



Code No. : 629

FACULTY OF SCIENCE
M.Sc. II Semester Examination, April/May 2013
CHEMISTRY (Paper – II)
Organic Chemistry

Time : 3 Hours]

[Max. Marks : 80

Note : Answer *all* questions.

PART – A

(8×4=32 Marks)

1. a) Draw the conformations of butane and explain their stability.
b) Draw the conformations of ethylene glycol and explain their stability.
2. a) Formulate the reaction between p-nitrochlorobenzene and sodium ethoxide and explain its mechanism.
b) Explain the Von-Richter rearrangement.
3. a) How are carbanions generated ? Explain the stability order of carbanions.
b) State and explain the Wolf rearrangement. Describe its scope in organic synthesis.
4. a) Describe the isoprene rule and special isoprene rule. What is their significance ?
b) Discuss the Hofmann rearrangement.

PART – B

(12×4=48 Marks)

5. a) Explain the use of spectral methods in conformational analysis.
b) Discuss the Curtin-Hammett principle.

OR

- c) Write notes on Winstein-Holness equation.
- d) Draw the conformations of propionaldehyde and butanone and explain them.

6. a) Discuss the reaction of chlorobenzene with sodium amide and explain its mechanism giving evidence in support of it.
- b) What are ambident nucleophile's ? Give examples of ambident nucleophiles. Discuss a reaction involving ambident nucleophile with an example.

OR

- c) Discuss a reaction involving neighbouring group participation involving nitrogen.
- d) State and explain a reaction involving SET mechanism giving evidences in support of it.
7. a) Discuss the stability of carbocations.
- b) State and explain the Pinacol-Pinacolone rearrangement giving its scope.

OR

- c) State and explain the Favorskii rearrangement.
- d) Write notes on Sommelet-Hauser rearrangements.
8. a) Explain the importance of Natural Products as Drugs.
- b) Give an account of the methods used in the structure determination of terpenes.

OR

- c) Discuss the structure determination of β -carotene.
- d) Outline synthesis of papaverine.