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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)**	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.	**06**
	(b)	Draw the structure of following compounds. 1. 3-Pantene 2. Iso-propyl alcohol 3. 4-Methyl-1-hexene 4. Cycloheptane 5. Ethyl methyl ether	**05**
	(c)	Write a note on Sigmatropic reaction.	**05**
Q.2	**(a)**	Define Hybrid orbital? Explain SP_2 hybridization in detail.	**06**
	(b)	Discuss in detail about Molecular Orbital Theory.	**05**
	(c)	Discuss (i) Electronegativity and (ii) Polarity of Bond and molecule	**05**
Q.3	**(a)**	Define Carbocation? Explain generation and stability of Carbocation.	**06**
	(b)	Write a note on Intermolecular and Intramolecular forces.	**05**
	(c)	How Hyperconjugation and Resonance differ from each other? Discuss with examples.	**05**
Q.4	**(a)**	Explain in Brief. (Any Two) 1. Ozonolysis. 2. Markovnikov rule. 3. Peroxide effect.	**06**
	(b)	Write a note on Diels Alder reaction.	**05**
	(c)	Write a note on Williamson's synthesis of ether.	**05**
Q.5	**(a)**	Explain the mechanism of Halogeanation for alkane.	**06**
	(b)	Write a note on Preparation and use of Grignard reagent.	**05**
	(c)	Write preparations and reactions of Nitrenes.	**05**
Q. 6	**(a)**	Outline difference between SN1 and SN2 reactions of Alkyl halides.	**06**
	(b)	Give general structure, properties and reactions of Dienes.	**05**
	(c)	Give general methods for preparation of alkynes.	**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)	Give brief note on chemistry, preparation and properties of alcohols.	**05**
	(c)	Explain Kjeldahl's method for nitrogen estimation.	**05**

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