Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – 4- EXAMINATION –WINTER - 2018

Subject Code:2240004 Date: 10/12/2018

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)**	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)	Enumerate different derivatives of carboxylic acids. How are they prepared from carboxylic acids?	**05**
Q.2	**(a)**	Comment on following. 1. Pyridine is less basic than aliphatic amines. 2. Thiophene is more basic than furan. 3. Trichloroacetic acid is more acidic than acetic acid.	**06**
	(b)	Explain Hell Wolhard Zelinsky reaction with mechanism.	**05**
	(c)	Write a note on Riemer Tiemann reaction.	**05**
Q.3	**(a)**	Explain following terms giving suitable examples. 1. Configuration, 2. Chiral centre, 3. Mesomer, 4. Resolution, 5. Optical rotation, 6. Geometric isomers	**06**
	(b)	How is phenol prepared? Give any two methods.	**05**
	(c)	Write a note on conformational isomers of cyclohexane.	**05**
Q.4	**(a)**	Give 1 preparation and 1 reaction of Thiophene, pyrrole, pyridine.	**06**
	(b)	Enumerate methods for preparation of carboxylic acid. Explain any two methods from them.	**05**
	(c)	What is diazonium salt? Give their preparation and reactions.	**05**
Q.5	**(a)**	Give structure of following compounds. 1. Pyrazine 2. Furan 3. Isooxazole 4. Pyrimidine 5. Indole 6. Pyridine	**06**
	(b)	Define nucleophilic aromatic substitution reaction. Explain benzyne mechanism.	**05**
	(c)	Write about application of nanochemistry in pharmacy.	**05**
Q. 6	**(a)**	Define green chemistry. Explain the principles of green chemistry with suitable examples.	**06**
	(b)	Write reaction and mechanism of aldol condensation.	**05**
	(c)	Give structure of following compounds. 1. Phenyl acetic acid, 2. para toluidine, 3. Benzoyl chloride 4. Malonic acid, 5. Phthalic anhydride.	**05**
Q.7	**(a)**	Describe the principle of microwave synthesis. Explain applications of microwave synthesis in chemistry.	**06**
	(b)	Define α,β-unsaturated carbonyl compounds. Explain Michael addition reaction in detail.	**05**
	(c)	Explain Hoffmann degradation of amide in detail.	**05**

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