

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M. PHARM. - SEMESTER – II • EXAMINATION – WINTER 2012**

**Subject code: 2920101****Date: 10-01-2013****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.

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|-------------|--|-----------|
| <b>Q.1</b>  | (a) Describe the principle and applications of Microwave synthesis. Distinguish between microwave and conventional methods of Synthesis with examples. | <b>08</b> |
|             | (b) Outline the asymmetric synthesis of<br>i) Thalidomide ii) Nefedipine.  | <b>08</b> |
| <b>Q.2</b>  | (a) Discuss the role of stereochemistry in pharmacokinetics and pharmacodynamics   | <b>08</b> |
|             | (b) Write Short Notes (With Mechanism) on:<br>(1) Reformatsky Reaction (2) Bayer-Villiger rearrangement  | <b>08</b> |
| <b>Q.3</b>  | (a) What is nanochemistry? Discuss the application of nanochemistry.   | <b>06</b> |
|             | (b) Give synthon approach for Cetirizine and Losartan.   | <b>10</b> |
| <b>Q.4</b>  | (a) Define relative and absolute configuration. Discuss in detail about various methods for resolving racemic mixture.                                 | <b>06</b> |
|             | (b) Stereochemistry of Allenes and Biphenyls.  | <b>05</b> |
|             | (c) Write note on Sharpless oxidation.   | <b>05</b> |
| <b>Q.5</b>  | (a) What is conformational isomerism and write the conformation of n-butane.   | <b>06</b> |
|             | (b) Write a note on racemic switches.  | <b>05</b> |
|             | (c) Give the mechanism and application of Suzuki coupling reaction.  | <b>05</b> |
| <b>Q. 6</b> | (a) Discuss in detail principle, mechanism and application of green chemistry.   | <b>06</b> |
|             | (b) Give principle and application of ultrasound reaction.   | <b>05</b> |
|             | (c) Write the asymmetric synthesis of Omeprazole.  | <b>05</b> |
| <b>Q.7</b>  | (a) Explain the following terms with examples.<br>(i) Geometric isomerism<br>(ii) Optical isomerism<br>(iii) Conformational isomerism                  | <b>09</b> |
|             | ( b) Give the asymmetric synthesis of Vit.C and synthon approach for Ibuprofen.  | <b>07</b> |

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