

## Chapter-3

### Worksheet-1

Q.1. Write the cations and anions present (if any) in the following compounds:

- (a)  $\text{CH}_3\text{COONa}$
- (b)  $\text{NaCl}$
- (c)  $\text{H}_2$
- (d)  $\text{NH}_4\text{NO}_3$

Q.2. Which of the following correctly represents 360g of water?

- (i) 2 moles of water
  - (ii) 20 moles of water
  - (iii)  $6.022 \times 10^{23}$  molecules of water
  - (iv)  $1.2044 \times 10^{25}$  molecules of water
- (a) (i)

(b) (i) and (iv)

(c) (ii) and (iii)

(d) (ii) and (iv)

Q.3. Which of the following statements is not true about an atom?

- (a) Atoms are not able to exist independently.
- (b) Atoms are the basic units from which molecules and ions are formed.
- (c) Atoms are always neutral in nature.
- (d) Atoms aggregate in large numbers to form the matter that we can see, feel or touch.

Q.4. 1 u or 1 amu means

- (a) 1/12th mass of C-12 atoms

(b) Mass of C-12 atom

(c) Mass of O-16 atom

(d) Mass of Hydrogen molecule

Q.5. Which of the following contains maximum number of molecules?

(a) 19 CO<sub>2</sub>

(b) 1 g N<sub>2</sub>

(c) 1 g H<sub>2</sub>

(d) 1 g CH<sub>4</sub>

Q.6. A sample of NH<sub>3</sub> molecule irrespective of source contains 82.35% Nitrogen and 17.65% of Hydrogen by mass. This data supports:

(a) Law of Conservation of Mass

(b) Law of Multiple Proportions

(c) Law of Definite Proportions

(d) Avogadro's Law

Q.7. An element X is divalent and another element Y is tetravalent. The compound formed by these two elements will be:

(a) XY

(b) XY<sub>2</sub>

(c) X<sub>2</sub>Y

(d) XY<sub>4</sub>

Q.8. The molecular formula of potassium nitrate is \_\_\_\_\_.

(a) KNO<sub>3</sub>

(b) KNO

- (c)  $\text{KNO}_2$
- (d)  $\text{KON}$

Q.9. 3.42 g of sucrose are dissolved in 18 g of water in a beaker. The numbers of oxygen atoms in the solution are:

- (a)  $6.68 \times 10^{23}$
- (b)  $6.09 \times 10^{22}$
- (c)  $6.022 \times 10^{23}$
- (d)  $6.022 \times 10^{21}$

Q.10. Molecular mass is defined as the:

- (a) Mass of one molecule of any substance compared with the mass of one atom of C – 12
- (b) Mass of one atom compared with the mass of one atom of hydrogen
- (c) Mass of one atom compared with the mass of one molecule
- (d) None of the above

Q.11. Write the full form of IUPAC.

Q.12. Which postulate of Dalton's atomic is the result of law of conservation of mass given by Lavoisier?

Q.13. Name any two laws of chemical combination.

Q.14. What are the building blocks of matter?

Q.15. Define 'formula mass' of a compound.

16. Name the particle which has 18 electrons, 18 neutrons and 17 protons in it.

17. What is the numerical value of Avogadro number?

18. What is an ion? Give one example.

19. What is wrong in saying 'one mole of nitrogen'?

20. How many times heavier is one atom of carbon than one atom of oxygen?