Date Planned : __ / __ / __	Daily Tutorial Sheet - 8	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 2	Exact Duration :_____

96. Decomposition of a hydrated form of Na_2CO_3 cause approximately 63% loss in its mass on strong heating. If the heating only cause removal of water of crystallization then formula of the hydrated salt is

(A) $Na_2CO_3 \cdot 5H_2O$ **(B)** $Na_2CO_3 \cdot 10H_2O$

(C) $Na_2CO_3 \cdot 2H_2O$ **(D)** $Na_2CO_3 \cdot 7H_2O$

97. 10 g mixture of $NaHCO_3$ and Na_2CO_3 has 1.68 g $NaHCO_3$. It is heated at 400 K. Weight of the residue will be

(A) 9.38 g **(B)** 8.32 g **(C)** 10.0 g **(D)** 1.68 g

98. Mole fraction of ethanol in ethanol water mixture is 0.25. Hence, the percentage concentration of ethanol by weight of mixture is

(A) 25% **(B)** 75% **(C)** 46% **(D)** 54%

99. Select correct statement regarding a sample of water having 100 ppm of $CaCl_2$.

(A) $Ca^{+2} = 100$ ppm ; $Cl^- = 200$ ppm **(B)** $Ca^{+2} = 100$ ppm ; $Cl^- = 100$ ppm

(C) $Ca^{+2} = 33$ ppm ; $Cl^- = 67$ ppm **(D)** $Ca^{+2} = 36$ ppm ; $Cl^- = 64$ ppm

100. 10 mL of 1 M $BaCl_2$ solution and 5 mL of 0.5 M K_2SO_4 are mixed together to precipitate out $BaSO_4$. The amount of $BaSO_4$ precipitated will be

(A) 0.005 mol **(B)** 0.00025 mol **(C)** 0.025 mol **(D)** 0.0025 mol

101. 12.5 mL of a solution containing 6.0 g of a dibasic acid in 1 L water was found to be neutralized by 10 mL of a decinormal solution of NaOH. The molecular weight of the acid is

(A) 150 **(B)** 120 **(C)** 110 **(D)** 75

102. 10 mL of 0.2 N HCl and 30 mL of 0.1 N HCl together exactly neutralizes 40 mL of solution of NaOH, which is also exactly neutralized by a solution in water of 0.61 g of an organic acid. What is the equivalent weight of the organic acid?

(A) 61 **(B)** 91.5 **(C)** 122 **(D)** 183

103. A metal oxide has the formula Z_2O_3. It can be reduced by hydrogen to give free metal and water. 0.2 g of the metal oxide requires 12 mg of hydrogen for complete reduction. The atomic weight of the metal is

(A) 52 **(B)** 104 **(C)** 26 **(D)** 78

104. Specific gravity of a salt solution is 1.025. Quantity of the solution required that consist of 1 mole of solute $(M^\circ = 60)$ if molarity of the original solution is 0.9M.

(A) 1008 g **(B)** 1138 g **(C)** 1492 g **(D)** 997 g

105. The vapour density of a chloride of an element is 39.5. The equivalent weight of the element is 3.82. The atomic weight of the element is:

(A) 15.28 **(B)** 7.64 **(C)** 3.82 **(D)** 11.46