

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 4 EXAMINATION – WINTER -2019

Subject Code: BP401TT

Date: 16-12-2019

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.

- Q.1** (a) What is racemic modification? Enlist different methods of resolution of racemic modifications and explain any one method in detail. 06
- (b) Differentiate Enantiomers & diastereomers. 05
- (c) Give general method of preparation & chemical reaction of Pyrrole. 05
- Q.2** (a) Give the structure and numbering of following: i) Furan ii) Oxazole iii) Pyridine iv) Thiazole v) Isoquinoline vi) Indole 06
- (b) Give two methods of synthesis and two reactions of any two of the following heterocycles: 1) Furan 2) Thiophene 05
- (c) Give synthesis, reactions and medicinal uses of Oxazole 05
- Q.3** (a) How will you synthesize Quinoline and Isoquinoline? Write reaction mechanism of it. 06
- (b) Give synthesis and medicinal uses of Pyrimidine and Purine, 05
- (c) Give synthesis, reactions and medicinal uses of Acridine 05
- Q.4** (a) What is configuration and conformation? Explain with suitable examples. Write in brief about Atropisomerism. 06
- (b) Assign R & S configuration for following 05
- (a)

(b)

(c)
- (c) Give synthesis, reactions and medicinal uses of Indole 05
- Q.5** (a) Add a note on Clemmensen reduction, Birch reduction 06
- (b) Define conformations. What are the different conformations of Cyclohexane? Which one is more stable? Why? 05
- (c) Answer the following (Any Two): 05
- 1) Why thiophene is more stable and more aromatic than pyrrole and furan?
 - 2) Why pyridine undergoes electrophilic substitution at β -position?
 - 3) Why pyrrole is weak base than pyridine?
- Q.6** (a) Explain Oppenauer-oxidation and Dakin reaction 06
- (b) Write in brief conformational analysis of n-Butane 05
- (c) Note on Beckmanns rearrangement & Metal hydride reduction 05
- Q.7** (a) Comment: 06
1. Electrophilic substitution takes place at 2-position in Pyrrole.
 2. Pyrrole is more aromatic than furan.
 3. Pyridine is more basic than pyrrole.
- (b) Give at least one preparation & one chemical reaction of i) Pyrazole ii) Imidazole 05
- (c) Give reaction involved in Schmidt rearrangement & Wolff Kishner reduction 05
