

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. **16**
- a. Heck Reaction b. Reformatsky reaction
- c. Suzuki reaction d. Swern oxidation
- Q.3** (a) Explain role of stereochemistry in Pharmacokinetics and Pharmacodynamics 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; **16**
- a. Thalidomide b. Ethambutol
- c. Atenolol d. Nifedipine
- 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? **05**
- Give some examples of reactions carried out with solid support.
