CLASS – XII

SUBJECT : CHEMISTRY

MONTH : JUNE 2024

CHAPTER : SOLUTION AND ELECTROCHEMISTRY

QUES NO	TYPE OF QUESTION (REASONING / MCQ / MATRIX / GRID / OTHER)	QUESTION	OPTION PROVIDED	CORRECT OPTION	EXPLANATION	% OF STUDENTS ATTEMPTED CORRECTLY
01	R & A	Assertion (A): When NaCl is dissolved in water there is elevation of boiling point of solution . Reason (R): Vapour pressure of the solution form increase after addition of NaCl in water.	1. Both Correct 2. R correct A False 3. R False A Correct 4. R And A Both False	3	Vapour Form decreases	34.30 %
02	MCQ	A 5% solution of Cane sugar (mol. mass - 342g/ mol.) is isotonic with 1% solution of a substance X, what is the molecular mass of X.	1. 342 2. 117.80 3. 68.40 4. 136.80	3	Using Formulae of Osmotic Pressure π=CRT	75.30 %
03	MCQ	If molality of the dilute solution is doubled, the value of molal depression constant (Kf) will be	1. Halved 2. Doubled 3. Tripled 4. Unchanged	4	Constants do not changes with Concentration	68.60 %
04	R & A	**Assertion**: When a solution is separated from the pure solvent by a semi-permeable membrane, the solvent molecules passed through it from pure solvent side to the solution side. **Reason**: Diffusion of solvent occurs from a region of low concentration solution to a region of high concentration of solution.	1. Both Correct 2. R correct A False 3. R False A Correct 4. R And A Both False	1	Both are correct but reason is not for the Assertion	36.50 %

05	**MCQ**	The solution containing 6.8 g of non-ionic solute in 100 g of water was found to freeze at -0.93°C. If Kf for water is 1.86, the mol. mass of solute is	**1. 13.6** **2. 64** **3. 38** **4. 136**	**4**	**Applying the formulae of Depression in Freezing Point**	**49.00 %**
06	**R & A**	Assertion : Λm for weak electrolytes shows a sharp increase when the electrolytic solution is diluted. Reason : For weak electrolytes degree of dissociation increases with dilution of solution.	**1. Both Correct** **2. R correct A False** **3. R False A Correct** **4. R And A Both False**	**1**	**Both are correct with correct explanation**	**72.40 %**
07	**MCQ**	**The specific conductivity of N/10 KCl solution at 20°C is 0.0212 ohm-1 cm-1 and the resistance of the cell containing this solution at 20°C is 55 ohm. The cell constant is**	**1. 3.34 CM -1** **2. 1.166 CM -1** **3. 2.372 CM -1** **4. 3.682 CM -1**	**2**	**Using the Formulae of Conductivity and Cell Constant**	**71.20 %**
08	**MCQ**	**Units of the properties measured are given below. Which of the properties has been not matched correctly ?**	**1.** Molar conductance = Sm2 mol-1 **2.** Cell constant = m-1 **3.** Specific conductance of = Sm2 **4.** Equivalence conductance = S m2(g eq)-1	**2**	**Sm-1**	**64.70 %**
09	**MCQ**	**How much time is required to deposit 1 X 10-3 cm thick layer of silver (density of 1.05 g cm-3) on a surface of area 100 cm2 by passing a current of 5 A through AgNO3 solution ?**	**1. 125 s** **2. 115 s** **3. 18.7 s** **4. 27.25 s**	**3**	**Using the formulae of Faradays Law w=Zit**	**71.80 %**
10	**MCQ**	**Use the data given below find out the strongest reducing agent.**	**1. Cl** **2. Mn^{2+}** **3. MnO_4^{-1}** **4. Cr^{3+}**	**4**	**Number of electrons involved**	**57.40 %**