Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Ph. SEMESTER–IV • EXAMINATION – SUMMER -2020

Subject Code: BP401TT **Date: 26-10-2020**

Subject Name: Pharmaceutical Organic Chemistry III

Time: 10:30 AM TO 1:30 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)**	Draw structure of the following compounds. i) cis-3,4-dimethyl-3-heptene ii) trans-1,3-dichlorocyclobutane iii) (R)-2-butanol iv) (RS)-2-chloro, 3-pentanol v) cis- 2-chloro,3-bromo butene vi) (S)-3-chlorohexane	**06**
	(b)	Write note on stereochemistry of Biphenyls.	**05**
	(c)	What is resolution? Explain the methods for racemic modification into enantiomers.	**05**
Q.2	**(a)**	Define the following terms: (i) Configuration (ii) Geometric isomerism (iii) Enantiomer (iv) Meso isomer (v) Chiral center (iv) Racemic mixture	**06**
	(b)	Explain the reactions of chiral molecule.	**05**
	(c)	Explain Clemmensen reduction with mechanism.	**05**
Q.3	**(a)**	Explain partial and absolute asymmetric synthesis.	**06**
	(b)	Explain diastereomers and their properties with suitable example.	**05**
	(c)	Write in brief conformational analysis of n-Butane.	**05**
Q.4	**(a)**	Discuss the Sequence rule to assign configuration with example.	**06**
	(b)	Explain the stereospecific and stereoselective reactions.	**05**
	(c)	Give methods of determination of configuration of geometrical isomers.	**05**
Q.5	**(a)**	Give the structure of: (1) Indole (2) Pyridine (3) Isoquinoline (4) Imidazole (5) Acridine (6) Thiophene	**06**
	(b)	Explain Beckmann rearrangement reaction with mechanism.	**05**
	(c)	Give synthesis and medicinal uses of Pyrimidine.	**05**
Q. 6	**(a)**	Give THREE reactions of the following: (1) Furan (2) Quinoline	**06**
	(b)	Write about Oppenauer oxidation.	**05**
	(c)	Comment on the following 1. Pyridine is more basic than Pyrrole. 2. Pyridine is less basic than aliphatic amines.	**05**
Q.7	**(a)**	Write a short note on the following. i) Skraup Quinoline synthesis ii) Knorr pyrrole synthesis	**06**
	(b)	Explain metal hydride reduction by using different reagents.	**05**
	(c)	Explain preparation and reactions of Pyridine.	**05**

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