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. (Science)	**School of Science**	**Department: Chemistry**
Course Code: CHS101	**Course Title: Chemistry I**	**Semester : I**
Day : Date:	**End Semester Examination**	**Time:2 Hrs. Max Marks:50**

Question Paper

Instructions: 1) All Questions are compulsory.

		Marks	Bloom's Level	CO
Q.1	**Answer the following (any Two)**–			
a)	Draw the shapes of 2Pz, 4dyz, $4dz^2$, $4dx^2$-y^2orbitals.	8	L3	CO1
b)	Define the following terms : I. Reductant II. Molality III. Secondary standard solution IV. Oxidation number	8	L1	CO1
c)	Discuss the generation, structure and stability of Carbocation.	8	L2	CO2
Q.2	**Answer the following (any two) –**			
a)	State the rule for drawing Newman and Sawhorse projection and interconvert Newman to Sawhorse of tartaric acid molecule.	8	L2	CO2
b)	Draw the MO diagram for N_2 molecule and calculate bond order.	8	L3	CO3
c)	What are alkanes? Discuss any two methods of preparation of alkanes.	8	L2	CO4
Q.3	**Answer the following (any two) –**			
a)	Define lattice energy. Explain Born-Haber cycle for calculating the lattice energy of sodium chloride.	9	L1	CO3

b)	Discuss the hybridization, geometry and shape of following molecules. 1. PF_6^- 2. XeF_2 3. $SiCl_4$	9	L2	CO3
c)	Explain Markownikoff's rule and anti-Markownikoff's rule with suitable examples.	9	L2	CO4

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