

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM - SEMESTER- 3 EXAMINATION – WINTER -2019**

**Subject Code: 2230004****Date: 25-11-2019****Subject Name: Pharmaceutical Chemistry-IV (Organic Chemistry – I)****Time: 10:30AM TO 01:30PM****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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|-------------|-----|---|-----------|
| <b>Q.1</b>  | (a) | Explain Different types of bond with example of each one.                               | <b>06</b> |
|             | (b) | Define Carbocation. Write down the generation and reactions of Carbocation.             | <b>05</b> |
|             | (c) | Write a note on electronegativity and Polarity.   | <b>05</b> |
| <b>Q.2</b>  | (a) | Discuss in detail how Grignard reagent is helpful for synthesis of alcohol and alkanes. | <b>06</b> |
|             | (b) | Write a descriptive note on Molecular Orbital Theory.                                   | <b>05</b> |
|             | (c) | How will you distinguish between primary, secondary and tertiary alcohol.               | <b>05</b> |
| <b>Q.3</b>  | (a) | Explain the Principle of Dumas Method and Kjeldahl method.                              | <b>06</b> |
|             | (b) | Define Hybridization. Explain $sp^2$ hybridization in detail.                           | <b>05</b> |
|             | (c) | Discuss the chemical preparation and reactions of ether.                                | <b>05</b> |
| <b>Q.4</b>  | (a) | Discuss the Haworth Synthesis of Anthracene.  | <b>06</b> |
|             | (b) | Explain halogenation of methane with its mechanism.                                     | <b>05</b> |
|             | (c) | Give two methods of preparation of alkene and alkyl halide.                             | <b>05</b> |
| <b>Q.5</b>  | (a) | Give detailed notes on Aldol Condensation reaction with its mechanism.                  | <b>06</b> |
|             | (b) | Write short note on Resonance.  | <b>05</b> |
|             | (c) | Write down in detail on Friedal Craft alkylation reaction in detail.                    | <b>05</b> |
| <b>Q. 6</b> | (a) | Write a note on determination of molecular weight of volatile substances.               | <b>06</b> |
|             | (b) | Discuss quantitative analysis of Nitrogen element.                                      | <b>05</b> |
|             | (c) | State Saytzeff's orientation and Kharash Peroxide effect with examples.                 | <b>05</b> |
| <b>Q.7</b>  | (a) | Write down the methods of preparation and reactions of Diene.                           | <b>06</b> |
|             | (b) | Write a note on Bonding and Anti-bonding orbitals.                                      | <b>05</b> |
|             | (c) | Explain the Intermolecular and Intramolecular forces.                                   | <b>05</b> |

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