Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: 2020-21 F. Y. B.Sc.	**School of Science**	**Department: Chemistry**
Course Code: CHS 101	**Course Title: Chemistry I**	**Semester : Odd (I)**
Day and Date: Thursday 29/04/2021	**End Semester Examination**	**Time : 2 Hrs.** **Max Marks : 50**

Instructions: 1) All Questions are compulsory.

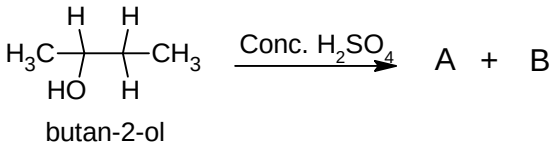
		Marks	Bloom's Level	CO
Q.1	**Answer/Solve the following (any Two)**			
a)	Balance the following reactions by ion electron method	8	L3	CO1
	$SO_3^{2-} + Cr_2O_7^{2-} \xrightarrow{\text{acidic medium}} SO_4^{2-} + Cr^{3+}$			
	$MnO_4^- + I^- \xrightarrow{\text{basic medium}} MnO_2 + I_2$			
b)	Explain the generation, structure and stability of Carbanion.	8	L2	CO2
c)	What is electromeric effect? Discuss its types and applications.	8	L1	CO2
Q.2	**Answer/Solve the following (any two)**			
a)	ON the basis of VSEPR theory predict hybridization, geometry and shape of the following molecules.	8	L2	CO3
	1. $SnCl_6^{2-}$			
	2. IF_7			
	3. ClO_3^-			
b)	Draw the MO diagram for heteronuclear diatomic molecules, NO and HF and calculate the value of bond order in each case.	8	L3	CO3
c)	Calculate the heat of formation of KF from the following data by using Born-Haber cycle.	8	L3	CO3
	Sublimation energy = 85.5 kJ/mol,			
	Dissociation energy = 251.5 kJ/mol,			
	Ionization energy for K = 356.7 kJ/mol,			
	Electron affinity for F = - 249.6 kJ/mol,			
	Lattice energy of KF = - 785.2 kJ/mol,			

Q.3 Answer/Solve the following (any two)

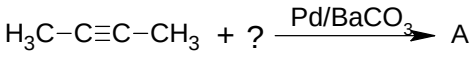
a) Define alkanes. Discuss the preparation of alkanes by following methods with examples. 9 L1 CO4
   1. Catalytic hydrogenation.
   2. Wurtz reaction

b) Write a note on 9 L2 CO4
   1) Ozonolysis
   2) Kharasch effect.

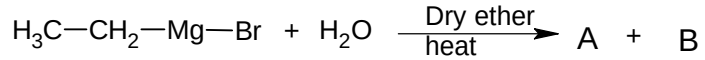
c) Identify the product A and B and explain in brief the following reactions. 9 L3 CO4

a) 

butan-2-ol

b) 

but-2-yne

c) 

Ethylmagnesium bromide

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