

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 4 EXAMINATION – WINTER -2019

Subject Code: 2240004**Date: 19-12-2019****Subject Name: Pharmaceutical Chemistry – VI (Organic Chemistry – II)****Time: 02:30 PM TO 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) Define the following terms: 06
(i) Optical activity (ii) Geometric isomerism (iii) Enantiomer
(iv) Diastereomer (v) Chiral center (iv) Specific rotation
- (b) Write note on stereochemistry of Biphenyls and Spirans. 05
- (c) What is resolution? Explain the methods for racemic modification in to enantiomers. 05
- Q.2** (a) What is green chemistry? What are the approaches to achieve it? Discuss it suitable example. 06
- (b) Give methods of preparation of ketones. 05
- (c) Explain cannizaro and cross cannizaro reaction with mechanism. 05
- Q.3** (a) Give preparation and reactions of diazonium salt. 06
- (b) Explain diastereomers and their properties with suitable example. 05
- (c) What are nano particles ? Discuss uses of nano particles in Pharmacy. 05
- Q.4** (a) Discuss the Sequence rule to assign configuration with example. 06
- (b) What are phenols? Give methods of preparation of Phenols. 05
- (c) Write note on Microwave synthesis and its application. 05
- Q.5** (a) Give the structure of: 06
(1) Furan (2) Pyridine (3) Pyrazole (4) Pyridazine (5) Isoxazole
- (b) Define Nucleophilic aromatic substitution reaction. Explain the Benzyne Mechanism. 05
- (c) Explain Hofmann degradation of amides. 05
- Q. 6** (a) Explain the following reaction: 06
(i) Kolbe reaction
(ii) Fries rearrangement
- (b) Give THREE reactions of the following: 05
(1) Pyrrole (2) Pyrimidine
- (c) Give methods of preparation of carboxylic acid. 05
- Q.7** (a) What are carboxylic acid derivative? Explain preparation and reaction of any one carboxylic acid derivative. 06
- (b) Write a short note on the following. 05
i) Michael addition reaction
ii) Knorr pyrrole synthesis
- (c) Explain preparation and reactions of Pyridine. 05
