

GUJARAT TECHNOLOGICAL UNIVERSITY**B.Pharm. – SEMESTER III– • EXAMINATION – SUMMER-2016****Subject Code: 2230004****Date: 10/06/2016****Subject Name: Pharmaceutical Chemistry-IV (Organic Chem- I)****Time: 02:30 PM To 5:30 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) Briefly explain the principle of Dumas method and Kjeldahl's method.	06
	(b) Discuss bonding and antibonding orbitals in details.	05
	(c) Short note on Molecular orbital theory.	05
Q.2	(a) Briefly explain Hyperconjugation and Resonance with example.	06
	(b) Define hybridization. Explain sp ³ hybridization with examples	05
	(c) What are reactive intermediates of carbon? Describe in detail out carbocation	05
Q.3	(a) Give structural formula of the following compounds.	06
	1) 2,3- dimethylpentane	
	2) 2-methoxy pentane	
	3) Vinyl bromide	
	4) Diallylether	
	5) 2,3-dimethyl-3-hexene	
	6) Isobutene	
	(b) Explain Chlorination of methane with mechanism in details	05
	(c) State and explain : saytzeff's rule, antimarcovnikov addition	05
Q.4	(a) Give two methods for synthesis of alkynes and alkyl halides	06
	(b) Write a note on Diels Alder reactions.	05
	(c) Write the mechanism and limitations of Friedel-Crafts acylation of Benzene	05
Q.5	(a) Differentiate between E2 and E1 mechanism of elimination with example	06
	(b) What are epoxides? Explain anti hydroxylation by the cleavage of epoxides	05
	(c) Discuss the preparation , and structure of anthracene	05
Q. 6	(a) Give the preparations and reactions of ethers.	06
	(b) Define Aromaticity and discuss the electrophilic substitution reaction of benzene	05
	(c) Discuss detail mechanisms of aldol condensation	05
Q.7	(a) Discuss the mechanism and stereochemistry of SN1 and SN2 reaction	06
	(b) Discuss the Haworth synthesis for Naphthalene.	05
	(c) Write a note on Huckel's rule	05
