

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.

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|-------------|---|-----------|
| 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 enantiomer 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 |
