

BACHELOR OF SCIENCE (CBCS-2018 COURSE)  
T. Y. B. Sc. Sem-V : WINTER- 2022  
SUBJECT : CHEMISTRY : ORGANIC CHEMISTRY-I

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 12/12/2022

W-18416-2022

Max. Marks : 60

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw neat and labeled diagram **WHEREVER** necessary.
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**Q.1** Attempt **ANY TWO** of the following: [12]

- a) What is Chlorination? Discuss the mechanism of chlorination of benzene.
- b) Explain factors affecting on  $SN^1$  and  $SN^2$  mechanism.
- c) Write a note on : Ozonolysis.

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

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

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

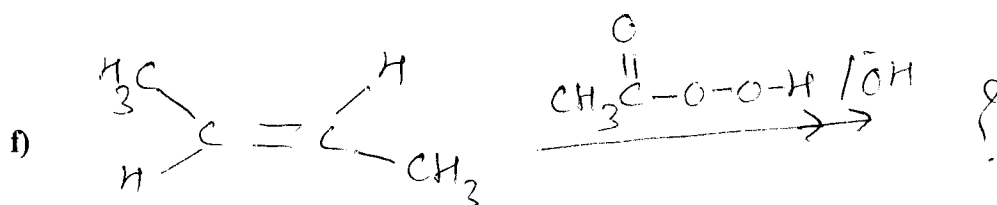
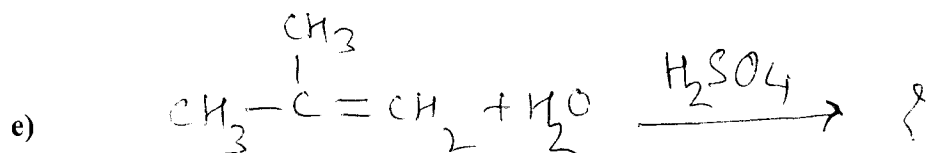
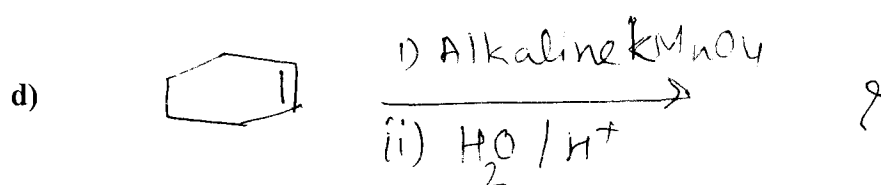
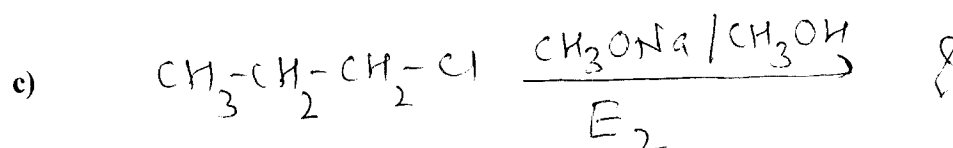
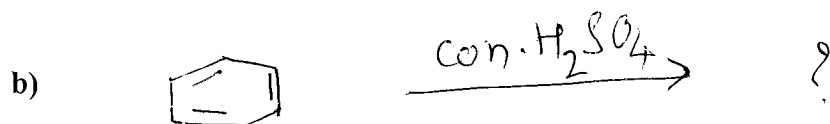
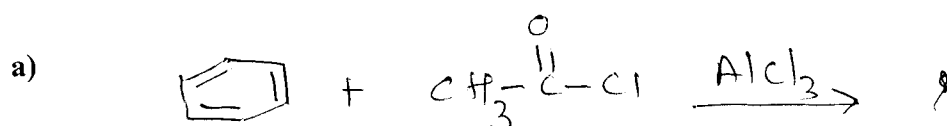
- a) What is nitration? Discuss the mechanism of nitration of benzene. Explain the role of conc.  $H_2SO_4$  in nitration.
- b) What is  $SN^1$  reaction? Discuss its mechanism.
- c) Write a note on :  $E_1$  reaction.

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

- a) What is Markownikoff's addition? Explain it with examples.
- b) Explain the terms:
  - i) Bredt's rule
  - ii) Conformations and configuration
- c) Explain the mechanism of  $SN^2$  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]



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