

Roll No. 1351075
1900

June - July 2013
M. Sc. (Previous) 1st Semester Examination
Paper VII (B) CHEMISTRY
Organic Chemistry - II (MCH 407)

(Max Marks Regular 80 / Private 100)

Time 3 Hours

Note : This question paper is meant for both Regular and Private students. Attempt all questions. All questions carry equal marks. The blind candidates will be given 60 minutes extra time.

1. (a) Draw energy profile diagram for a typical aromatic electrophilic substitution reaction
 (b) Write a note on ortho para ratio in aromatic substitution
 (c) Explain IPSO attack

OR

Discuss the mechanism of the following rearrangements

- (a) The Von Richte Rearrangement
 (b) Sommlet Hauser Rearrangement
 (c) Smiles Rearrangement

2. What are free radicals ? Explain the following with reference to free radical reactions
 (a) Reactivity for aliphatic substrates
 (b) Reactivity for aromatic substrates
 (c) Reactivity at a bridge head
 (d) Reactivity in the attacking radical
 (e) Effect of solvent on reactivity

OR

- (a) Give briefly the mechanism of allylic halogenation using N-bromo succinimide
 (b) Arylation of aromatic compounds by diazonium salts

3. (a) Write down the mechanistic and stereochemical aspects of electrophilic addition to carbon-carbon double bond

OR

Describe the mechanism and stereochemistry of free radical addition to carbon-carbon double bond

- (b) Hydrogenation of aromatic ring

OR

Sharpless asymmetric Epoxidation

4. Explain the following
 (a) Aldol Condensation OR Mannich Reaction
 (b) Knoevenagel Reaction OR Pecklin Reaction

5. (a) What are sigmatropic rearrangements ? Give their stereochemistry
 (b) What are suprafacial and antarafacial process of sigmatropic rearrangements ?
 (c) Discuss in brief (1, 2, and +1, 5) sigmatropic rearrangements in brief

OR

Write explanatory notes on the following

- (a) 1, 3 dipolar cycladdition
 (b) 2+2 addition of Ketones
 (c) Chelotropic reaction