

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. -SEMESTER- IV • EXAMINATION –WINTER -2022**

**Subject Code: BP401TT****Date: 22/12/2022****Subject Name: Pharmaceutical Organic Chemistry-III****Time: 02:30pm to 05:30pm****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) What do you mean by Racemic modification? Write down different methods of resolution of racemic mixture. **06**
- (b) Explain how Pyrrole is both acidic as well as basic. **05**
- (c) Give the biological and medicinal significance of Furan derivatives. **05**
- Q.2** (a) Give two methods of synthesis of these followings: **06**  
 i) Imidazole ii) Thiophene iii) Furan.
- (b) Write down the various reactions of chiral molecules. **05**
- (c) Write the chemical preparation and reactions of Pyridine. **05**
- Q.3** (a) Write a short note on Birch Reduction with its mechanism. **06**
- (b) Enlist the different methods to determine the configuration of geometrical isomers. **05**
- (c) Write a short note on Relative Configuration. Give an example of it. **05**
- Q.4** (a) Discuss the following: **06**  
 i. Fischer Indole synthesis  
 ii. Paal-Knorr synthesis of Pyrrole.
- (b) Give detail stereoisomerism of compounds which do not have chiral center. **05**
- (c) What do you mean by conformation? Write in detail conformation of butane. **05**
- Q.5** (a) Draw the structure of the followings: **06**  
 1H- Azepine  
 Acridine  
 3-imidazoline  
 1,3- diazine  
 1,2- oxazole  
 Pyrrolo [2,3-b] indole.
- (b) Write a short note on Conformation of cyclohexane. **05**
- (c) Describe the various methods to draw an enantiomers with suitable example. **05**
- Q. 6** (a) Write short note on these followings: **06**  
 i. Chichibabin reaction  
 ii. Skraup synthesis
- (b) Write down the various rules of CIP system. Give suitable example of it. **05**
- (c) What do you mean by optical activity? Describe the conditions for optical activity. **05**
- Q.7** (a) Write a short note on stereoselective and stereospecific reaction along with example. **06**
- (b) Write the chemical Preparation and reactions of Pyrazole. **05**
- (c) Describe in detail metal hydride reduction with suitable examples. **05**