Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject code: 910101 **Date: 23-05-2014**

Subject Name: Advanced Organic Chemistry-I

Time: 02:30 pm - 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)	Describe orientation in electrophilic substitution in aromatic systems	**06**
	(b)	Differentiate between E_1 and E_2 mechanism	**05**
	(c)	Write in detail about SP^3 hybridization	**05**
Q.2	(a)	Explain markonikov's rule with suitable examples	**06**
	(b)	Write a note on inductive effect	**05**
	(c)	Explain hydride transfer reactions with examples	**05**
Q.3	(a)	Explain the terms: 1. Resonance 2. Polarity 3. Carbanion	**06**
	(b)	Discuss generation and reactions of nitrogen ylides	**05**
	(c)	Write a note on hyperconjugation	**05**
Q.4	(a)	Discuss hoffman and saytzeff's rule for elimination	**06**
	(b)	Write a note on photo sensitizers	**05**
	(c)	Explain claisen condensation and hofmann rearrangement	**05**
Q.5	(a)	Discuss pinacol and beckmann rearrangement	**06**
	(b)	What is a chemical bond? Discuss various chemical bonds.	**05**
	(c)	Discuss various factors affecting aliphatic nucleophilic substitutions	**05**
Q. 6	(a)	Comments on the following 1. Trichloroacetic acid is more acidic than acetic acid. 2. Aromatic amines are less basic than aliphatic amines. 3. Dipole moment of methane and carbon tetrachloride is zero.	**06**
	(b)	Explain molecular orbital theory in detail	**05**
	(c)	Discuss various rearrangement reactions of free radicals	**05**
Q.7	(a)	Discuss BAL_1 and BAL_2 mechanism for esters	**06**
	(b)	Discuss neighbouring group effect in nucleophilic substitution reactions	**05**
	(c)	Write about bond angle and bond length in detail	**05**

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