Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2240004 Date: 15-05-2019

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

Time: 10:30 AM TO 01:30 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. **06**

i. Enantiomer
ii. Diastereomer
iii. Atropisomers
iv. Absolute configuration
v. Racemic mixture
vi. Geometric isomers

(b) Write a note on resolution of racemic mixture. **05**

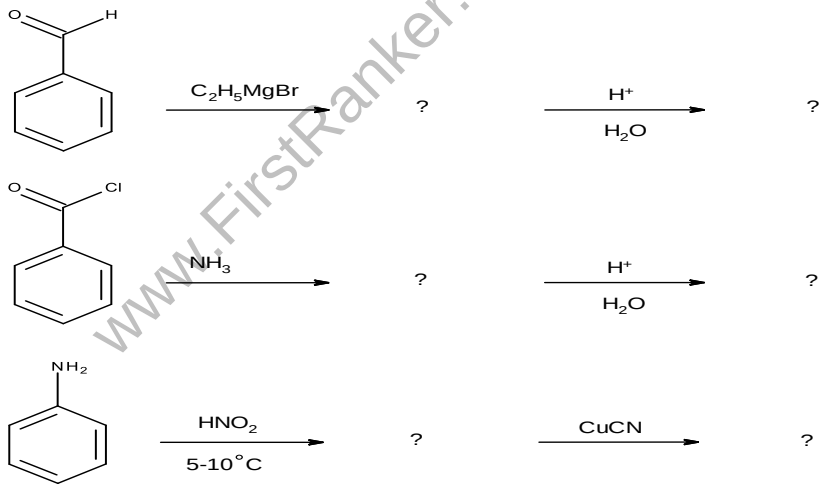
(c) Explain in brief about stereochemistry of biphenyls. **05**

Q.2 **(a)** Write a note on Sandmeyer reaction. **06**

(b) write a note on Kolbe reaction. **05**

(c) Explain the synthesis of phenol from cumene. **05**

Q.3 **(a)** Complete the following reactions. **06**

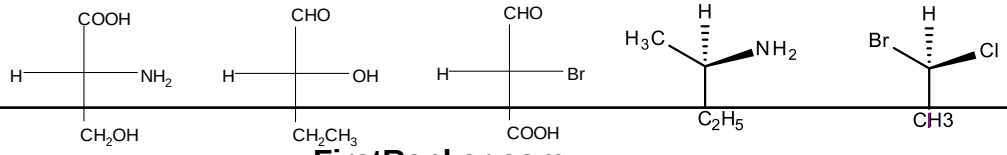


(b) Write a note on Hoffmann degradation of amides. **05**

(c) Write a short note on benzyne mechanism for nucleophilic aromatic substitution. **05**

Q.4 **(a)** Enumerate different methods for preparation of carboxylic acids and explain oxidation reactions to prepare carboxylic acid. **06**

(b) Give the R & S configuration of following compounds. **05**



(c) Write a note on acidity of carboxylic acid and effect of substituents on acidity. **05**

Q.5	**(a)**	Write a note on aldol condensation.	**06**
	(b)	Give the different reactions of carboxylic acids.	**05**
	(c)	Write down the properties and preparations of indole.	**05**
Q. 6	**(a)**	Give the preparation and properties of Pyridine.	**06**
	(b)	Give any two methods for preparation of quinoline.	**05**
	(c)	Write a note on microwave synthesis.	**05**
Q.7	**(a)**	Answer the following questions. i. Justify: imidazole is basic. ii. Justify: furan is aromatic.	**06**
	(b)	Give the structure of following ring systems. i. Thiophene ii. Isoquinoline iii. Pyrimidine iv. Oxazole v. Isothiazole	**05**
	(c)	Write in detail about principles of green chemistry.	**05**

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