (f) What is Fenton's reagent? Write one use of it.
- (g) Convert aldehyde to ketone by using diazomethane.
- (h) What is Lobry de Bruyn-Van Ekenstein rearrangement? 2×8

Section-A

2. Discuss important applications of following reagents giving mechanistic details.
 - (i) Octacarbonyl dicobalt
 - (ii) Methyltriisopropoxy titanium. 8, 8

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3. (a) Explain the preparation of Wilkinson catalyst. Give some of its important uses.
(b) Discuss some important applications of trimethyl silyl iodide. 8,8

Section-B

4. (a) Explain role of phase transfer catalysis in organic reactions.
(b) Discuss important applications of Mout k-10 in organic chemistry, giving mechanism involved. 10,6
5. Write a note on application of these reagents in organic synthesis :
(i) Dicyclohexyl carbodimide
(ii) Boron trifluoride. 8,8

Section-C

6. Explain reaction mechanism involved in the use of any three of following reagents :
(i) Sodamide
(ii) Selenium dioxide
(iii) Perbenzoic acid
(iv) Periodic acid. 16
7. (a) Describe the use of selenium dioxide in Organic Chemistry in detail.
(b) Explain uses of sodium borohydride in organic reactions. 8,8

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Section-D

8. Write short notes on any *three* of following :
(i) Reformatsky reaction
(ii) Backmann rearrangement
(iii) Wagner-Merwein rearrangement
(iv) Baeyer-Villiger reaction. 5,6,5
9. Discuss following rearrangements :
(i) Pinacol-pinacolone rearrangement
(ii) Demjanov rearrangement. 8,8

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