

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharmacy Sem-III Regular / Remedial Examination Dec. 2010

Subject code: 230003
Subject Name: Pharmaceutical Chemistry- III

Date: 15 /12 /2010

Time: 10.30 am – 01.30 pm

Instructions:

Total Marks: 80

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

- Q.1** (a) What is a chemical bond? Explain different types of bonds & their properties. **06**
(b) Explain Hybridization and Hybrid orbitals. **05**
(c) What is bonding & antibonding orbitals?- Explain in detail. **05**
- Q.2** (a) Enlist the different reactive intermediates of carbon. Enlist the difference between Carbenes & Nitrenes. **06**
(b) What is a free radical? Give at least five reactions involving free radicals. **05**
(c) Explain the Intermolecular & Intramolecular forces. **05**
- Q.3** (a) Give the general structure, properties, nomenclature, preparation and reactions of Alkyl halide. **06**
(b) Explain in detail the Electrocyclic cycloaddition. **05**
(c) Discuss in detail the Carbocation & Carbanion. **05**
- Q.4** (a) What is an orbital? Give some account on Atomic orbitals & Molecular orbital theory. **06**
(b) Give the properties & reactions of Nitrium ions. **05**
(c) Derive the wave equation. **05**
- Q.5** (a) What are Dienes? Give the general structure, properties, preparation & reaction of Dienes. **06**
(b) Give some reactions of Alkanes. **05**
(c) Explain electronegativity and polarity of bonds & molecules. **05**
- Q. 6** (a) How one can determine molecular formula and weight? – Explain with suitable examples. **06**
(b) Give some reactions of Cycloalkanes. **05**
(c) Give methods of preparation for alkenes, alkynes and alcohols. **05**
- Q.7** (a) What are Sigmatropic reactions? – Explain with examples. How the neighboring group affects these reactions? **06**
(b) What is an Epoxide? What are the differences between Ether & Epoxide? Give the methods for preparation of Epoxide. **05**
(c) Explain the resonance and hyperconjugation. **05**
