Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 910101 Date: 07-01-2015

Subject Name: Advance 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)	Write a short note on hyperconjugation and resonance.	**06**
	(b)	Explain the effect of inductive effect and steric effect on reactivity.	**05**
	(c)	Write a note on photochemical reactions.	**05**
Q.2	(a)	What is hybridization? Explain the hybridization of carbon in chloroform and ethene.	**06**
	(b)	Write a note on hydride transfer reaction.	**05**
	(c)	What is nucleophilic aliphatic substitution reactions? Explain the Walden inversion.	**05**
Q.3	(a)	What is elimination reaction? Explain the different types of elimination reaction with suitable examples	**06**
	(b)	Write a short note on Hofmann rearrangement	**05**
	(c)	What is aromaticity? Explain in Brief.	**05**
Q.4	(a)	Explain the markonikov's rule with suitable examples and mechanism.	**06**
	(b)	What are ylides. Write a note on the generation and reaction involving phosphorous ylide.	**05**
	(c)	Write a short note on claisen condensation.	**05**
Q.5	(a)	Enumerate the different mechanisms for the hydrolysis of esters. Explain the BAC2 mechanism with suitable examples.	**06**
	(b)	Explain the role of participation of neighboring group in substitution reaction	**05**
	(c)	Write a note on Beckman rearrangement..	**05**
Q. 6	(a)	What is homolysis? Write in detail about the generation and reactions of free radicals.	**06**
	(b)	Write a short note on transannular rearrangement	**05**
	(c)	What is nucleophilic aromatic substitution? Enumerate the type of mechanism involved in nucleophilic aromatic substitution and explain any one of them.	**05**
Q.7	(a)	What are addition reactions? Explain the nucleophilic addition to unsaturated compounds	**06**
	(b)	Write a note on Cram's rule.	**05**
	(c)	What is the difference between Saytzef's rule and Hofmann rule of elimination? Give its evidence with suitable examples.	**05**

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