C. U. SHAH UNIVERSITY Winter Examination-2022

Subject Name : Physical Chemistry-III

Subjec	et Cod	e : 4SC05PCH1	Branch: B.Sc. (Chemistry)	
Semester: 5		Date: 24/11/2022	Time: 02:30 To 05:30	Marks: 70
Instruc (1) (2) (3) (4)	tions: Use Instr Drav Assu	of Programmable calculator & any uctions written on main answer be v neat diagrams and figures (if nea ume suitable data if needed.	y other electronic instrument is proh ook are strictly to be obeyed. cessary) at right places.	ibited.
Q-1		Attempt the following question	15:	(14)
	Α	Define: Molarity		01
	B	Give statement of Second Law of	of Thermodynamics.	01
	С	Write equation of phase rule.	5	01
	D	Define the term solution		01
	Ε	What is ideal solution?		01
	F	Define Electrode concentration of	cell.	01
	G	What is colloidal solution?		01
	Η	Write definition of dialysis?		01
	Ι	What do you mean by Compone	nt?	01
	J	Give Clausis Clayperon equation	n for liquid vapour equilibria.	01
	K	The electrode at which oxidation	n occurs is called	01
	L	What is condensed system?		01
	Μ	Give equation to find mole fract	ion.	01
	Ν	What is Tyndall effect?		01
Attem	pt any	four questions from Q-2 to Q-8	3	
Q-2		Attempt all questions		(14)
	Α	Explain Carnot cycle.		06
	В	Derive Vant Hoff isotherm equa	tion.	08
Q-3		Attempt all questions		(14)
	Α	Explain vapour pressure of ideal	solution with vapour pressure curve	e. 05
	B	Write a brief note on steam disti	llation.	06
	С	Write a short note on Henry's la	W.	03
Q-4		Attempt all questions		(14)
•	Α	Discuss phenol-water system.		07
	В	Derive Clausis Clayperon equation	lon.	07
		100		Da



Q-5		Attempt all questions	
-	Α	Give names of purification methods of sols and explain any two methods.	08
	B	Give difference between lyophilic and lyophobic solutions.	06
Q-6		Attempt all questions	(14)
	Α	Explain silver-lead system.	07
	В	Write a brief note on two component systems.	07
Q-7		Attempt all questions	(14)
	Α	Explain electrode-concentration cell.	05
	B	State different reasons to eliminate liquid junction potential.	05
	С	How to determine ionic product of water by EMF measurement.	04
Q-8		Attempt all questions	(14)
	Α	Explain concentration cell without transference.	06
	B	Discuss optical properties of colloids.	04
	С	Explain the term phase with suitable examples.	04

