Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – III • EXAMINATION – WINTER • 2014

Subject Code: 230003 **Date: 02-01-2015**

Subject Name: Pharmaceutical Chemistry - III

Time: 10:30 am - 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)	Give preparation and reaction of alkyl halide.	**06**
	(b)	Diels-Alder reaction.	**05**
	(c)	Give reaction of cycloalkane.	**05**
Q.2	(a)	Comment on following. 1. Methane and carbon tetrachloride have zero dipole moment. 2. Alcohol are having higher boiling point then comparable molecular weight alkanes. 3. Ammonia has a dipole moment of 1.46D.	**06**
	(b)	Method of preparation of Alkene.	**05**
	(c)	Write a note on Aldol condensation.	**05**
Q.3	(a)	Method of preparation of Alkane.	**06**
	(b)	Williamson synthesis of ether.	**05**
	(c)	Differentiate bonding molecular orbital (BMO) and antibonding molecular orbital(ABMO).	**05**
Q.4	(a)	Discuss quantitative estimation of nitrogen in organic compound.	**06**
	(b)	Discuss synthesis of 1°, 2° and 3° alcohol using Grignard reagent with mechanism.	**05**
	(c)	Conjugated dienes undergo 1,4 addition-justify.	**05**
Q.5	(a)	Give structural formula for following. a) 2,ethyl-2-methylbutane b) 1-propene c) Chloroethene d) 3-butyn-2-ol e) Ethyne f) 1,4-pentadiene	**06**
	(b)	Differentiate Markovnikov's addition and Anti-Markovnikov's addition to Alkene.	**05**
	(c)	Stability of carbocation and carboanions.	**05**
Q. 6	(a)	Discuss mechanism and stereochemistry of SN_1 and SN_2 reaction.	**06**
	(b)	Write a note on Wilkinson's catalyst.	**05**
	(c)	Hydrogen bonding.	**05**
Q. 7	(a)	Sigmatropic reaction.	**06**
	(b)	Chlorination of Alkane.	**05**
	(c)	Define hybridization. Explain SP^2 hybridization with examples.	**05**

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