

GUJARAT TECHNOLOGICAL UNIVERSITY**B.Ph SEM-III Examination- Dec.-2011****Subject code: 230003****Date: 16/12/2011****Subject Name: Pharmaceutical Chemistry-III****Time: 10.30 am-01.30 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) Define following with suitable examples: **06**
1. Bond dissociation energy
2. Inductive effect
3. Hyper conjugation
(b) Define hybridization? Explain SP^2 hybridization with examples. **05**
(c) Write a note on kjeldahl's method for nitrogen estimation. **05**
- Q.2** (a) Differentiate between resonance and inductive effect? Write the necessary conditions of resonance. **06**
(b) What are the reactive species of carbon? Write the reaction of carbene. **05**
(c) Write a note on preparation and synthetic utility of Grignard reagent **05**
- Q.3** (a) State and explain **06**
1. Markovnikov's rule
2. Saytzeff's rule
(b) General methods of preparations of Alkyl halides. **05**
(c) Write a note on Williamson's synthesis of ether. **05**
- Q.4** (a) Discuss mechanism of SN_1 and SN_2 reactions of alkyl halides. **06**
(b) General methods of preparations of Alcohols. **05**
(c) Write a note on Carbocations with mechanism **05**
- Q.5** (a) Write a note on aldol condensation. **06**
(b) General chemical reactions of Alkanes. **05**
(c) Write a note on : Methods of preparation of cycloalkanes. **05**
- Q.6** (a) Give the differences between E_1 and E_2 mechanism with examples **06**
(b) Give the structure of followings. **05**
i. 2-chloro-2-methylpropane
ii. 3-chloro-2-methylhexane
iii. 1-ethoxy-2-methylpropane
iv. propane-1,3-diol
v. (E)-4-bromopent-2-ene
(c) Write a note on hydrogen bonding **05**
- Q.7** (a) Diels alder reaction **06**
(b) Write a detail note on Hydroboration-Oxidation **05**
(c) Neighbouring group effects **05**