Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – WINTER 2013

Subject Code: 910101 **Date: 23-12-2013**

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 chemical bond? Explain different types of chemical bonds and their properties.	**06**
	(b)	What is hyperconjuagation and resonance? Explain their role in the organic compounds.	**05**
	(c)	Discuss the importance of inductive effect, electrostatic effect on reactivity.	**05**
Q.2	**(a)**	What is tautomerism ? Discuss in detail about keto-enol tautomerism with suitable example.	**06**
	(b)	Discuss in detail about hydride transfer reaction and Cram's rule with examples.	**05**
	(c)	Explain different types of photochemical reactions with suitable examples.	**05**
Q.3		Discuss the reaction and reaction mechanism of the following	**06**
	(a)	Cyclohexanoxime to caprolactam	
	(b)	2,3-Dimethyl-2,3-butandiol to 3,3-dimethyl-2-butanone	**05**
	(c)	Benzamide to aniline	**05**
Q.4	**(a)**	What are Y-lides? Explain role and application of Y-lides in organic synthesis.	**06**
	(b)	Write a brief on Nitrogen Y-lides. Discuss their generation and application in chemistry.	**05**
	(c)	Write in details about AAC2 and BAC2 mechanism of hydrolysis of esters.	**05**
Q.5	**(a)**	Describe Hoffman and saytzeff's rule of elimination with suitable examples.	**06**
	(b)	Describe Antimarkonikov's addition with suitable examples.	**05**
	(c)	Discuss in detail about various factors influencing the reactivity of molecule.	**05**
Q. 6	**(a)**	Explain nucleophillic substitution reaction in aliphatic system.	**06**
	(b)	Explain influence of neighboring group on nucleophillic substitution	**05**
	(c)	Give detail account of E1 cb reaction with suitable example.	**05**
Q.7	**(a)**	Explain different reactive intermediates of carbon. How they are generated.	**06**
	(b)	What is free radical? Explain any one free radical reaction	**05**
	(c)	Explain electrophillic substitution reaction in aliphatic system with suitable example.	**05**

****