

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER III • EXAMINATION – SUMMER 2017

Subject Code: 230003**Date: 12/06/2017****Subject Name: Pharmaceutical Chemistry III****Time: 02:30 PM to 05:30 PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Write a note on Kjeldahl's method for Nitrogen estimation. **06**
(b) What is Bonding and Anti-bonding orbitals? Explain in detail. **05**
(c) What are different methods used to determine Molecular Weight of organic compound? Discuss any two methods in detail. **05**
- Q.2** (a) Define Hybridization. Explain in detail Hybrid Orbitals with examples. **06**
(b) Write a note on Intermolecular and Intramolecular forces. **05**
(c) How Hyperconjugation and Resonance differ from each other? Discuss with examples. **05**
- Q.3** (a) What are relative Intermediates of Carbon? Describe in detail about Carbocation. **06**
(b) Explain the Electrocyclic Cycloaddition reaction. **05**
(c) Write a note on Sigmatropic reaction. **05**
- Q.4** (a) Explain the mechanism of Halogenation for alkane. **06**
(b) Differentiate E2 and E1 mechanism of elimination. **05**
(c) Give general methods for the preparation of Alkyne and Dienes. **05**
- Q.5** (a) Outline difference between SN1 and SN2 reactions of Alkyl halides. **06**
(b) Give preparations and reactions of Alkyl Halides. **05**
(c) Classify Alcohol and write a note on Dehydration of Alcohol. **05**
- Q.6** (a) Write a note on Williamson's synthesis of ether. **06**
(b) What are epoxides? Give the methods for preparation of epoxides. **05**
(c) Write a note on Diels Alder reaction. **05**
- Q.7** (a) Define (i) Petroleum, (ii) Molecular formula and (iii) Empirical formula with suitable examples. **06**
(b) Explain in details about (i) Atomic and Molecular Orbitals and (ii) Bond Dissociation Energy. **05**
(c) Discuss (i) Electronegativity and (ii) Polarity of Bond and molecule. **05**
