**Karan Arora** **R.L. Chemistry Classes M: 99968-68554 Max Time : 1 hr** **Class = 11th Chemistry Test**  **Max Marks : 30**

**Topic : Mole Concept**

1. What is the mass in grams of 0.5 mol copper? Cu = 63.5 amu. [ 2 ]
2. What is the mass in grams of 0.4 mol of nitrogen dioxide (NO2)? N = 14; O = 16 [ 2 ]
3. Calculate the number of atoms present in 11.2 litres of a : [ 2 ]

a) monoatomic and b) diatomic gas at NTP

1. The volume of a gas is 1.12 x 10-7 cm3 at NTP. Calculate the number of molecules of the gas. [ 2 ]
2. How many H atoms are present in 25.6 gm of urea [(NH2)2 (CO)] having molar mass of 60 g/mol?

[ 2 ]

1. How many oxygen atoms are there in 6.025 g Ba3(PO4)2? Ba = 137.5; P = 31; O = 16 [ 2 ]
2. How many moles, no. of atoms and no. of protons are in 360 gm glucose (C6H12O6). [ 3 ]
3. Calculate the number of moles in the following: [ 3 ]

a) 7.85 gm of iron b) 4.68 mg of silicon c) 65.6 μg of carbon

1. Calculate the volume at STP occupied by : [ 3 ]

a) 14g of nitrogen b) 1.5 moles of carbon dioxide c) 1021 molecules of oxygen

1. Calculate the number of atoms in each of the following: [ 3 ]

a) 0.5 mole molecules of nitrogen b) 0.8 mole atoms of helium

c) 0.26 mole molecules of sulphur (S8)

1. Calculate the percentage of the naturally occurring isotopes 35Cl and 37Cl that accounts for the atomic mass of chlorine taken as 35.45. [ 3 ]
2. Calculate the number of molecules present in 350 cm3 of NH3 gas at 273 K and 2 atmosphere pressure? [ 3 ]