Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

B. Pharm. - SEMESTER - IV • EXAMINATION - WINTER • 2016

Subj	ject	Code: 240003 Date: 24-10-2016	
-	e: 10	Name: Pharmaceutical Chemistry - IV 0:30 am - 01:30 pm Total Marks: 80	
	1. 2.	Attempt any five questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	Define conformational isomers. What are the different possible conformations	06
	(b)	of 1,2- dibromoethane? Which one is more stable? Why? Explain the sequences rule to assign R and S configuration. Draw the possible stereoisomer of 2,3-dichlorohexane.	05
	<b>(c)</b>	Explain stereoselective and stereospecific reaction.	05
Q.2	(a)	Define racemic mixture. Give different method of resolution of racemic mixture.	06
	(b) (c)	What is polynuclear aromatic compound? Give the chemistry of Naphthalene. What are Grignard reagents? Discuss its utility in organic chemistry with specific example.	05 05
Q.3	(a)	How phenols differ from alcohols? Explain the preparation of Phenol in detail.	06
	<b>(b)</b>	Explain the role of reagents.  a) FeCl <sub>3</sub> in halogenations of benzene b) H <sub>2</sub> SO <sub>4</sub> in nitration of benzene	05
	(c)	Give the structures of Quinol, Pyragallol, o-Xylene, Resorcinol and Phenanthrene.	05
Q.4	(a)	Give conversion of following:  a) Aspirin from Phenol  b) Salicylaldehyde from phenol	06
	<b>(b)</b>		05
	(c)	Comment on each of the following statements:  (i) Methyl amine is stronger base than ammonia.  (ii) Phenol is weak acid.  (iii) Benzene is not cyclohexatriene.	05
Q.5	(a) (b)	Write a note on Sandmeyer reaction and Hofmann degradation of Amide. What are carbonyl compounds? Explain nucleophilic addition reaction of carbonyl compounds.	06 05
	(c)	Explain Cannizaro reaction and Aldol condensation reaction with mechanism.	05

Q. 6	(a)	What are amines? How are they classified? Discuss any three general method of preparation and three reactions of amines.	06
	<b>(b)</b>	Explain the basicity of amines.	05
	(c)	Discuss various preparation of carboxylic acid. How diethyl malonate is useful in the synthesis of various carboxylic acids?	05
Q.7 (a	(a)	How microwaves are useful in organic synthesis? Give its applications and limitations with suitable examples.	06
	<b>(b)</b>	What is conjugated system? Explain the Michael addition reaction.	05
	(c)	What do you understand regarding the Nanochemistry? How this technique is involved in organic synthesis?	05

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