Seat No.:	Enrolment No.
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## GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. - SEMESTER - III • EXAMINATION - SUMMER • 2015

Subj	ect Ne: 02	Code: 2230004 Date: 12-06-2015 Name: Pharmaceutical Chemistry - IV (Organic Chemistry – I) :30 pm To 05:30 pm Total Marks: 80	
111511	1. 2.	Attempt any five questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a) (b) (c)	What are difference between resonance and hyperconjugation? What are their implications on various properties of organic compound? Classify intra-molecular forces and explain Bond dissociation energy. Write a note on hydrogen bonding.	06 05 05
Q.2	(a) (b) (c)	Write note on Molecular orbital theory. Explain bonding and antibonding orbitals. Discuss quantitative analysis of Nitrogen element.	06 05 05
Q.3	(a) (b) (c)	Write a note on determination of molecular weight of volatile substances. Define hybridization? Explain SP <sup>2</sup> hybridization with examples. Explain effect of neighbouring group on chemical reaction.	06 05 05
Q.4	(a) (b) (c)	Write note on Carbocations and discuss its stability with examples. Explain the reactions involving free radical as intermediate. How carbenes are generated? Discuss about their stability and reactivity with suitable example.	06 05 05
Q.5	(a) (b) (c)	Write note on reaction of dienes. List out reactions of alkyl halides and explain carbylamines reaction. Explain preparation and reaction of Grignard reagent.	06 05 05
Q. 6	(a) (b) (c)	General methods of preparations of Alcohols. General chemical reactions of Alkanes. Write a note on Williamson's synthesis of ether.	06 05 05
Q.7	(a) (b)	Give any three methods of preparations of Naphthalene. Explain the role of reagents.  (i) FeCl <sub>3</sub> in halogenation of benzene  (ii) H <sub>2</sub> SO <sub>4</sub> in nitration of benzene	06 05
	<b>(c)</b>	Explain Huckel rule in detail.	05

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