

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER-4 • EXAMINATION – SUMMER - 2021

Subject Code: BP401TT

Date:03/08/2021

Subject Name: PHARMACEUTICAL ORGANIC CHEMISTRY-III

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.**

- Q.1 (a)** Define following terms. **06**
- | | |
|--------------------------|--------------------|
| 1) Enantiomers | 4) Atropisomers |
| 2) Conformational isomer | 5) Diastereoisomer |
| 3) Heterocyclic compound | 6) Chirality |
- (b)** Write in detail about Resolution of Racemic mixture. **05**
- (c)** What are Stereospecific and Stereoselective reactions? Explain in detail. **05**
- Q.2 (a)** Explain in detail about Geometric isomerism with suitable examples and describe method of determination of configuration of geometrical isomers. **06**
- (b)** Describe Conformational isomerism of Cyclohexane. **05**
- (c)** Write in detail about Stereochemistry of Biphenyl compounds. **05**
- Q.3 (a)** Write in detail about methods of preparation of Pyrrole. **06**
- (b)** Justify followings **05**
1. Thiophene is more aromatic than Pyrrole and Furan.
 2. Pyridine is more basic than Pyrimidine.
- (c)** Draw structure of following heterocyclic rings. **05**
- | | | |
|---------------|-----------------|---------------|
| 1. Piperazine | 3. Isoquinoline | 5. Piperidine |
| 2. Pyrazine | 4. Quinoxaline | |
- Q.4 (a)** Give different synthetic methods of Pyrimidine in detail. **06**
- (b)** Give application of Purine compounds in Pharmacy in detail. **05**
- (c)** Write in detail about reactions of Pyrrole. **05**
- Q.5 (a)** Describe Conformational isomerism of n-Butane **06**
- (b)** Write a detailed note on Asymmetric synthesis. **05**
- (c)** Describe Sequence rule with example for nomenclature of Optical isomers. **05**
- Q. 6 (a)** Explain Clemmensen reduction in detail. **06**
- (b)** Give synthetic methods of Thiazole in detail. **05**
- (c)** Explain Oppenauer-oxidation reaction in detail. **05**
- Q.7 (a)** Describe Fischer indole synthesis and give medicinal importance of Indole. **06**
- (b)** Give different reactions of Chiral molecules. **05**
- (c)** Write in detail about requirements to possess optical activity for a molecule. **05**
