CBSE CLASS 9TH

ATOMS AND MOLECULES (TEST - 01)

GENERAL INSTRUCTION

Maximum Marks = 30

Maximum Time = 50 minutes

SECTION – A (1M each)

1. Give an example of (i) divalent anion (ii) trivalent cation (iii) monovalent anion
2. Calculate the molar mass of ethyl alcohol (C_2H_5OH) ?
3. If 1 mole of oxygen atoms weigh 16g, calculate the mass of one atom of oxygen (in grams)?
4. What do you understand from the statement "relative atomic mass of sulphur is 32" ?
5. 4 samples of water are collected from different sources. Each sample on analysis was found to contain same percentage of oxygen. Which law of chemica combination is demonstrated by the above observation, Also state the law?

SECTION – B (2M each)

6. (a) How many moles are present in 11.5g of sodium ?
   (b) The mass of an atom of element (X) is 2.0×10^{-23}g. Calculate its atomic mass
7. What is the number of molecules present in 1.5 mole of ammonia (NH_3) ?
8. (a) What is Avogadro Constant ?
   (b) Calculate the number of particles present in 56g of N_2 molecule

SECTION – C (3M each)

9. A flask contain 4.4g of CO_2 gas. Calculate
   (a) How many moles of CO_2 gas does it contain ?
   (b) How many molecules of CO_2 gas are present in the sample
   (c) How many atoms of oxygen are present in the given sample
   (Atomic mass of C = 12u, O = 16u)
10. Determine Molecular mass of :
    (i) NH_4OH (ii) K_2CO_3 (iii) CH_3COOH
    Given Atomic mass : H = 1u ; O = 16 u ; C =12u ; K = 39u ; N = 14 u
11. (a) State the law of Conservation of mass and Constant Proportions ?
    (b) What mass of silver nitrate will react with 5.85g of sodium chloride to produce 14.35g of silver chloride and 8.5g of sodium nitrate if the law of conservation of mass is true?

SECTION – D (5M each)

12. What weight of calcium contains the same number of atoms as are present in 3.2g of sulphur ?
13. (a) The mass of 1 molecule of a substance is 4.65×10^{-23}g .What is its molecular mass?
    (b) Which have more molecules ? 10g of sulphur dioxide (SO_2) or 10g of Oxygen (O_2)
    (c) Write the chemical formula of Magnesium Chloride and ammonium sulphate. Also identify the chemical name of $FeSO_3$