

GUJARAT TECHNOLOGICAL UNIVERSITY
M.PHARM - SEMESTER-2 EXAMINATION – SUMMER-2019

Subject Code: MPC202T**Date: 29/05/2019****Subject Name: Advanced Organic Chemistry -II****Time: 10:30 AM TO 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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|-------------|-----|---|-----------|
| Q.1 | (a) | What is asymmetric synthesis? Explain the various methods of asymmetric synthesis. | 06 |
| | (b) | Explain the following:
(i) Fischers D and L notation (ii) E and Z notation. | 05 |
| | (c) | Define the following terms: Optical activity, specific rotation, racemates, meso compounds and enantiomers. | 05 |
| Q.2 | (a) | Describe the site specific chemical modifications in peptides. | 06 |
| | (b) | Explain segment and sequential strategies for solution phase peptide synthesis. | 05 |
| | (c) | Write a note on side reactions in peptide synthesis. | 05 |
| Q.3 | (a) | Explain the stereo selective synthesis with examples. | 06 |
| | (b) | Describe the role of enzymes in organic synthesis with specific examples. | 05 |
| | (c) | Discuss the theory of phase transfer catalysis. | 05 |
| Q.4 | (a) | Explain the following terms: Photo-oxidation, photo-addition and photo-fragmentation. | 06 |
| | (b) | Describe the mechanism of pericyclic reactions. | 05 |
| | (c) | Write a note on sigma trophic rearrangement reactions. | 05 |
| Q.5 | (a) | Give the working principle and synthetic applications of continuous flow reactors. | 06 |
| | (b) | Write a short note on coupling reactions in peptide synthesis. | 05 |
| | (c) | Write a note on t-BOC and FMOC protocols in peptide synthesis. | 05 |
| Q. 6 | (a) | Differentiate between homogeneous and heterogeneous catalysis. | 06 |
| | (b) | Write a note on: Wilkinson catalysts and Ziegler-Nata catalyst. | 05 |
| | (c) | Give the role of transition-metal in organic synthesis. | 05 |
| Q.7 | (a) | Give the principle and applications of green chemistry. | 06 |
| | (b) | Give the principle and mechanism involved in microwave assisted synthesis. | 05 |
| | (c) | Write a short note on ultrasound assisted reactions. | 05 |
