**Karan Arora**  **R.L. Institute M: 9416974837**

**Max Time : 1 hr** **Class = 11th Chemistry Test**  **Max Marks : 20**

**Topic : Concentration Terms**

1. Multiple choice questions : [ 1 X 12 = 12 ]
2. 23 g ethanol is dissolved in 36 g of water? Find mole fraction of ethanol?

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| --- | --- | --- | --- |
| a) 2 | b) 0.5 | c) 0.2 | d) 0.8 |

1. How many gram of HNO3 is required to prepare 400 mL solution of 0.2 M HNO3?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5.04 g | b) 5040 g | c) 25.2 g | d) 2.52 g |

1. Calculate the normality of 2.1 % (w/v) H2SO4 solution?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2.14 N | b) 4.28 N | c) 0.428 N | d) 0.214 N |

1. What is the Molarity of 1 N H2SO4 solution?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1 M | b) 2 M | c) 0.5 M | d) 3 M |

1. Calculate molality of the solution obtained by dissolving 11.7 g NaCl in 500 g water.

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| --- | --- | --- | --- |
| a) 0.1 m | b) 0.3 m | c) 0.2 m | d) 0.4 m |

1. The Molarity of 900 g of water is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 50 M | b) 55.5 M | c) 5 M | d) cannot be calculated |

1. Calculate the mole percentage of CH3OH and H2O respectively in 60 % aqueous solution of CH3OH.

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| --- | --- | --- | --- |
| a) 45.8 , 54.2 | b) 54.2 , 45.8 | c) 50 , 50 | d) 60 , 40 |

1. 8 g NaOH is dissolved in one litre of solution. Its molarity is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 0. 8 M | b) 0.4 M | c) 0.2 M | d) 0.1 M |

1. For preparing 0.1 M solution of H2SO4 in one litre, we need H2SO4 :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 0.98 g | b) 4.9 g | c) 49 g | d) 9.8 g |

1. What is the normality of 1 M H3PO4 solution?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 0.5 N | b) 1 N | c) 2 N | d) 3 N |

1. Normality of 0.3 M phosphorus acid is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 0.15 | b) 0.6 | c) 0.9 | d) 0.1 |

1. In a solution of 7.8 g benzene (C6H6) and 46 g toluene (C6H5CH3), the mole fraction of benzene is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1/6 | b) 1/5 | c) 1/2 | d) 1/3 |

1. Find out the mass of H2SO4 in 150 mL, N/7 H2SO4. [ 2 ]
2. One litre of N/2 HCl solution is heated in a beaker. It was observed that when the volume of the solution was reduced to 600 mL, 3.25 g of HCl is lost. Calculate the normality of the new solution [ 2 ]
3. The Molarity of the solution prepared by dissolving 6.3 g of oxalic acid (H2C2O4.2H2O) in 250 mL of water in mol/L is ‘x’ X 10 – 2. The value of x is \_\_\_\_\_\_\_. [ 2 ]
4. Define : (a) Molarity (b) Molality [ 2 ]