

## 4. Measurement of matter

### MCQ's

Q.1 Protons and neutrons are together called\_\_\_\_\_.

- a) Nucleons
- b) electron
- c) Both a and b
- d) None of these.

Ans.-Nucleons

Q.2 Themaseof one nitrogen atom is\_\_\_\_\_times that of a hydrogen atom.

- a) 14
- b) 15
- c) 16
- d) 2

Ans.- 14

Q.3 The number of valence electrons in aluminium is \_\_\_\_\_.

- a) 3
- b) 6
- c) 12
- d) 0

Ans.- 3

Q.4 Properties by weight of hydrogen and oxygen in water is \_\_\_\_\_.

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

Ans.-1:8

Q.5 One mole of carbon dioxide contains\_\_\_\_\_molecules.

- a)  $6.022 \times 10^{23}$                       b)  $6.022 \times 10^{20}$   
b)  $6.022 \times 10^{-2}$                       d)  $6.022 \times 10$

Ans.- $6.022 \times 10^{23}$

Q.6sulphide ion is \_\_\_\_\_.

- a)  $S^{2-}$               b)  $SO_4^{2-}$       c)  $SO_3^{2-}$       d)  $HSO_4^-$

Ans.- $S^{2-}$

Q.7Nitrite ion is \_\_\_\_\_.

- a)  $NO_2^-$               b)  $N_3^-$       c)  $NO_3^-$       d)  $NO_3$

Ans.- $NO_2^-$

Q.8 The electronic configuration of sodium\_\_\_\_\_.

- a) 2,8,1      b) 2,8              c) 2,8,2              d) 2,8,4

Ans.-2,8,1

Q.9 The solution of calcium chloride is\_\_\_\_\_.

- a) Colorless                      b) yellow  
c) green                              d) red

Ans.- Colorless.

Q.10 The size of an atom is determined by its\_\_\_\_\_.

- a) Radius                      b) mass  
c) both a and b              d) none of these.

Ans.-Radius

Q.11 Identify the symbol of bicarbonate from the following

- a)  $\text{HCO}_3^-$     b)  $\text{HCO}_3$     c)  $\text{HCO}$     d)  $\text{HO}_3^-$

Ans.- $\text{HCO}_3^-$

Q.12 What is the valency of copper in  $\text{CuSO}_4$ .

- a) Two              d) Three    c) Four    d) Zero

Ans.-Two

Q.13 Identify the valency of carbon.

- a) 4              b) 5              c) 2              d) 6

Ans.- 4

Q.14 An important principle of Dalton's atomic theory is that molecules of a \_\_\_\_\_are formed by joining atoms of different elements.

- a) Base                              b) acid

c)Compound

d) None of these

Ans.-Compound

Q.15 The proportion by weight of hydrogen and oxygen in water is \_\_\_\_\_.

a) 2:1

b) 1:8

c) 2:4

d) 1:5

Ans.-1:8

Q.16 The French scientist \_\_\_\_\_intervened from his research that 'There is no rise or drop in the weight of the matter during a chemical reaction'.

a) Dalton    b) Antoine Lavoisier

c) Only a

d) None of these.

Ans.-Antoine Lavoisier

Q.17 The atomic size depends on the number of \_\_\_\_\_in ana atom.

a) Electron orbits

b) electrons

c) Nucleus

d) Protons

Ans.-Electron orbits

Q.18 Unified mass is called\_\_\_\_\_.

- a) Dalton
- b) Antoine Lavoisier
- c) Both a and b
- d) None of these

Ans.-Dalton

Q.19 A\_\_\_\_\_is that quantity of a substance. Whose mass in grams is equal in magnitude to the molecular mass of that substance.

- a) Molecule
- b) Molecular mass
- c) Mole
- d) Atom

Ans.-Mole

Q.20 Avogadro's number is denoted by the symbol\_\_\_\_\_.

- a)  $N_A$
- b)  $N_B$
- c)  $N$
- d)  $N^0$

Ans.- $N_A$

Q.21 Cationic radicals are called as\_\_\_\_\_radicals.

- a) Acidic
- b) basic
- c) ionic
- d) None of these

Ans.-basic

Q.22 Anionic radicals are called as\_\_\_\_\_radicals.

- a) Basic      b) cations      c) Acidic      d) ions

Ans.-Acidic

Q.23 Molecular state of oxygen is\_\_\_\_\_.

- a) Monoatomic                      b) Diatomic  
c) acidic                      d) basis

Ans.-Diatomic

Q.24 The magnitude of charge on any radical is its\_\_\_\_\_.

- a) Atomic number                      b) Atomic mass  
c) Mass                      d) Valency

Ans.-Valency.

Q.15 The unit Dalton is used to express\_\_\_\_\_.

- a) Atomic number                      b) Atomic mass  
c) Atoms d) Molecules.

Ans.-Atomic mass

Q.26 Iron (Fe) has the variable valencies as \_\_\_\_\_.

