

Day: Wednesday
Date: 28/11/2018

W-2018-2282

Time: 10.00 AM TO 01.00 PM
Max. Marks: 60

N.B:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Draw neat and labeled diagrams **WHEREVER** necessary.

- Q.1** a) What is Huckel's rule? Discuss various criteria for aromaticity. (05)
b) Write short notes on: (05)
i) Homolysis ii) Heterolysis

OR

- Q.1** a) Write short notes on: (05)
i) Hyperconjugation effect ii) Tautomerism
b) Give reasons: (05)
i) Trichloroacetic acid is stronger than monochloroacetic acid.
ii) Aniline is a weaker base.

- Q.2** What is Grignard reagent? Discuss its reaction involved in preparation of primary, secondary and tertiary alcohols from aldehydes and ketones. (10)

OR

- Q.2** What are rearrangement reactions? Give the mechanism of Beckmann's rearrangement. (10)

- Q.3** Explain the principle, construction and working of UV-Visible spectrophotometer. Give its applications. (10)

OR

- Q.3** a) Comment on:- (05)
"IR spectra are often characterized as molecular fingerprints".
b) Write short notes on: (05)
i) Auxochrome ii) Bathochromic effect

- Q.4** a) Explain with examples, the function of catalytic promoters and poisons in a chemical reaction. (05)
b) What is catalysis? Discuss homogeneous and heterogeneous catalysis with examples. (05)

OR

- Q.4** What are the criteria for choosing a catalyst for industrial purposes? Discuss few industrially important processes where catalysts are used. (10)

- Q.5** a) How does H-bonding affect melting point and viscosity of compound. (05)
b) Discuss the group contribution methods for estimation of various properties. (05)

OR

- Q.5** a) What are H-bonds? How H-bonds make water unique? (05)
b) Write a note on Vander Waal's forces. (05)

- Q.6** Write a note on: (10)
i) Emulsion ii) Surface active agents

OR

- Q.6** a) Explain the different mechanisms of adhesion with suitable examples. (05)
b) Explain the phenomenon of wetting and contact angle. (05)