Roll No. _____

END SEMESTER EXAMINATION
SEMESTER- I (Old Course)

COURSE CODE :G-107 **DURATION : 3 (THREE)HRS**
COURSE TITLE :CHEMISTRY-I **MAXIMUM MARKS : 75**
SESSION :JULY-DEC 2021 **PASS MARKS : 35 %**

NOTE: *1. All the questions are compulsory*
2. Attempt any 5 (five) questions
3. Mark for each question is shown against it.
4. Assume suitable logical data wherever necessary.

1.	**(a)**	Explain temporary and permanent hardness of water.	**(4)**
	(b)	Define Buffer solution. Write four application of Buffer solution.	**(5)**
	(c)	Define PH of a solution? Calculate the $P^H$of the following solution. (i) 0.003 N HCl (ii) 0.0001 N H_2SO_4	**(1+5)**
2.	**(a)**	Distinguish between true solution, suspension and colloids solution.	**(5)**
	(b)	Describe the Zeolite process of water treatment.	**(5)**
	(c)	Explain the action of soap on water. Define boiler feed water.	**(3+2)**
3.	**(a)**	Define catalyst. Write four characteristic of catalyst.	**(1+4)**
	(b)	What is covalent bond? Explain the formation of O_2 and CH_4 with suitable diagram.	**(1+4)**
	(c)	Define Radioactivity. The half-life period of Pt is 3200 yrs. Find out the disintegration constant of Pt.	**(2+3)**
4.	**(a)**	Define functional group. Explain the tetravalencyof carbon atom.	**(1+4)**
	(b)	Distinguish between organic and inorganic compounds.	**(4)**
	(c)	Write two preparation method each of. (i) Methane (ii) Ethane	**(6)**
5.	**(a)**	Define refractories and classify refractories with example.	**(5)**
	(b)	Compares the properties of alpha, beta and gamma rays.	**(5)**
	(c)	What are the application of radioactivity in different field?	(5)
6.	**(a)**	What is hydrogen bond? What are its types?	**(5)**
	(b)	Explain scale and sludge formation.	(5)
	(c)	Write the five application of catalyst in industry.	(5)
7.	**(a)**	Write the homologous series of alkane, alkene and alkyne up to C_4. Write its general formula.	**(8)**
	(b)	Write the electronic configuration of the following elements. (i) S (ii) Cr (iii) Fe (iv) Zn	(4)
	(c)	What are colloids?	(3)
8.		Write short notes on the following:	**(5x3)**
		(a) Priming and Foaming (b) Lime soda process	
		(c) Nuclear fission and nuclear fusion (d) Ionic Bond.	

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