

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

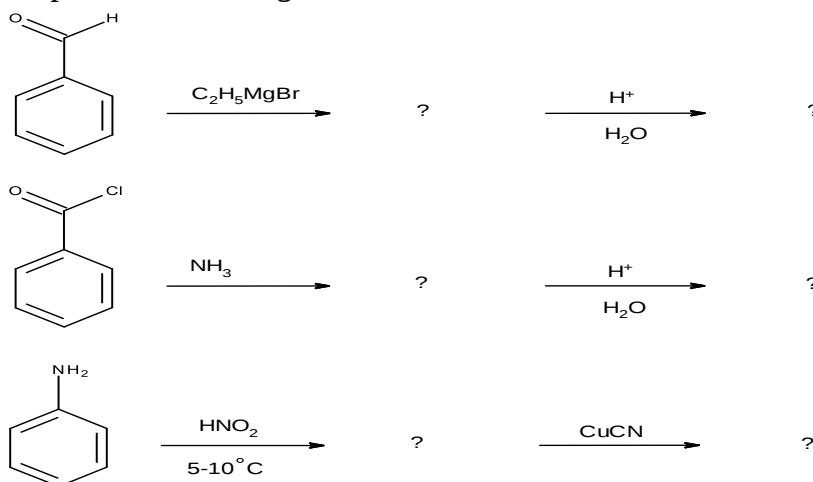
(c) Explain in brief about stereochemistry of biphenyls. 05

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

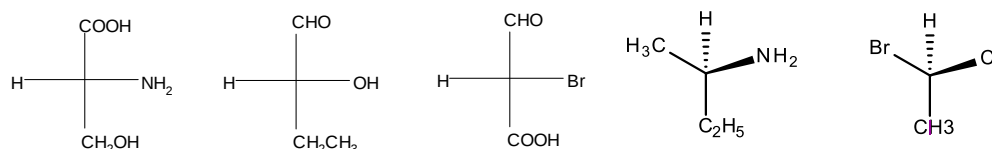


(b) Write a note on Hoffmann degradation of amides. 05

(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

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| 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. | 06 |
| | i. Justify: imidazole is basic. | |
| | ii. Justify: furan is aromatic. | |
| | (b) Give the structure of following ring systems. | 05 |
| | i. Thiophene | |
| | ii. Isoquinoline | |
| | iii. Pyrimidine | |
| | iv. Oxazole | |
| | v. Isothiazole | |
| | (c) Write in detail about principles of green chemistry. | 05 |
