INDIAN SCHOOL NIZWA - WORKSHEET

CHEMISTRY

CH: 3: Atoms &Molecules

Name: _____ Date:_____ Class: IXSec: ___

1. In ammonia (NH_3) nitrogen are always present in the ratio 14:3 by mass. i) State the law which explains the above statement. ii) During the formation of NH_3, What mass of hydrogen gas would be required to react completely with 42g of nitrogen gas?
2. The ratio by mass for Mg and S in MgS is given as 3:4. Calculate the ratio by number of atoms for MgS.(At.mass of Mg&S =24 & 32)
3. Mass of one molecule of a substance is 4.65×10^{-23}g. What is its molecular mass?
4. i) Calculate the number of atoms in one gram of Zn.(At. Mass of Zn=65.37u). ii)Give the weight of one atom of Zn. iii) How many moles are contained in 5g of hydrogen molecule.
5. Calculate the molecular mass of S_8 molecule. Also calculate the number of moles of S_8 in 25.6g of the sample.
6. Calculate the percentage composition of glucose($C_6H_{12}O_6$)
7. What mass of water will contain the same number of molecules as 8,0g of ferrous oxide [FeO] ?
8. State which has more number of molecules and also calculate the number of molecules in the following : 10 gm of H2 or 10 gm of N2
   (atomic mass of H = 1 u, N = 14 u)
9. Find the ratio by number of atoms for CaO. The ratio by mass values of Calcium and Oxygen is found to be 5 : 2. (Atomic Mass of Ca = 40 u and O = 16u).
10. Calculate the number of moles of iron in iron sheet containing 10^{22} atoms of iron.