Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – III • EXAMINATION – WINTER • 2016

Subject Code: 230003 **Date: 03-12-2016**

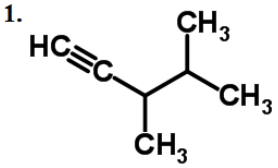
Subject Name: Pharmaceutical Chemistry - III

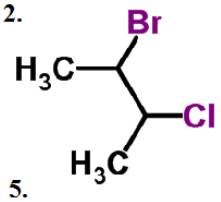
Time: 02:30 pm - 05:00 pm **Total Marks: 80**

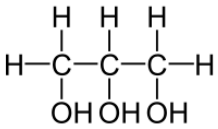
Instructions:

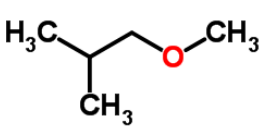
1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

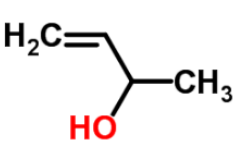
Q.1	**(a)**	Enumerate method for the estimation of Nitrogen and explain any one in detail.	**06**
	(b)	Define Hybrid orbital? Explain SP^2 hybridization in detail.	**05**
	(c)	Define Carbocation? Explain generation and stability of Carbocation.	**05**
Q.2	**(a)**	Write preparations and reactions of Nitrenes.	**06**
	(b)	Draw the structure of following compounds. 1. 2-Butene 2. Iso-propyl alcohol 3. 3-Methyl-1-pentene 4. Cyclohexane 5. 2-Ethoxy butane	**05**
	(c)	Write any two preparations of Alkanes.	**05**
Q.3	**(a)**	Discuss in detail about Molecular Orbital Theory.	**06**
	(b)	Correct if necessary and justify the following statement. (Any Two) 1. Nitrogen trifluoride has dipole moment less than ammonia. 2. Lower alcohols are insoluble in water. 3. Alkynes are more acidic than Alkanes.	**05**
	(c)	Describe in detail Aldol condensation.	**05**
Q.4	**(a)**	Explain in Brief. (Any Two) 1. Saytzeff rule. 2. Markovnikov rule. 3. Peroxide effect.	**06**
	(b)	Write a note on Sigmatropic reaction.	**05**
	(c)	What are Ethers? Give detail account on Williamson ether synthesis.	**05**
Q.5	**(a)**	Give IUPAC name of following structure.	**06**

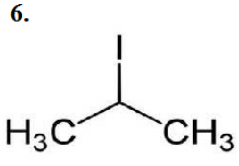
1. 

2. 

3. 

4. 

5. 

6. 

	(b)	Discuss in detail Diels-Alder reactions.	**05**
	(c)	Write two preparations and reactions of alkyl halide.	**05**
Q. 6	**(a)**	Explain SN_1 and SN_2 reactions in detail.	**06**
	(b)	Discuss in detail Resonance and hyperconjugation.	**05**
	(c)	Explain in Brief. (Any Two) 1. Estimation of chloride by Carius method. 2. Electronegativity. 3. Inductive effect.	**05**
Q.7	**(a)**	Write three preparations and reactions of Alkynes.	**06**
	(b)	Explain Victor Meyer Method for determination of molecular weight.	**05**
	(c)	Write a short note on Intermolecular and Intramolecular forces.	**05**

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