- a) 1 and 2                      b) 2 and 2  
c) 1 and 1                      d) 2 and 3.

Ans.-2 and 3.

Q.27 \_\_\_\_\_ is a composite radical.

- a)  $\text{NH}_4^+$  b)  $\text{NH}_3$   
c)  $\text{NH}_4$  d)  $\text{Ca}^{2+}$ .

Ans.- $\text{NH}_4^+$

Q.28 \_\_\_\_\_g of water makes 1 mole of water.

- a) 18              b) 20              c) 2              d) 14

Ans.-18

Q.29 Find the molecular formula of  $\text{AlCl}_3$ , if the atomic mass of Al is 27, Cl is 106.5.

- a) 133.5              b) 136.5              c) 134.0              d) 130.5

Ans.-133.5

Q.30 Find the molecular formula of  $\text{MgO}$ , if the atomic mass of Mg is 24, and oxygen 16.

- a) 36                      b) 38                      c) 40                      d) 52

Ans.-40

Q.31 In a chemical reaction, the total weight of the reactant is same as the total weight of products formed due to chemical reaction this law is \_\_\_\_\_.

- a) Law of conservation of matter.  
b) Molecular mass  
c) Valency  
d) Law of constant proportion.

Q.32 Under different conditions the atoms of some elements give away or take up different number of electrons. Those elements exhibit more than one valency. This property of element is called\_\_\_\_\_.

- a) Valency                      b) Variable valency  
c) Atoms                      d) Elements.

Ans.-Variable valency



Q.33 Atomic radius is measured in\_\_\_\_\_.

- a) microns                      b) micrometers
- c) nanometer                d) None of these

Ans.-Nanometer

Q.34 Elements like iron (Fe) and copper (Cu) exhibits\_\_\_\_\_valency.

- a) Variable b) Zero
- c) One                      d) None of these.

Ans.-Variable

Q.35 The magnitude of \_\_\_\_\_on any radical is its valency.

- a) Valency                      b) charge
- c) atoms                      d) mass

Ans.-Charge

Q.36 J.L. Proust formulated\_\_\_\_\_.

- a) Law of constant proportion
- b) Law of conservation
- c) Chemical symbol
- d) None of these.

Ans.-Law of constant proportion

Q.37 Berzelius formulated\_\_\_\_\_.

- a) Chemical symbols
- b) Law of constant proportion
- c) Law of conservation of matter.
- d) Valency.

Ans.-Chemical symbols

Q.38 The proportion by weight of the constituent elements in the various samples of a compound is fixed this statement is\_\_\_\_\_.

- a) Law of conservation of matter
- b) Law of constant proportion
- c) Both a and b
- d) None of these.

Ans.-Law of constant proportion

Q.39 Following is an example of –  $\text{Na}^+$ .

- a) Composite radical
- b) Monoatomic radical
- c) Ionic radical
- d) None of these.

Ans.-Monoatomic radical

Q.40 Find the which do not have molecule.

- a) Na                      b) Al                      c) Mg                      d) H<sub>2</sub>

Ans.-H<sub>2</sub>

Q.41 Find which is not monoatomic radical from the following.

- a) Ag<sup>+</sup>                      b) Fe<sup>+2</sup>                      c) NH<sub>4</sub><sup>+</sup>                      d) Cu<sup>+</sup>

Ans.-NH<sub>4</sub><sup>+</sup>

Q.42 Find from the following which is not a composite radical.

- a) SO<sub>4</sub><sup>-2</sup> d) Cl<sup>-</sup> c) CO<sub>3</sub><sup>-2</sup> d) NO<sub>3</sub><sup>-</sup>

Ans.-Cl<sup>-</sup>

Q-43. Find the element that does not show variable valency.

- a) Fe                      b) Cu                      c) Mg                      d) Hg

Q-44. What products are obtained when copper oxide is treated with hydrogen gas ?

- a) Water    b) Copper

- c) Water and element copper      d) None of these.

Q-45. Find the element from following that has variable valency.

- a) Fluorine      b) carbon      c) Aluminium  
e) copper

Q-46. Find from following which has basic radical.

- a) Stannous ion      b) Hydride ion  
c) Nitrite ion      d) None of these.

Q-47. Compounds are formed when atoms of different elements combine by\_\_\_\_\_.

- a) Chemical reaction      b) Chemicals  
c) elements      d) None of these.

Q-48. Identify the molecular formula for slaked lime\_\_\_\_\_.

- a)  $\text{Ca(OH)}_2$       b)  $\text{CaO}$       c)  $\text{C}$       d)  $\text{CaCO}_3$

Q-49. Identify the molecular formula for Limestone\_\_\_\_\_.

- a)  $\text{CaCO}_3$       b) Ca      c) C      d)  $\text{CO}_3$

Q-50. Earnest Rutherford conducted a well known experiment called \_\_\_\_\_.

- a) Conductor      b) Gold foil      c) Silver foil  
d) None of these.