**Karan Arora** **R.L. Chemistry Classes M: 99968-68554 Max Time : 1 hr** **Class = 11th Chemistry Test**  **Max Marks : 25**

**Topic : Mole Concept and Concentration Terms**

1. Multiple Choice Questions : [ 2 x 3 = 6 ]
2. Number of atoms of oxygen present in 10.6 gm of Na2CO3.

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| --- | --- | --- | --- |
| a) 6.02 x 1022 | b) 12.04 x 1022 | c) 1.806 x 1023 | d) 6.35 x 1020 |

1. Total number of electron present in 18 gm of H2O

|  |  |  |  |
| --- | --- | --- | --- |
| a) 6.02 x 1023 | b) 6.02 x 1022 | c) 6.02 x 1024 | d) 6.02 x 1025 |

1. How many moles of e- weight 1 kg (wt. of e- = 9.1 x 10-31 kg).

|  |  |  |  |
| --- | --- | --- | --- |
| a) 6.022 x 1023 | b) 1031 | c) 1054 | d) 108 |

1. Calculate the number of molecules present in 34.2 grams of cane sugar (C12H22O11). [ 1 ]
2. Calculate the number of atoms present in 5.6 litres of a [ 2 ]

a) monoatomic and b) triatomic gas at NTP

1. What is the molecular mass of a compound, X, if its 3.0115 x 109 molecules weight 1.0 x 10-12 g?

[ 2 ]

1. Find the number of atoms of each type present in 3.42 grams of cane sugar (C12H22O11)? [ 2 ]
2. Calculate the number of molecules present in 350 cm3 of NH3 gas at 273 K and 2 atmosphere pressure? [ 2 ]
3. Define : (a) Molarity (b) Molality. [ 2 ]
4. Concentration of glucose in normal blood is 90 mg per 100 mL. What is the Molarity of the glucose in blood? [ 2 ]
5. Hydrochloric acid is sold commercially as 12 M solution. How many moles and how many grams of HCl are in 300 mL of 12 M solution? [ 2 ]
6. 100 g solution of urea in water has 40 g urea (molar mass = 60 g/mol). What is the Molality of urea solution? What is Mole fraction of urea in solution? [ 2 ]
7. Calculate : a) Molarity [ 2 ]

b) Molality of sulphuric acid solution of specific gravity 1.198 containing 27% H2SO4 by weight.