ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

WORKSHEET-02(CLASS-11)

TOPIC- SOME BASIC CONCEPT OF CHEMISTRY

SUBTOPIC-MOLE CONCEPT

SUBJECT – CHEMISTRY **F.M. - 15**

DURATION – 30 mins **DATE -16.06.20**

1.1 **Naturally occurring chlorine is 75.53% Cl^{35} which has an atomic mass of 34.969 amu and 24.47% Cl^{37} which has a mass of 36.966 amu. Calculate the average atomic mass of chlorine-**

(a) 35.5 amu(b) 36.5 amu(c) 71 amu(d) 72 amu

1.2 **How many carbon atoms are present in 0.35 mol of $C_6H_{12}O_6$–**

(a) 6.023×10^{23} carbon atoms (b) 1.26×10^{23} carbon atoms (c) 1.26×10^{24} carbon atoms (d) 6.023×10^{24} carbon atoms

1.3 **Calculate the mass in gm of 2NA molecules of CO_2-**

(a)22 g (b) 44 g (c) 88 g (d) none of these

1.4 **How many years it would take to spend Avogadro's number of rupees at the rate of 1 million rupees in one second -**

(a) 19.098×10^{19} years(b) 19.098 years(c) 19.098×10^{9} years(d) None of these

1.5 **Calculate the number of Cl^- and Ca^{+2} ions in 222 g anhydrous $CaCl_2$-**

(a) 2NA ions of Ca^{+2} 4 N ions of Cl^- (b) 2NA ions of Cl^-& 4N ions of Ca^{+2}

(c) 1NA ions of Ca^{+2} & 1N ions of Cl^-(d) none of these.

1.6 **What is the molecular mass of a substance, each molecule of which contains 9 carbon atoms, 13 hydrogen atoms and 2.33×10^{-23} g of other component?**

(a) 135.04(b) 153.04(c) 115.04(d) None of the above

1.7 **The density of O2 at 0ºC and 1 atm is 1.429g / litre. The molar volume of gas is –**

(a) 22.4 lit.(b) 11.2 lit(c) 33.6 lit(d) 5.6 lit.

1.8 **How many g of S are required to produce 10 moles and 10g of H_2SO_4 respectively?**

(a) 320 g, 3.265 g (b) 310 g, 3.265 g (c) 230 g, 3.526 g (d) 300 g, 3.265 g

1.9 **The number of atoms present in one mole of an element is equal to Avogadro number. Which of the following element contains the greatest number of atoms?**

(a)4g He (b)46g Na(c) 0.40g Ca(d)12g He

1.10**5 Moles of CH_4contains-**

a)120.46×10^{23}atoms of Hb) 4 gm-atoms of hydrogen

b) 1.81×10^{23} molecules of CH_4 d)3g of Carbon

1.11**Which of the following pairs have the same number of atoms?**

a) 16 g of O_2 (g) and 4 g of H_2(g) b) 16 g of O_2 and 44 g of CO_2

c) 28 g of N_2 and 32 g of O_2d) 12 g of C(s) and 25 g of Na(s)

1.12**What is the mass percent of carbon in carbon dioxide?**

a) 0.034%b) 27.27%c) 3.4%d) 28.7%

1.13 **The empirical formula and molecular mass of a compound are CH_2O and 180 g respectively. What will be the molecular formula of the compound?**

a)$C_9H_{18}O_9$ b)CH_2O c)$C_6H_{12}O_6$d)$C_2H_4O_2$

1.14 **The number of Ammonia molecules is maximum in-**

a) 34 molecules of water b) 3.4 g of water c) 34 g of water d) 34 moles of water

1.15**Which of the following has the least volume?**

a)20g O_2b)5g-atoms of C c)0.005moles of Cd)28g N_2

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