

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM – SEMESTER – 3- EXAMINATION –WINTER - 2018**

**Subject Code: 230003**

**Date: 14/12/2018**

**Subject Name: Pharmaceutical Chemistry - III**

**Time: 10:30 AM TO 01:30 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) Comment on methods of preparation of alkanes. **06**  
(b) Explain 1) Bond energy 2) Lewis acid 3) Vander walls forces 4) Ionic bond 5) Polarity. **05**  
(c) Write a note on molecular orbital theory. **05**
- Q.2** (a) Enlist the methods used to determine molecular weight of organic compound. Discuss any two in details. **06**  
(b) Write a detailed note on carbocation. **05**  
(c) Enlist the reactions of alcohols. Comment on its reaction with metals. **05**
- Q.3** (a) Write a note on Kjehldahl's method of nitrogen estimation. **06**  
(b) Write a note on Oxo process. **05**  
(c) Write a note on hydroboration oxidation reaction of alkenes. **05**
- Q.4** (a) Give reason : 1) Acetylene is a linear molecule. **06**  
2) Alkyl halides give nucleophilic substitution while aryl halides dont.  
3) Addition reactions of alkenes follows Markownikoff,s rule.  
(b) Write a note on cycloaddition reactions. **05**  
(c) Write a note on crown ethers. **05**
- Q.5** (a) Give the structure of :1) t-butyl ethyl ether 2) iso-pentyl alcohol 3) 3,6-dimethyl-1-octene 4) 4-methyl hept-2-en-5-yn-1-ol 5) 1,3 cyclohexadiene 6) dimethyl acetylene. **06**  
(b) What are dienes? Comment on stability of conjugated dienes. **05**  
(c) Write a note on Williamson's synthesis. **05**
- Q. 6** (a) What are alcohols? Comment on their nomenclature and physical properties. **06**  
(b) Write a note on reactions of epoxides. **05**  
(c) Comment on resonance and hyper-conjugation. **05**
- Q.7** (a) What are alkynes? Comment on method of preparations of alkynes. **06**  
(b) Write a note on sigmatropic reactions **05**  
(c) Define 1) Carbene 2) nitrene 3) hybridization 4) electronegativity 5) covalent bond **05**

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