## Sardar Patel University

S. Y. B. Sc. Examination (Semester – III)

Date & Day: 29 <sup>th</sup> November 2018, Thursday Industrial Chemistry & Industrial Chemistry Vocational COURSE: US03ECHE04 (ORGANIC CHEMISTRY)			
Notes	: Figures to the right indicate full marks.		marks: 70
Q. 1 A	answer the following Multiple Choice Questi	ons. (All are compulsory)	(10
1.	The decreasing order of "s" character in the A. Sp>sp2>sp3 B. sp3> sp2>sp	three hybrid orbitals is C. sp2>sp>sp3d D. None of these	
2. The decreasing order of the –I effect (electron-withd certain atom/group is?			
3.	A. NO <sub>2</sub> >F>COOH>C <sub>6</sub> H <sub>5</sub> B. NO <sub>2</sub> > C <sub>6</sub> H <sub>5</sub> >COOH> F Sodium phenoxide reacts with CO <sub>2</sub> at 125%	D. None of these	
٦,	acid. This is called  A. Kolbe's reaction	C. Wurtz reaction	
1	B. Perkins reaction Phenol reacts with excess bromine water to	D. HVZ reaction	
4.	<ul> <li>A. 2,4,6-tribromophenol</li> <li>B. <i>o</i>- bromo phenol + <i>p</i>-bromo phenol</li> </ul>	C. Bromobenzene D. m-bromophenol	
5.	Resorcinol on distillation with zinc dust gir A. Benzene B. Cyclohexane	ves C. Toluene D. m-xylene	
6.	In adipic acid HOOC(CH2) <i>n</i> COOH, where A. 1 B. 2	n is equal to C. 3 D. 4	
7.	The greater acidity of carboxylic acid compared to alcohols arises primarily from A. The resonance stability associated with carboxylate ion B. The electron-donating effect of the hydroxyl group C. The electron-withdrawing effect of the carbonyl oxygen D. The acidity of alpha-hydrogens of carboxyllic acid		
8.	Alkyl halides react with excess ammonia i  A. Quarternary ammonium salts.	n presence of base to form  C. Nitrated alkyl amine	es .
9.	B. Primary amines Major product of CH <sub>3</sub> CH <sub>2</sub> Cl+(CH <sub>3</sub> ) <sub>2</sub> NH	D. Amides	
· ·	A. Primary amine B. Secondary amine	C. Tertiary Amine D. None of them	
10	0. Aliphatic primary amines react with cold r		
	<ul><li>A. Diazonium salts</li><li>B. Alcohols</li></ul>	<ul><li>C. Nitriles</li><li>D. Nitroalkanes</li></ul>	

(P.T.O.)

1. Triphenyl methyl cation is more stable than benzyl cation, Why?					
2. Enlist a factors affecting the strength of organic acids.					
<ul><li>3. Enlist the various postulates of Resonance theory.</li><li>4. Boiling point of alcohol is higher than comparable ether and Aldehyde, Why?</li><li>5. Write a reaction for acid catalyzed dehydration of alcohol.</li></ul>					
				6. Outline the structure and physical properties of ethers.	
				7. Define term "Cannizaro reaction".	-
8. Write a reaction for Aldol condensation reaction.					
9. Write a reaction for Reimer-Tiemann reaction.					
10. Define term "Reductive amination".					
11. Give various uses of Diazonium Salt.					
12. Write a reaction for Hofmann elimination reaction.					
Q. 3 Write a notes on "Inductive effect" and "Steric effect".	(10)				
OR	()				
Q. 3 Write a notes on "Hydrogen bonds" and "Theories of acids and bases".	(10)				
Q. 4 Write a notes on "Oxymercuration-demercuration" and "Addition of Grignard recarbonyl compound".  OR	eagent in (10)				
Q. 4 Discuss the "Acid catalyzed dehydration of alcohol" and "Williamson Synthesis	of				
ethers.	. (10)				
<ul> <li>Q. 5 Explain the following:</li> <li>A. Nucleophilic addition to aldehydes and ketones can be catalyzed by acid.</li> <li>B. Acidity of α- hydrogen of aldehydes and ketones.</li> </ul>	(10)				
OR Q. 5 Write notes on "Transesterification" and "Hell-Volhard-Zelinsky reaction".	(10)				
Q. 6 Write a notes on "Reactions of amine with nitrous acid" and "Hinsberg Test".	(10)				
OR	()				
Q. 6 Write a synthesis of "1,2,3-tri-bromobenzene from <i>p</i> -nitroaniline" and " <i>o</i> -Brom from Toluene".	o tolu <mark>e</mark> ne (10)				
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Q.2 Answer the following short questions. (Any TEN)

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