

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. SEMESTER-3 • EXAMINATION – SUMMER -2021**

**Subject Code: 2230004****Date: 04/09/2021****Subject Name: PHARMACEUTICAL CHEMISTRY-IV****Time: 02:30PM to 05:30PM****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) Differentiate between Unimolecular and Bimolecular elimination reaction with Example.             | <b>06</b> |
|            | (b) Write short note on Molecular orbital theory.   | <b>05</b> |
|            | (c) Define Nitrenes. Discuss the structure and reactions of Nitrenes.                                 | <b>05</b> |
| <b>Q.2</b> | (a) Explain the principle of Dumas method and Kjeldahl's method in detail.                            | <b>06</b> |
|            | (b) Discuss the stability and reactions of Conjugated dienes.   | <b>05</b> |
|            | (c) Give the preparations and reactions of ethers.  | <b>05</b> |
| <b>Q.3</b> | (a) Write a note on bonding and anti-bonding orbitals.  | <b>06</b> |
|            | (b) List out reactions of alkyl halides and explain carbylamines reaction.                            | <b>05</b> |
|            | (c) Write a note on Electrophilic substitution reaction in Naphthalene.                               | <b>05</b> |
| <b>Q.4</b> | (a) Write down general methods of preparations of Alcohols.   | <b>06</b> |
|            | (b) What is symmetrical and unsymmetrical ether? Write a brief note William son's Synthesis of ether? | <b>05</b> |
|            | (c) Explain with examples about hydrogen bonding and London force.                                    | <b>05</b> |
| <b>Q.5</b> | (a) Write Reactions of naphthalene and anthracene.  | <b>06</b> |
|            | (b) Explain preparation and reaction of Grignard reagent.   | <b>05</b> |
|            | (c) Explain Huckel's rule in detail.  | <b>05</b> |
| <b>Q.6</b> | (a) Give reactions of alkynes with mechanism.   | <b>06</b> |
|            | (b) Explain effect of neighbouring group on chemical reaction   | <b>05</b> |
|            | (c) Explain electro negativity, polarity of bonds and polarity of molecules.                          | <b>05</b> |
| <b>Q.7</b> | (a) Write detail short notes on Friedel-crafts alkylation reaction in detail.                         | <b>06</b> |
|            | (b) Write short notes on free radical chain reaction in alkane.                                       | <b>05</b> |
|            | (c) State Saytzeff's orientation and Markovnikov rules with examples.                                 | <b>05</b> |

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