

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

Enrolment No: \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. - SEMESTER-3 • EXAMINATION – SUMMER -2018**

**Subject Code: 230003****Date: 09/05/2018****Subject Name: Pharmaceutical Chemistry - III****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.

- Q.1** (a) Method of preparation of Alkene. **06**  
(b) Write a note on carbocation. **05**  
(c) Define: 1) Hyperconjugation 2) Molecular formula 3) Empirical formula **05**  
4) Carbanion 5) Geometrical isomers
- Q.2** (a) Write a note on Kjeldahl's method for Nitrogen estimation. **06**  
(b) Define Hybridization. Explain in detail Hybrid orbitals with examples. **05**  
(c) Explain: Sigmatropic reaction. **05**
- Q.3** (a) Outline difference between SN1 and SN2 reactions of alkyl halides. **06**  
(b) Explain: 1) Aldol condensation 2) Neighbouring group effect **05**  
(c) Give Williamson synthesis of ether. **05**
- Q.4** (a) Define the following: **06**  
1) Markovnikov's rule  
2) Ozonolysis  
3) Peroxide effect  
(b) What are epoxides? Give the methods for preparation of epoxides. **05**  
(c) Explain: Chlorination of Alkane. **05**
- Q.5** (a) Give chemical reactions of the following: 1) Alkylhalides 2) Alkynes 3) Alcohols **06**  
(b) Write a note on Diels Alder reaction. **05**

- (c) Give Structural formula for the following: **05**  
1) Cinnamic acid  
2) Thiourea  
3) 2-methoxypentane  
4) 2- methyl-2-pentene  
5) 1, 4 –hexadiene.
- Q.6** (a) Discuss synthesis of 1°, 2°, 3° alcohol using Grignard reagent with mechanism. **06**  
(b) Write note on Hydrogen bonding. **05**  
(c) Differentiate between BMO and ABMO. **05**
- Q.7** (a) Discuss quantitative estimation of carbon and hydrogen in organic compound. **06**  
(b) Differentiate between E1 and E2 mechanism of elimination. **05**  
(c) Write a note on nitrenes. **05**

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