

Day : Friday

W-2017-0653

Time : 3:00 P.M. TO 5:00 P.M.

Date : 27/10/2017

Max. Marks : 40

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.

SECTION – I**Q.1** Attempt **ANY TWO** of the following: [10]

- a) What is nitration? Discuss the mechanism of nitration of benzene.
- b) What is S_N^2 reaction? Discuss its mechanism. Give factors affecting on it.
- c) Write a note on : Markownikoff's rule and peroxide effect.

Q.2 Attempt **ANY TWO** of the following: [10]

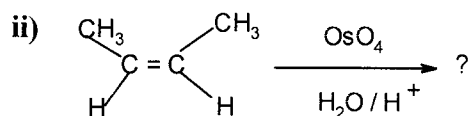
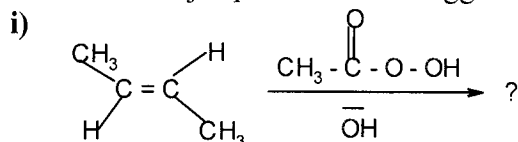
- a) What is Hoffmann and Saytzeff elimination? Illustrate with suitable example.
- b) Draw chair conformations of *cis* and *trans* 1, 4 – dimethyl cyclohexane and comment on their stability and optical activity.
- c) Write a note on : Ozonolysis.

SECTION – II**Q.3** Attempt **ANY TWO** of the following: [10]

- a) What is elimination? Discuss the mechanism of E_2 reaction. Give factors affecting on it.
- b) Discuss the structure of substrate and effect of nucleophile on S_N^1 mechanism.
- c) Write a note on : Friedel – Craft acylation of benzene.

Q.4 Attempt **ANY TWO** of the following: [10]

- a) Explain the following:
 - i) Halogens are o/p – directing even though they are deactivating.
 - ii) The Bredt's rule.

b) Predict the major product/s and suggest the mechanism:**c)** Complete the following reactions and suggest the mechanism: