

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – III • EXAMINATION – SUMMER • 2014

Subject Code: 2230004

Date: 10-06-2014

Subject Name: Pharmaceutical Chemistry-IV(Organic Chemistry – I)

Time: 02:30 pm To 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) Explain the principle of Dumas method and Kjeldahl's method in detail. | 06 |
| | (b) Short note on Molecular orbital theory. | 05 |
| | (c) Explain the Intermolecular and Intramolecular forces. | 05 |
| Q.2 | (a) Explain Hyperconjugation and Resonance with example. | 06 |
| | (b) Discuss bonding and antibonding orbitals in detail. | 05 |
| | (c) Short note on Bond dissociation energy. | 05 |
| Q.3 | (a) Write note on Carbocations and discuss its stability with examples. | 06 |
| | (b) Explain electro negativity, polarity of bonds and polarity of molecules. | 05 |
| | (c) Define Nitrenes. Discuss the structure and reactions of Nitrenes. | 05 |
| Q.4 | (a) Differentiate between unimolecular and bimolecular elimination reaction with example. | 06 |
| | (b) Write a note on halogenation of alkane. | 05 |
| | (c) Discuss the stability and reactions of Conjugated dienes | 05 |
| Q.5 | (a) Discuss the mechanism and stereochemistry of S_N1 and S_N2 reaction. | 06 |
| | (b) Write a note on Diels Alder reactions. | 05 |
| | (c) Give reactions of alkynes with mechanism. | 05 |
| Q. 6 | (a) Give structural formula of the following compounds. | 06 |
| | 1) 2,2,3,3 tetramethylpentane | |
| | 2) Cinnamyl alcohol | |
| | 3) Vinyl bromide | |
| | 4) Diallylether | |
| | 5) Cis-4-Methyl-2-Pentene | |
| | 6) Isobutene | |
| | (b) Write the mechanism and limitations of Friedel-Crafts acylation of Benzene. | 05 |
| | (c) Discuss in detail about Grignard reaction for the synthesis of Alkanes and Alcohols. | 05 |
| Q.7 | (a) Give the preparations and reactions of ethers. | 06 |
| | (b) Write a note on Huckel's rule. | 05 |
| | (c) Write a note on Electrophilic substitution reaction in Naphthalene. | 05 |
