



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

## SOLUTION-09(CLASS-11)



### TOPIC- SOME BASIC CONCEPT OF CHEMISTRY

### SUBTOPIC- CALCULATION OF STRENGTH

**SUBJECT – CHEMISTRY**

**DURATION – 30 mins**

**F.M. - 15**

**DATE -24.06.20**

1.1 What will be the molarity of a solution, which contains 5.85 g of NaCl(s) per 500 mL?

- a) 4 mol L<sup>-1</sup> b) 20 mol L<sup>-1</sup> c) 0.2 mol L<sup>-1</sup> d) 2 mol L<sup>-1</sup>

Ans. c

1.2 If 500 mL of a 5M solution is diluted to 1500 mL, what will be the molarity of the solution obtained?

- a) 1.5 M b) 1.66 M c) 0.017 M d) 1.59 M

Ans. b

1.3 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

Ans. d

1.4 If the concentration of glucose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>) in blood is 0.9 g L<sup>-1</sup>. What will be the molarity of glucose in blood?

- a) 5 M b) 50 M c) 0.005 M d) 0.5 M

Ans. c

1.5 What will be the molality of the solution containing 18.25 g of HCl gas in 500 g of water?

- a) 0.1 m b) 1 M c) 0.5 m d) 1 m

Ans. d

1.6 One mole of any substance contains  $6.022 \times 10^{23}$  atoms/molecules. Number of molecules of H<sub>2</sub>SO<sub>4</sub> present in 100 mL of 0.02M H<sub>2</sub>SO<sub>4</sub> solution is-

- a)  $12.044 \times 10^{20}$  molecules b)  $6.022 \times 10^{23}$  molecules c)  $1 \times 10^{23}$  molecules  
d)  $12.044 \times 10^{20}$  molecules

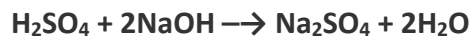
Ans. a

1.7 What is the mass percent of carbon in carbon dioxide?

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

Ans. b

**1.8 Sulphuric acid reacts with sodium hydroxide as follows :**



**When 1L of 0.1M sulphuric acid solution is allowed to react with 1L of 0.1M sodium hydroxide solution, the amount of sodium sulphate formed and its molarity in the solution obtained is-**

- a) 0.1 mol L<sup>-1</sup> b) 7.10 g c) 0.025 mol L<sup>-1</sup> d) 3.55 g

**Ans. b and c**

**1.9 Which of the following solutions have the same concentration?**

- a) 20 g of NaOH in 200 mL of solution b) 0.5 mol of KCl in 200 mL of solution  
c) 40 g of NaOH in 100 mL of solution d) 20 g of KOH in 200 mL of solution

**Ans. a and b**

**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 Which of the following terms are unitless?**

- a) Molality b) Mole fraction c) Molarity d) Mass percent

**Ans. b and d**

**1.12 The empirical formula and molecular mass of a compound are CH<sub>2</sub>O and 180 g respectively. What will be the molecular formula of the compound?**

- a) C<sub>9</sub>H<sub>18</sub>O<sub>9</sub> b) CH<sub>2</sub>O c) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> d) C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

**Ans. c**

**1.13 If the density of a solution is 3.12 g mL<sup>-1</sup>, the mass of 1.5 mL solution in significant figures is-**

- a) 4.7g b) 4680 × 10<sup>-3</sup> g c) 4.680g d) 46.80g

**Ans. a**

**1.14 Find the equivalent mass for K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> in acidic medium-**

- a) M/5 b) M/6 c) M/7 d) M/3

**Ans. b**

**1.15 Find the equivalent mass for Oxalic acid-**

- a) 32 b) 36 c) 126 d) 63

**Ans. d**

**PREPARED BY: MR. ARNAB PAUL CHOWDHURY**

