Chapter-3

Worksheet-2

Q.1. A change in the physical state can be brought about
(a) only when energy is given to the system
(b) only when energy is taken out from the system
(c) When energy is either given to, or taken out from the system
(d) Without any energy change

Q.2. The atomic mass of sodium is 23. The number of moles in 46g of sodium is _____.

(a) 4

(b) 2

(c) 0

(d) ½

Q.3. Which of the following represents a correct chemical formula?
(a) CaCl
(b) $BiPO_4$
(c) $NaSO_4$
(d) NaS

Q.4. What is the formula mass unit of ZnO?

(a) 18 u

(b) 81 u

(c) 88 u

(d) 188 u

Q.5. How many atoms of oxygen are present in 300 grams of $CaCO_3$?
(a) 54.207×10^{23}
(b) 6.207×10^{23}

(c) 12.207×10^{23}
(d) 22.2×10^{23}

Q.6. Which of the following represents the correct relation between Avogadro's number (N_o), number of particles (N) and moles (n)?
(a) $n = N / N_o$
(b) $n = N_o / N$
(c) $n = N N_o$
(d) all are correct

Q.7. The atomicity of $K_2Cr_2O_7$ is
   I. 9
   II. 11
   III. 10
   IV. 12

Q.8. The formula for quicklime is
   I. $CaCl_2$
   II. $CaCo_3$
   III. $Ca(OH)_2$
   IV. CaO

Q.9. The symbol of cadmium is
   I. Ca
   II. Cu
   III. Cm
   IV. Cd

Q.10. All noble gas molecules are
   I. Monoatomic
   II. Diatomic
   III. Triatomic
   IV. Both I and II

Q.11. Give an example to show law of conservation of mass applies to physical changes also.

Q.12. Differentiate between the actual mass of a molecule and gram molecular mass.

Q.13. Calculate the formula mass of sodium carbonate ($Na_2CO_3.10H_2O$).

Q.14. Carbon dioxide produced by action of dilute hydrochloric acid on potassium hydrogen carbonate is moist whereas that produced by heating potassium hydrogen carbonate is dry. What would be the difference in the composition of carbon dioxide in the two cases? State the associated law.

Q.15. Does the solubility of a substance change with temperature? Explain with the help of an example.

Q.16. What are ionic and molecular compounds? Give examples.

Q.17. Calculate the mass per cent of each element of sodium chloride in one mole of it.

Q.18. Calculate the number of particles in each of the following:
(a) 46 g of Na atom
(b) 8 g of O_2 molecules
(c) 0.1 moles of carbon atom

Q.19. Calculate the molecular mass of the following:
(a) H_2CO_3
(b) C_2H_5OH
(C) $MgSO_4$

Q.20. Does the solubility of a substance change with temperature? Explain with the help of an example.