Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject Code: 2240004 Date: 23-05-2014

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

Time: 02:30 pm - 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: (1) Enantiomer (2) Configuration (3) Racemic modification (4) Specific rotation (5) Chiral center (6) Meso compound	**06**
	(b)	Give TWO reactions of the following: (1) Pyridine (2) Imidazole (3) Quinoline (4) Thiophene	**05**
	(c)	Give the application of Nanochemistry and Microwave synthesis.	**05**
Q.2	**(a)**	Write short note on Perkin reaction.	**06**
	(b)	Discuss Cannizzaro reaction with suitable examples.	**05**
	(c)	Comments on the following (any two) 1. Pyrrole is more basic than Furan. 2. Electrophilic substitution reaction in Furan occurs at 2nd and 5th position. 3. Pyridine is less basic than aliphatic amines.	**05**
Q.3	**(a)**	How is Phenol prepared? Give any three methods.	**06**
	(b)	Write a note on Aldol condensation.	**05**
	(c)	Give reactions of carboxylic acids.	**05**
Q.4	**(a)**	Explain the following synthesis with reaction mechanism. 1. Fischer's Indole synthesis. 2. Skraup Quinoline synthesis.	**06**
	(b)	Define Stereoselective and Stereospecific reactions. Explain with suitable examples.	**05**
	(c)	Write a note on Riemer –Tiemann reaction.	**05**
Q.5	**(a)**	What is green chemistry? What are the approaches to achieve it? Discuss it suitable example	**06**
	(b)	Explain enatiomer and diastereomer with one common example	**05**
	(c)	What is Diazonium salt? Give their preparation and reactions	**05**
Q. 6	**(a)**	Write a note on Nucleophilic aromatic substitution mechanism.	**06**
	(b)	Explain preparation and reactions of imidazole.	**05**
	(c)	Why it is important to resolve racemic mixture? What are the methods used to resolve it?	**05**
Q.7	**(a)**	Give general methods of preparation and reaction of aromatic amines.	**06**
	(b)	Give the structure of: (1) Imidazole (2) Indole (3) Isoquinoline (4) Pyrazine (5) Isoxazole	**05**
	(c)	α, β-Unsaturated carbonyl compounds undergo nucleophilic and electrophilic addition reactions on unsaturated bond. How? Discuss with suitable example and mechanism.	**05**

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