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: SY BSc	**School of Science**	**Department: Chemistry**
Course Code: CHS202	**Course Title: Chemistry IV**	**Semester : IV**
Day : Monday **Date : 19.07.2021**	**Re End Semester Examination**	**Time : 2 Hrs.** **Max Marks : 50**

Instructions: 1) All Questions are compulsory.

		Marks	Bloom's Level	CO
Q.1	**Answer the following (any Two)**–			
a)	Discuss electronic configuration and anomalies in 3d transition elements.	8	L-2	CO1
b)	Discuss in detail the oxidation state, color and magnetic properties of 3d transition elements.	8	L2	CO1
c)	State the gas laws and discuss deviation of gases from ideal behavior. How these deviations are accounted for by van der Waal?	8	L-3	CO-2
Q.2	**Answer the following (any two)** –			
a)	Derive an equation for the mean free path and discuss pressure dependence of mean free path of gas.	8	L-2	CO-2
b)	Give the postulates and drawbacks of VBT.	8	L1	CO3
c)	Describe falling drop method of determination of surface tension of liquids. In a falling drop weight method using stalagmometer, 80 drops of ethyl alcohol weigh 0.116 gm. If the radius of capillary of stalagmometer is 0.1 mm, calculate surface tension of alcohol.	8		
Q.3	**Answer the following (any two)** –			
a)	Physical significance of Maxwell-Boltzmann distribution law of molecular velocities of gas. Using distribution law derive equation for the most probable velocity of a gas.	9	L-3	CO-2
b)	Give postulates of CFT. Explain with example how nature of ligand affect geometry of the complex compounds.	9	L3	CO3
c)	Draw suitable schematic diagram of X-ray powder diffraction photographic method. How the lines on photograph are indexed?	9	L-2	CO-4

What information regarding lattice structure is obtained?

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