

International Indian School Buraidah
Worksheet of the year 2024-25
Class-9th Chemistry Lesson -3

Q1.MCQ

1. Which of the following is NOT a subatomic particle?

- a) Neutron
- b) Proton
- c) Electron
- d) Ion

Answer: d) Ion

Q2. What is the smallest particle of an element that retains its properties?

- a) Atom
- b) Molecule
- c) Ion
- d) Neutron

Answer: a) Atom

Q3. Who proposed the plum pudding model of an atom?

- a) J.J. Thomson
- b) Ernest Rutherford
- c) Niels Bohr
- d) James Chadwick

Answer: a) J.J. Thomson

Q4. The atomic number of an element is determined by the number of:

- a) Protons
- b) Electrons
- c) Neutrons
- d) Nucleons

Answer: a) Protons

Q5. Which of the following is NOT a compound?

- a) Water
- b) Oxygen
- c) Carbon dioxide
- d) Hydrochloric acid

Answer: b) Oxygen

Q6. The mass number of atom is equal to total number of:

- a) Protons and neutrons
- b) Protons and electrons
- c) Neutrons and electrons

d) Electrons only

Answer: a) Protons and neutrons

Q7. Who proposed the planetary model of an atom?

a) J.J. Thomson

b) Ernest Rutherford

c) Niels Bohr

d) James Chadwick

Answer: c) Niels Bohr

Q8. Which of the following is NOT a chemical reaction?

a) Rusting of iron

b) Burning of magnesium

c) Dissolving sugar in water

d) Melting of ice

Answer: d) Melting of ice

Q9. Which scientist's experiment led to the discovery of the nucleus of an atom?

a) J.J. Thomson

b) Ernest Rutherford

c) Niels Bohr

d) Dmitri Mendeleev

Answer: b) Ernest Rutherford

Q2.Assertion And Reason

a) Both assertion and reason are true and reason is the correct explanation of assertion.

(b) Both assertion and reason are true but reason is not the correct explanation of assertion.

(c) Assertion is true but reason is false.

(d) Assertion is false but reason is true

Question 1.

Assertion: The number of particles present in one mole of a substance is fixed.

Reason: The mass of one mole of a substance is equal to its relative atomic mass in grams.

Answer: (a)

Question 2.

Assertion: Atoms always combine to form molecule and ions.

Reason: Atoms of most element are not able to exist independently.

Answer: (d)

Question 3.

Assertion: Atomicity of ozone is three while that of oxygen is two.

Reason: Atomicity is the number of atoms constituting a molecule.

Answer: (a)

Question 4.

Assertion: 1 amu equals to 1.66×10^{-24} g.

Reason: 1.66×10^{-24} g equal to $1/12^{\text{th}}$ mass of a C-12 atom.

Answer: (a)

Question 5.

Assertion: On burning magnesium in oxygen, the mass of magnesium oxide formed is equal to the total mass of magnesium and oxygen

Reason: In a chemical substance, the elements are always present in a definite proportion.

Answer: (b)

Question 6.

Assertion: 1 mole of H_2 and O_2 occupy 22.4 L at standard temperature and pressure.

Reason: Molar volume for all gases at the standard temperature and pressure has the different values.

Answer: (c)

Question 7.

Assertion: Molecular weight of oxygen is 16.

Reason: Atomic weight of oxygen is 16.

Answer: (d)

Question 8.

Assertion: Atomic mass of aluminium is 14.

Reason: An atom of aluminium is 27 times heavier than $\frac{1}{12}$ th of the mass of carbon-12 atom.

Answer: (a)

Question 9.

Assertion: The number of moles of He in 52 g of He is 13.

Reason: The number of moles of an atom is the ratio of its given mass to its molar mass.

Answer: (a)

Question 10.

Assertion: The valency of aluminium is 3 and oxygen is 2.

Reason: The chemical formula of aluminium oxide is Al_3O_2 .

Answer: (c)

Q3.Question And Answer

Question 1.

Name two scientists who established the laws of chemical combination?

Answer:

Antoine L. Lavoiser and Joseph L. Proust.

Question 2.

Give an example of a triatomic molecule of an element.

Answer:

Ozone (O_3)

Question 3.

Define atomicity.

Answer:

It is the number of atoms present in one molecule of a substance.

Question 4.

Write the atomicity of the following molecules:

(i) Sulphur

(ii) Phosphorus

Answer:

(i) 8

(ii) 4

- Question 5.

Give one word for the following:

(i) A group of atoms carrying a charge

(ii) Positively charged ion

Answer:

(i) Ion

(ii) Cation

Question 6.

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

Answer:

Electronic configuration of A : 2, 7

Electronic configuration of B : 2, 8

Electronic configuration of C : 2, 8, 3

'C' will form a cation because a cation is formed by the loss of one or more electrons by an atom.