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## GUJARAT TECHNOLOGICAL UNIVERSITY B.PHARM - SEMESTER - 3 EXAMINATION - SUMMER -2019

Subject Code: 230003 Date: 11-06-2019

**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) (b)	Correct if necessary and justify the following statement. (Any Two) 1. Carbon tetrachloride has dipole moment less than Chloroform. 2. 1-Butanol has boiling point less than 2-Butanol. 3. Ethyne is more acidic than Ethane. Draw the structure of following compounds. 1. 3-Pantene	06
	(c)	<ol> <li>S-Pantene</li> <li>Iso-propyl alcohol</li> <li>4-Methyl-1-hexene</li> <li>Cycloheptane</li> <li>Ethyl methyl ether</li> <li>Write a note on Sigmatropic reaction.</li> </ol>	05
Q.2	(a) (b) (c)	Define Hybrid orbital? Explain SP <sub>2</sub> hybridization in detail.  Discuss in detail about Molecular Orbital Theory.  Discuss (i) Electronegativity and (ii) Polarity of Bond and molecule	06 05 05
Q.3	(a) (b) (c)	Define Carbocation? Explain generation and stability of Carbocation. Write a note on Intermolecular and Intramolecular forces. How Hyperconjugation and Resonance differ from each other? Discuss with examples.	06 05 05
Q.4	(a) (b) (c)	Explain in Brief. (Any Two) 1. Ozonolysis. 2. Markovnikov rule. 3. Peroxide effect. Write a note on Diels Alder reaction. Write a note on Williamson's synthesis of ether.	06 05 05
Q.5	(a) (b) (c)	Explain the mechanism of Halogeanation for alkane. Write a note on Preparation and use of Grignard reagent. Write preparations and reactions of Nitrenes.	06 05 05
Q. 6	(a) (b) (c)	Outline difference between SN1 and SN2 reactions of Alkyl halides. Give general structure, properties and reactions of Dienes. Give general methods for preparation of alkynes.	06 05 05
Q.7	(a)	Explain following terms.  i) Steric effect ii) Homolysis iii) E-Z isomers iv) Electrophile v) Gauche Conformation vi) Inductive effect	06
	(b) (c)	Give brief note on chemistry, preparation and properties of alcohols.  Explain Kjeldahl's method for nitrogen estimation.	05 05