

GUJARAT TECHNOLOGICAL UNIVERSITY
M. Pharm – SEMESTER I • EXAMINATION – WINTER-2016

Subject Code:910101**Date: 02/01/2017****Subject Name: Advanced Organic Chemistry-I****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) What is electronegativity? Explain polarity of bond and polarity of molecules. **06**
(b) Discuss the orbital structure of Ethene. **05**
(c) Give difference between hyper conjugation and resonance. **05**
- Q.2** (a) Discuss the factors affecting chemical reactions. **06**
(b) Discuss Saytzeff's rule for elimination reactions with examples. **05**
(c) Explain the role of participation of neighboring group in substitution reaction. **05**
- Q.3** (a) Differentiate SN1 and SN2 reactions. **06**
(b) What is aromaticity? Prove cycloheptatriene cation is aromatic. **05**
(c) Explain the markonikov's rule with suitable examples and mechanism. **05**
- Q.4** (a) Explain nucleophilic aromatic substitution with mechanism. **06**
(b) Write a note on reactivity and orientation in electrophilic aromatic substitutions. **05**
(c) Write a note of Friedal craft reactions. **05**
- Q.5** (a) Discuss BAL1 and BAL2 mechanism for esters. **06**
(b) Write a note on photo reduction and photo rearrangement reaction. **05**
(c) How Carbanions form? Explain any two reactions involving it. **05**
- Q. 6** (a) What are addition reactions? Explain the nucleophilic addition to carbonyl compounds. **06**
(b) Write short note on Hofmann and Beckman rearrangement reaction. **05**
(c) What is free radical? Explain any one free radical reaction. **05**
- Q.7** (a) What are ylides. Write a note on the generation and reaction involving phosphorus ylides. **06**
(b) Write a note on Cram's rule. **05**
(c) Write a note on nitration of benzene with mechanism. **05**
