

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. SEMESTER-IV • EXAMINATION – SUMMER -2020

Subject Code: BP401TT

Date: 26-10-2020

Subject Name: Pharmaceutical Organic Chemistry III

Time: 10:30 AM TO 1:30 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) Draw structure of the following compounds. **06**
 i) cis-3,4-dimethyl-3-heptene ii) trans-1,3-dichlorocyclobutane
 iii) (R)-2-butanol iv) (RS)-2-chloro, 3-pentanol
 v) cis- 2-chloro,3-bromo butene vi) (S)-3-chlorohexane
- (b) Write note on stereochemistry of Biphenyls. **05**
 (c) What is resolution? Explain the methods for racemic modification into enantiomers. **05**
- Q.2** (a) Define the following terms: **06**
 (i) Configuration (ii) Geometric isomerism (iii) Enantiomer
 (iv) Meso isomer (v) Chiral center (iv) Racemic mixture
- (b) Explain the reactions of chiral molecule. **05**
 (c) Explain Clemmensen reduction with mechanism. **05**
- Q.3** (a) Explain partial and absolute asymmetric synthesis. **06**
 (b) Explain diastereomers and their properties with suitable example. **05**
 (c) Write in brief conformational analysis of n-Butane. **05**
- Q.4** (a) Discuss the Sequence rule to assign configuration with example. **06**
 (b) Explain the stereospecific and stereoselective reactions. **05**
 (c) Give methods of determination of configuration of geometrical isomers. **05**
- Q.5** (a) Give the structure of: **06**
 (1) Indole (2) Pyridine (3) Isoquinoline
 (4) Imidazole (5) Acridine (6) Thiophene
- (b) Explain Beckmann rearrangement reaction with mechanism. **05**
 (c) Give synthesis and medicinal uses of Pyrimidine. **05**
- Q.6** (a) Give THREE reactions of the following: **06**
 (1) Furan (2) Quinoline
- (b) Write about Oppenauer oxidation. **05**
 (c) Comment on the following **05**
 1. Pyridine is more basic than Pyrrole.
 2. Pyridine is less basic than aliphatic amines.
- Q.7** (a) Write a short note on the following. **06**
 i) Skraup Quinoline synthesis
 ii) Knorr pyrrole synthesis
- (b) Explain metal hydride reduction by using different reagents. **05**
 (c) Explain preparation and reactions of Pyridine. **05**
