Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2240004 Date: 19-12-2019

Subject Name: Pharmaceutical Chemistry – VI (Organic Chemistry – II)

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)**	Define the following terms: (i) Optical activity (ii) Geometric isomerism (iii) Enantiomer (iv) Diastereomer (v) Chiral center (iv) Specific rotation	**06**
	(b)	Write note on stereochemistry of Biphenyls and Spirans.	**05**
	(c)	What is resolution? Explain the methods for racemic modification in to enantiomers.	**05**
Q.2	**(a)**	What is green chemistry? What are the approaches to achieve it? Discuss it suitable example.	**06**
	(b)	Give methods of preparation of ketones.	**05**
	(c)	Explain cannizaro and cross cannizaro reaction with mechanism.	**05**
Q.3	**(a)**	Give preparation and reactions of diazonium salt.	**06**
	(b)	Explain diastereomers and their properties with suitable example.	**05**
	(c)	What are nano particles ? Discuss uses of nano particles in Pharmacy.	**05**
Q.4	**(a)**	Discuss the Sequence rule to assign configuration with example.	**06**
	(b)	What are phenols? Give methods of preparation of Phenols.	**05**
	(c)	Write note on Microwave synthesis and its application.	**05**
Q.5	**(a)**	Give the structure of: (1) Furan (2) Pyridine (3) Pyrazole (4) Pyridazine (5) Isoxazole	**06**
	(b)	Define Nucleophilic aromatic substitution reaction. Explain the Benzyne Mechanism.	**05**
	(c)	Explain Hofmann degradation of amides.	**05**
Q. 6	**(a)**	Explain the following reaction: (i) Kolbe reaction (ii) Fries rearrangement	**06**
	(b)	Give THREE reactions of the following: (1) Pyrrole (2) Pyrimidine	**05**
	(c)	Give methods of preparation of carboxylic acid.	**05**
Q.7	**(a)**	What are carboxylic acid derivative? Explain preparation and reaction of any one carboxylic acid derivative.	**06**
	(b)	Write a short note on the following. i) Michael addition reaction ii) Knorr pyrrole synthesis	**05**
	(c)	Explain preparation and reactions of Pyridine.	**05**

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