

## GUJARAT TECHNOLOGICAL UNIVERSITY

### B. Pharm. – SEMESTER – IV • EXAMINATION – WINTER • 2015

**Subject Code: 240003**

**Date: 07-01-2016**

**Subject Name: Pharmaceutical Chemistry - IV**

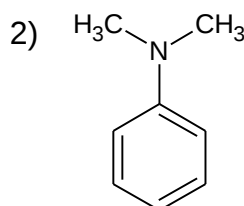
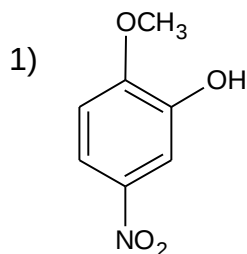
**Time: 02:30 pm - 05:30 pm**

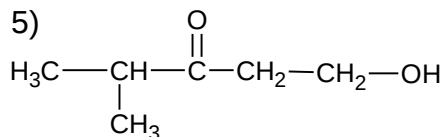
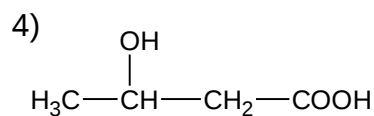
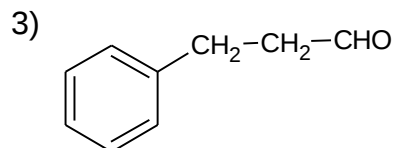
**Total Marks: 80**

**Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a) Define Conformation .Discuss Potential energy Profile of all conformation for n-butane. **06**
  - (b) Draw the Fisher projection of all possible stereoisomer for 2,3-butanediol. **05**
  - (c) Give a brief account on Stereochemistry of Biphenyl and Spiran. **05**
- Q.2**
- (a) What is aromaticity? Discuss nitration of Benzene with mechanism. **06**
  - (b) Write a note on Haworth synthesis of Naphthalene. **05**
  - (c) Explain following Statement: **05**
    - i) Chloroacetic acid is stronger than Acetic acid.
    - ii) Aniline does not undergo Friedel craft alkylation.
    - iii) Benzene undergoes electrophilic substitution reaction.
    - iv) O-nitrophenol has low b.p. than p-nitro phenol.
    - v) Aniline is less basic than N-methyl aniline.
- Q.3**
- (a) Give any 3 methods of preparation of following : **06**
    - i) Aldehyde
    - ii) Amine
  - (b) Write on Gattermann Reaction with mechanism. **05**
  - (c) Discuss Hell-Volhard-Zelinsky reaction with mechanism. **05**
- Q.4**
- (a) Define following : **06**
    - i) Optical activity
    - ii) Chirality
    - iii) Arene
    - iv) Meso compound
    - v)  $\alpha$ - hydrogen
    - vi) configuration
  - (b) Give informative note on mechanism for Diels alder reaction. **05**
  - (c) Write reactions of phenol. **05**
- Q.5**
- (a) Explain details mechanism involved in aldol condensation & Perkin reaction. **06**
  - (b) Give methods of preparation for carboxylic acid. **05**
  - (c) Give the IUPAC name of following : **05**





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|-------------|-----|-----------------------------------------------------------------|-----------|
| <b>Q. 6</b> | (a) | Describe the principle and applications of microwave synthesis. | <b>06</b> |
|             | (b) | Write note on green chemistry.                                  | <b>05</b> |
|             | (c) | Explain enantiomer & diastereomer with one common example.      | <b>05</b> |
| <b>Q.7</b>  | (a) | Briefly discuss Friedel craft reactions with mechanism.         | <b>06</b> |
|             | (b) | Write chemistry of anthracene.                                  | <b>05</b> |
|             | (c) | Discuss mechanism of Reimer-Tiemann reaction.                   | <b>05</b> |

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