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SEAT No.

No. of Printed Pages: 2

Sardar Patel University B.Sc. (Fifth Semester) Monday 22nd October, 2018 Subject code: US05CICV01 Organic Chemistry Industrial Chemistry Vocational

Total Marks: 70 Time: 10:00 am to 1:00 pm 10 Select the correct option **Q.1** What is the state of hybridization of carbon in carbocation? d. sp³d b. sp^2 Homolytic cleavage of a carbon-carbon bond produces 2. b. One cation and one anion a. Two carbonium ions d. A free radical and carbanion c. Two free radicals Which of the following carbocation has the least stability? 3. d. isopropyl c. Tert-butyl b. Ethyl reagent. Aldol condensation requires 4. d. NBS b. Mild base c. AlCl₃ a. LiAlH4 reagent is used. For carrying out Benzilic acid rearrangement reaction _ 5. d. NBS c. AlCl₃ b. LiAlH₄ a. Strong base aids in specific reduction of carbonyl compounds to alcohols without affecting 6. other functionalities. d. OsO4 c. LiAlH4 b. NaBH4 a. (Me₂CHO)₃A1 Hydroxylation is specifically carried out in presence of 7. d. OsO4 c. LiAlH₄ b. NaBH₄ a. (Me₂CHO)₃Al reaction. Lead tetra acetate does not promote 8. c. Acetoxylation d. Reduction b. Methylation Oxidation signals in ¹H NMR. Cyclobutane gives 9. d. no signal c. three b. two The spectrum of IR spectroscopy indicates 10. c. Protons d. Carbons b. Functional Groups a. Molecular Mass 20 Answer the following in short (ANY TEN) **Q.2** Define the term bond fission and give types of it. 1. What are nucleophiles? Brief them out giving an example. 2. What are carbocations? How they are generated? 3. Give reaction for MPV Reaction. 4. Explain the role of AlCl₃ in Fries Rearrangement giving reaction. 5. Define term Rearrangement. 6. Discuss the preparation of Sodium Borohydrate. 7. Give the uses of LiAlH4. 8. Give preparation of Selenium dioxide. 9. How many signals will be obtained Ethanol. 10. What are the uses of UV spectroscopy? 11. Define term "Spin-spin coupling". 12.

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(P.T.O.)

Q.3	a. b.	How are attacking reagents classified? Explain with examples. What are different types of reaction intermediates formed by cleavage of a covalent bond?	05 05
		Explain with examples. OR	
Q.3	a,	Write a note on Carbene.	05 05
	b.	Write a note on substitution reaction.	03
· ·		Discuss the Pinacol-Pinacolone reaction.	0,5
Q.4	a. b	Write a note on Friedel–Craft's Reaction.	05
	b.	OR	0.5
Q.4	a.	Write a note on types of Rearrangements.	05 05
	b.	Write a note on Aldol & Cross Aldol Condensation reaction.	U.S
Q.5 Q.5		W. U NDC	05
	a.	Write a note on NBS. Write short note on Aluminum isopropoxide.	05
	b.	OR	
	a,	Write short note on Lead Tetra Acetate.	05
	а. b.	Discuss in detail the preparation and role of Osmium Tetra Oxide.	05
0.6		Write a note on IR spectroscopy and its applications.	10
Q.6		OR	
Q.6		Write a note on NMR spectroscopy.	10

