

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – IV • EXAMINATION – WINTER • 2014

Subject Code: 2240004**Date: 29-12-2014****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.

- Q.1** (a) Give the IUPAC name of following. **06**
1) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{Cl})\text{COOH}$ 2) $\text{CH}_3\text{CH}_2\text{COCH}(\text{CH}_3)_2$
3) $\text{CH}_3\text{CH}_2\text{BrCHO}$ 4) $\text{CH}_3\text{CH}_2\text{CH}_2\text{ClCH}_2\text{NHCH}_3$
5) $\text{C}_6\text{H}_5\text{CONH}_2$ 6) $\text{CH}_3\text{CH}=\text{CHCHO}$
- (b) Write brief note on Hofmann degradation of amides. **05**
- (c) What is resolution? Explain the methods for racemic modification in to enantiomers. **05**
- Q.2** (a) What do you mean by Green Chemistry? Give its applications. **06**
(b) Write note on preparation methods of aldehydes. **05**
(c) Give difference between cannizaro reaction and aldol condensation? Write a mechanism for aldol condensation. **05**
- Q.3** (a) Give preparation and reaction of diazonium salt. **06**
(b) What are nano particles ? Discuss uses of nano particles in Pharmacy. **05**
(c) Write a short note on Microwave synthesis. **05**
- Q.4** (a) Discuss the Sequence rule in detail to assign configuration. **06**
(b) What are phenols? How they differ from alcohols? Write a note on Reimer-Tiemann reaction. **05**
(c) Define the following terms: **05**
(i) Specific rotation
(ii) Diastereomer
(iii) Meso compound
(iv) Enantiomer
(v) Chiral center
- Q.5** (a) Give the structure of: **06**
(1) Pyrrole (2) Pyridine (3) Quinoline (4) Pyridazine
(5) 3-methyloxazole (6) Indole
(b) Define Nucleophilic aromatic substitution reaction. **05**
Explain the Benzyne Mechanism.
(c) Comment on the following **05**
1. Pyridine is more basic than Pyrrole.
2. Pyridine is less basic than aliphatic amines.
- Q. 6** (a) Explain the following reaction: **06**
(i) Kolbe reaction
(ii) Fries rearrangement
(b) Give TWO reactions of the following: **05**
(1) Furan (2) Thiazole (3) Pyrrol (4) Pyrimidine (5) Pyridine

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| (c) | Give structure and IUPAC name of following | 05 |
| | 1. Salicylic acid | |
| | 2. O-Phenylene diamine | |
| | 3. p-Cresol | |
| | 4. o-chlro, p-amino benzoic acid | |
| | 5. Ethyl-isopropylamine | |
| Q.7 | (a) Discuss the conversion of carboxylic acid to their corresponding chloride, esters and amide derivative. | 06 |
| | (b) Write a short note on the following. | 05 |
| | i) Stereochemistry of Biphenyl | |
| | ii) Stereochemistry of Allenes | |
| | (c) Explain preparation and reactions of imidazole. | 05 |
