Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2920101 Date: 23-05-2013

Subject Name: Advanced Organic Chemistry - II

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)**	What is Green Chemistry? What are the different principles of Green Chemistry? Discuss each with suitable example.	**10**
	(b)	What are the alternate approaches to conventional heating or stirring? Discuss about principle of each with suitable example.	**06**
Q.2	**(a)**	What are reterosynthesis? Enlist rules and guidelines used to derive synthetic route of organic molecules by this method with suitable example.	**06**
	(b)	Derive synthetic route by synthon approach for following drugs. 1. Ibuprofen 2. Losartan 3. Ciprofloxacin	**10**
Q.3	**(a)**	Molecule without chiral carbon cannot be optically active. Correct if necessary and justify.	**06**
	(b)	What are geometrical isomers? What are the methods used to derive its configuration? Describe with example.	**05**
	(c)	Write a note on importance of stereochemistry in new drug discovery.	**05**
Q.4	**(a)**	Enlist various methods used to ressolve racemic mixture. Discuss in detail about racemic switches with examples.	**06**
	(b)	Outline asymmetric synthetic route for ethambutol, nifedipine, omeprazole and thalidomide.	**10**
Q.5		Give reaction for following functional group conversion. Discuss its mechanism and factors influencing the reaction. i. Ketone to ester ii. Monosubstituted alkyne to disubstituted alkyne iii. Nitrile to amidine iv. Simple acid to one higher carbon acid	**4x4**
Q. 6	**(a)**	Discuss in detail about three different reactions used to convert carboxylic acid to amine or its derivatives. Compare these reactions with their applications and advantages.	**11**
	(b)	Write a note on Suzuki coupling with its advantage over other similar types of reactions.	**05**
Q.7		Write a note on following reactions a. Sharpless oxidation b. Vilsmeir Haack reaction c. Swern oxidation d. Nanochemistry	**4x4**

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