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 2^{nd} and 5^{th} 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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