ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

WORKSHEET-07(CLASS-11)

TOPIC- SOME BASIC CONCEPT OF CHEMISTRY

SUBTOPIC-LAWS OF CHEMICAL COMBINATION, MOLE CONCEPT AND EQUIVALENT MASS

SUBJECT – CHEMISTRY
DURATION – 30 mins

F.M. - 15
DATE -22.06.20

1.1 **Two gases A and B having equal mass are kept in two separate vessels under identical conditions of temperature and pressure. If the ratio of their molecular masses be 2:3, find the ratio of the volumes of the vessels-**

a) 2:3 b) 3:2 c) 5:3 d) 6:5

1.2 **An element forms two compounds X and Y in which the element exhibits the valency 2 and 3 respectively. What is the ratio of the equivalent masses of the element in the two compounds?**

a) 2:3 b) 3:2 c) 1:3 d) 3:1

1.3 **Find the number of neutrons present in $5x10^{-4}$ of ^{14}C isotope-**

a) $2.4088x10^{23}$ b) $2.4088x10^{21}$ c) $4.40282x10^{22}$ d) $2.4088x10^{22}$

1.4 **What is the number of ammonia molecules present in 1 millimole of ammonia?**

a) $6.022x10^{23}$ b) $6.022x10^{20}$ c) $9.066x10^{23}$ d) $3.011x10^{23}$

1.5 **A young man has given his wife an engagement ring containing 0.50 carat diamond. How many atoms of carbon is present in that ring? [Given: 1 carat= 200mg]**

a) 6.023×10^{20} b) $10.018x10^{21}$ c) 2.24×10^{19} d) $5.018x10^{21}$

1.6 **Find the number of atoms of hydrogen and oxygen present in one spherical drop- of water with radius 1 mm at 4°C?**

a) $2.803x10^{20}$ and $1.4017x10^{20}$ b) $2.803x10^{12}$ and $1.4017x10^{20}$ b) $1.803x10^{20}$ and $5.4017x10^{20}$

d) $2.803x10^{21}$ and $4.0117x10^{20}$

1.7 **Volumes of N_2 and O_2 in any gas mixture are 80% and 20% respectively. Determine the average vapour density of the gas mixture-**

a) 10.26 b) 24.2 c) 41.4 d) 14.4

1.8 **At 26.7°C, the vapour density of a gaseous mixture containing NO_2 and N_2O_4 is 38.31. What is the number of moles of NO_2 present in 100g of that mixture?**

a) 0.92 b) 0.1020 c) 0.4369 d) 0.4536

1.9 **0.362 g of a metal is added to an aqueous solution of AgNO3. In consequence, 3.225g of silver is precipitated. What is the equivalent mass of the metal? [Given: Relative atomic mass of Ag=108]**

a) 12.21 b) 12.12 c) 21.12 d) 21.21

1.10 **Two oxides of a metal (M) contain 22.53% and 30.38% of oxygen respectively. If the molecular formula of the second oxide is M_2O_3, find the molecular formula of the first oxide.**

a) M_2O_4 b) M_2O_5 c) M_2O d) MO

1.11 **An impure sample of Na2S2O3. 5H2O contains 19.35% of Sulphur. Calculate the purity of the compound.**

a) 50% b) 57% c) 25% d) 75%

1.12 **Calculate the volume of oxygen that will react with the hydrogen produced by the decomposition of 50cc of ammonia. Assume that both the reactions occur at 18^oC and 76cm Hg**.

a) 40.5 cc b) 25 cc c) 48 cc d) 37.5 cc

1.13 **W_1 g of a substance "A" reacts completely with W_2 g of another substance "B". If E_1 and E_2 are the equivalent masses of A and B respectively, then find a relation between W_1, W_2, E_1 and E_2.**

a) $W_1/E_1=W_2/E_2$ b) $W_2/E_1=W_1/E_2$ c) $W_1/E_2=W_2xE_2$ d) $W_1xE_1=W_2/E_2$

1.14 **Equivalent mass of $K_2Cr_2O_7$ in acidic medium-**

a) 49 b) 45 c) 52 d) 94

1.15 **Which of the following acid has the maximum basicity-**

a) H_3BO_3 b) H_3PO_4 c) H_2SO_3 d) $HClO_2$

PREPARED BY: MR. ARNAB PAUL CHOWDHURY