

T.Y.B.SC. SEM – V (CBCS - 2016 Course) : WINTER - 2018

SUBJECT : CHEMISTRY: ORGANIC CHEMISTRY – I

Day : Monday
Date : 15/10/2018

W-2018-0748

Time : 03.00 P.M. To 06.00 P.M
Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labeled diagrams **WHEREVER** necessary.
-

Q.1 Attempt **ANY TWO** of the following: [12]

- a) What is nitration? Discuss the mechanism of nitration of benzene.
- b) What is SN^1 reaction? Discuss its mechanism.
- c) Write a note on : Ozonolysis.

Q.2 Attempt **ANY TWO** of the following: [12]

- a) What is elimination? Discuss the mechanism of E_1 reaction. Give factors affecting on it.
- b) Draw chair conformations of *cis* and *trans* 1, 3 – dimethyl cyclohexane. Comment on their stability and optical activity.
- c) Write a note on : Friedel Craft's Acylation of benzene.

Q.3 Attempt **ANY TWO** of the following: [12]

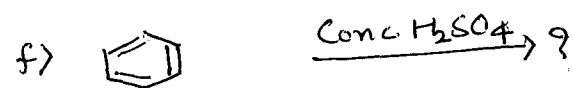
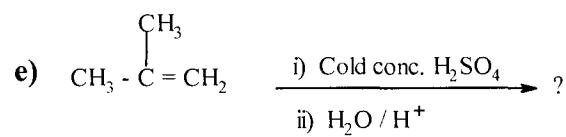
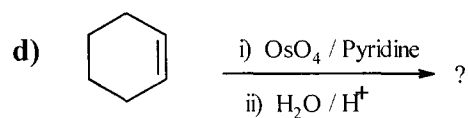
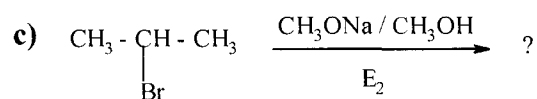
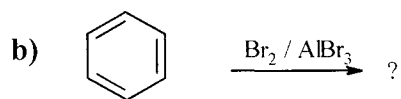
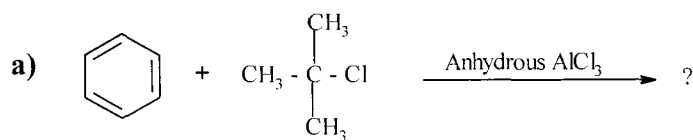
- a) What is Hoffmann and Saytzeff elimination? Illustrate with suitable examples.
- b) Discuss the structure of substrate and effect of nucleophile on SN^1 and SN^2 mechanism.
- c) Write a note on Markownikoff's rule and Peroxide effect.

Q.4 Attempt **ANY THREE** of the following: [12]

- a) Hydroxylation of alkene with peroxy acids gives *trans* diol. Explain.
- b) Explain the terms:
 - i) The Bredt's rule
 - ii) Optical isomers
- c) Discuss the stereochemistry of SN^1 reaction.
- d) Write a note on: Activating and Deactivating groups.

P.T.O.

Q.5 Predict the product/s and suggest the mechanism for **ANY FOUR** of the following: [12]



* * * *