

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M. Pharm. – SEMESTER – II • EXAMINATION – SUMMER • 2015**

**Subject Code: 2920101**

**Date: 14-05-2015**

**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) Define retrosynthesis. Explain in detail about general rules for disconnection. **08**  
(b) Give detail account on importance of stereochemistry in pharmacokinetics and pharmacodynamics. **08**
- Q.2** (a) Explain stereoselective synthetic route for Omeprazole and Ampicillin **06**  
(b) Give the principle and applications of ultrasound reactions. **05**  
(c) Write a note on pinacol reaction. **05**
- Q.3** (a) Give synthon approach for Ibuprofen and Ciprofloxacin. **06**  
(b) What is nanochemistry? Give its applications. **05**  
(c) What is conformational isomerism and explain the conformational isomers of dimethyl cyclohexane. **05**
- Q.4** (a) Discuss in detail: Principle, mechanism and applications of green chemistry. **12**  
(b) What are the different methods used to resolve racemic mixtures. **04**
- Q.5** (a) Give synthon approach for Cetirizine and Losartan. **06**  
(b) Write a note on ionic liquids and supercritical fluids. **05**  
(c) Give the principle, mechanism and applications of microwave synthesis. **05**
- Q. 6** (a) Explain the geometric isomerism and optical isomerism with examples. **06**  
(b) Write asymmetric synthesis of Vitamin C. **05**  
(c) Give the mechanism of allylic rearrangement and bayer-villiger rearrangement. **05**
- Q.7** Write a short note on following: **16**  
(a) Suzuki coupling reaction  
(b) Benzilic acid rearrangement  
(c) Vilsmeier-Haack reaction  
(d) Sharpless oxidation

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