Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– 4 EXAMINATION – WINTER -2019

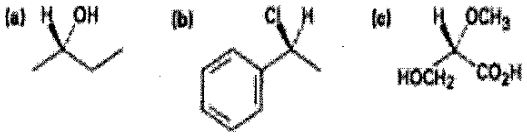
Subject Code: BP401TT **Date: 16-12-2019**

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**
	(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 Cylcohexane? Which one is more stable? Why?	**05**
	(c)	Answer the following (Any Two): 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?	**05**
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: 1. Electrophilic substitution takes place at 2-position in Pyrrole. 2. Pyrrole is more aromatic than furan. 3. Pyridine is more basic than pyrrole.	**06**
	(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**

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