

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph.- SEMESTER-IV • EXAMINATION – WINTER -2021

Subject Code: BP401TT**Date: 23/02/2022****Subject Name: Pharmaceutical Organic Chemistry-III****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.

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| Q.1 | (a) | Discuss various methods for the synthesis of isoquinoline | 06 |
| | (b) | Write a note on Birch Reduction. | 05 |
| | (c) | Write various methods for the synthesis of indole and discuss Fischer indole synthesis with mechanism | 05 |
| Q.2 | (a) | Define following terms: 1. Optical activity 2. Enantiomers 3. Meso compound | 06 |
| | (b) | Discuss various methods for the synthesis of pyrimidine | 05 |
| | (c) | Describe Schmidt Rearrangement | 05 |
| Q.3 | (a) | Comments on the following
1. Thiophene is aromatic
2. Electrophilic substitution takes place at 2-position in Pyrrole
3. Furan undergoes Diels Alder reaction | 06 |
| | (b) | Differentiate Stereospecific and Stereoselective reactions | 05 |
| | (c) | Discuss physical and chemical properties of pyrazole | 05 |
| Q.4 | (a) | Write methods for the preparation of thiazole | 06 |
| | (b) | Discuss the comparative basicity of Pyrrole, Pyridine and Aliphatic amines. | 05 |
| | (c) | Write methods for the preparation of thiophene | 05 |
| Q.5 | (a) | Write reactions of furan in detail | 06 |
| | (b) | Explain R and S configuration with example. | 05 |
| | (c) | Discuss any two methods for the synthesis of imidazole | 05 |
| Q.6 | (a) | Write any two methods for the preparation of Quinoline | 06 |
| | (b) | Discuss atropisomerism for biphenyls | 05 |
| | (c) | Describe any one synthesis of purine and medicinal uses of purine | 05 |
| Q.7 | (a) | What is resolution? Enlist different methods for resolution of racemic mixture. Explain Conversion to Diastereomers method in detail. | 06 |
| | (b) | Write structures of the following
1) 2-Methyl thiophene 2) Furfural 3) Cis 2-butene
4) Oxazole 5) 2- Bromo Pyridine | 05 |
| | (c) | Define conformational isomers. Write a note on conformational isomerism of Cyclohexane | 05 |
