Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2920101 **Date: 28-11-2013**

Subject Name: Advanced Organic Chemistry - II

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 rearrangement reaction? Discuss reaction and mechanism involve in Bayer- Villiger rearrangement reaction with suitable example.	**06**
	(b)	Discuss reaction and mechanism involve in Benzillic acid rearrangement reaction with suitable example.	**05**
	(c)	Discuss in brief about Dimorth and Lossen-Schmidt rearrangement.	**05**
Q.2		Explain Mechanism, application and limitations of the following reactions. a. Heck Reaction b. Reformatsky reaction c. Suzuki reaction d. Swern oxidation	**16**
Q.3	**(a)**	Explain role of stereochemistry in Pharmacokinetics and Pharmacodynemics study.	**06**
	(b)	What are different techniques used to get single isomer as a major product in chemical reaction.	**05**
	(c)	Write a note on resolution of racemic mixture and recemic switches	**05**
Q.4	**(a)**	Plan the asymmetric synthesis of following drugs; a. Thalidomide b. Ethambutol c. Atenolol d. Nifedipine	**16**
Q.5	**(a)**	Describe the guidelines for retro synthesis of drug substances?	**06**
	(b)	Give synthon approach for Ibuprofen and pyremethamine.	**05**
	(c)	Discuss in detail about synthon approach for rosiglitazone and citrizine.	**05**
Q. 6	**(a)**	What is green chemistry? Elaborate Twelve principles of green chemistry.	**06**
	(b)	Compare conventional and microwave assisted organic synthesis with examples.	**05**
	(c)	Give advantages and disadvantages of water as a solvent. Give example of organic reactions in aqueous medium.	**05**
Q.7	**(a)**	Define Sonication. Discuss various ultrasonic reactions in synthetic chemistry.	**06**
	(b)	What are ionic liquids? How they are useful in organic synthesis, discuss some chemical reactions with ionic liquids.	**05**
	(c)	What are the merits and demerits of solvent free reactions in synthesis? Give some examples of reactions carried out with solid support.	**05**

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