

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 4 EXAMINATION – SUMMER-2025

Subject Code: BP401TT

Date: 29 - 05 - 2025

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.

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| Q.1 | (a) What is racemic mixture? Explain various methods for resolution of it. | 06 |
| | (b) Draw all possible conformers of cyclohexane and explain its stability. | 05 |
| | (c) Explain the stereochemistry of biphenyl and atropisomerism. | 05 |
| Q.2 | (a) What are geometric isomerism? Explain cis, trans and syn-anti nomenclature. | 06 |
| | (b) Differentiate between stereospecific and stereoselective reactions. | 05 |
| | (c) Define: Optical activity, enantiomerism and mesoisomerism. | 05 |
| Q.3 | (a) What are heterocycles? Give structure of Furan, Thiophene and Pyridine. | 06 |
| | (b) Give any two method for synthesis of Furan. | 05 |
| | (c) Explain the aromaticity of furan, thiophene and pyrrole. | 05 |
| Q.4 | (a) Give structure and uses of Pyrimidine, Indole and Quinoline. | 06 |
| | (b) Explain the reactivity of imidazole and give its two reactions. | 05 |
| | (c) Give reaction and mechanism of Fischer Indole synthesis. | 05 |
| Q.5 | (a) Explain chemical properties of Pyridine and give any two method to prepare it. | 06 |
| | (b) Give structure and uses of Acridine, Purine and Azepines. | 05 |
| | (c) Write any three reactions of thiazole. | 05 |
| Q. 6 | (a) Explain about sequence rule in to assign configuration. | 06 |
| | (b) Write a note on Asymmetric synthesis. | 05 |
| | (c) Explain R and S configuration with example. | 05 |
| Q.7 | (a) What is Wolff Kishner reduction? Write its mechanism and importance. | 06 |
| | (b) Write a short note Beckmanns rearrangement reaction. | 05 |
| | (c) Describe Claisen-Schmidt condensation. | 05 |
