

Chemistry Worksheets Class 9 on Chapter 3 Atoms and Molecules Worksheet - Set 1

Q1. The atomic number of an element is 13. What will be the number of electrons in its ion?

- a.) 13
- b.) 12
- c.) 11
- d.) 10

Q2. The formula of a compound is A_3B_2 . The valency of element B will be:

- a.) 2
- b.) 3
- c.) 1
- d.) Cannot be determined

Q3. Atoms of the same element combine to form:

- a.) molecules
- b.) ions
- c.) atoms
- d.) compounds

Q4. The correct symbol of lead is-

- a.) L
- b.) Le
- c.) Pb
- d.) Pu

Q5. The discovery of ____ proved that the atom is divisible.

- a.) protons
- b.) electrons
- c.) neutrons
- d.) All of the above

Q6. What is the Avogadro constant?

- Q7.** The relative atomic mass of the oxygen atom is 16. Explain its meaning.
- Q8.** What is the difference between 2N and N₂?
- Q9.** What were the drawbacks of Dalton's atomic theory?
- Q10.** Define the Law of conservation of mass.
- Q11.** What is meant by a molecule? Give examples.
- Q12.** Define atomic mass.
- Q13.** Calculate the molecular mass of the following compounds:
(Atomic masses: C = 12 μ, H = 1 μ, Cl = 35.5 μ, S = 32 μ, O = 16 μ, Na = 23 μ)
- Chloroform
 - Sulphuric acid
 - Sodium hydroxide
- Q14.** What are ions?
- Q15.** Fill in the blanks.
- Clusters of atoms that act as an ion are called ____ ions
 - A chemical formula is also known as a ____.
 - The valency of an ion is ____ to the charge on the ion.
 - The mass of 1 mole of a substance is called its ____.
 - The formula mass of Na₂O is ____.
- Q16.** How many grams of oxygen gas contain the same number of molecules as 16 grams of sulphur dioxide gas? (O = 16 μ, S = 32 μ)
- Q17.** Write the symbols of the following:
- Copper
 - mercury
 - iron
 - silver
 - gold
 - argon
 - zinc
- Q18.** Write the chemical formula of the following compound:
- Magnesium chloride
 - Calcium oxide
 - Copper nitrate

d.) Aluminium chloride

Q19. a.) The atomic number of three elements A, B and C are 9, 10 and 13 respectively. Which of them will form a cation?

b.) Give an example to show the law of conservation of mass applies to physical changes also.

Q20. a.) What is meant by the molar mass of a substance? State the unit in which molar mass is usually expressed.

b.) Calculate the molar masses of the following substances-

i.) Ozone molecule O_3

ii.) Ethanoic acid CH_3COOH

c.) Calculate the number of molecules in 4g of oxygen.

