ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION-10(CLASS-11)

TOPIC- SOME BASIC CONCEPT OF CHEMISTRY

SUBTOPIC- BASIC CHEMICAL CALCULATION

SUBJECT – CHEMISTRY **F.M. - 15**

DURATION – 30 mins **DATE -25.06.20**

1.1 **Elements X and Y combine to form two compounds XY and X_2Y. Find the atomic weight of X and Y, if the weight of 0.1 moles of XY is 10g and 0.05 moles of X_2Y is 9g-**

(a) 30, 20 (b) 80, 20 (c) 60, 40 (d) 20, 30

Ans. b

1.**2 Which one will have maximum numbers of water molecules?**

(a) 18 molecules of water (b) 1.8 grams of water (c) 18 grams of water (d) 18 moles of water

Ans. d

1.3 **The number of atoms present in 0.1 moles of a triatomic gas is-**

a) 1.806×10^{23} b) 1.806×10^{22} c) 3.600×10^{23} d) 6.026×10^{22}

Ans. a

1.4 **Find the volume of O_2 required to burn 1 L of propane completely, measured at 0℃ temperature and 1 atm pressure-**

a) 10 L b) 7 L c) 6 L d) 5 L

Ans. d

1.5 **A gas X has C_p and C_v ratio as 1.4, at NTP 11.2 L of gas X will contain_____ number of atoms-**

a) 1.2×10^{23} b) 3.01×10^{23} c) 2.01×10^{23} d) 6.02×10^{23}

Ans. d

1.6 **Which of the species is not paramagnetic?**

a) As^+ b) Cl^- b) Ne^{2+} d) Be^+

Ans. b

1.7 **Pressure has the same dimension as _____**

a) Energy per unit volume b) Energy c) Force per unit volume d) Force

Ans. a

1.8 **A container has an equal mass of H_2, O_2 and CH_4 at 27℃, the ratio of their volume is-**

a) 16:8:1 b) 8:1:2 c) 16:1:2 d) 8:16:1

Ans. c

1.9 **There are two chlorides of Sulphur S_2Cl_2 and SCl_2. What is the equivalent mass of SCl_2 -**
a) 64.8 b) 32 c) 16 d) 8
Ans. c

1.10 **Which among the following is temperature independent?**
a) Molality b) Mole fraction c) Molarity d) Mass percent
Ans. b and d

1.11 **Boron exists as two stable isotopes; ^{10}B (19%) and ^{11}B (81%). Find out the avg. atomic weight of boron in the periodic table-**
(a) 10.0 (b) 11.2 (c) 10.2 (d) 10.8
Ans. d

1.12 **Between empirical formula and molecular mass of a compound-**
a) Empirical formula is greater than Molecular formula
b) Molecular formula is greater than Empirical formula
c) Both have same value d) can't be predicted
Ans.

1.13 **The experimental yield of a product of a chemical reaction is-**
a) Greater than the theoretical yield b) Equal to the theoretical yield
c) Same with that of the theoretical yield d) can't be predicted
Ans.

1.14 **Which of the following are isoelectronic species?**
a) H^+, H and H^- b) Li^+ ,Na^+ and K^+ c) Cl^- ,Br^- and I^- d) F^- ,Ne and Na^+
Ans. d

1.15 **The mass spectrometer is used to determine the Mass number of isotopes and-**
a) Atomic number b) Relative abundance c) Electronic configuration d) All of the above
Ans. b

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