Chemistry Worksheets Class 9 on Chapter 3 Atoms and Molecules Worksheet - Set 2

Q1. A negatively charged ion is known as:

a.) cation
b.) anion
c.) polyatomic ion
d.) None of the above

Q2. An atom is similar to its ion in:

a.) nuclear charge
b.) mass number
c.) number of electrons
d.) number of neutrons

Q3. The chemical formula of water is:

a.) HO
b.) H_2O
c.) O_2H
d.) H_3O

Q4. Who proposed the statement that the atom is indivisible?

a.) Rutherford
b.) Dalton
c.) Bohr
d.) Lavoisier

Q5. The smallest unit of a chemical compound is:

a.) Atom
b.) Ion
c.) Electron
d.) Molecule

Q6. Name the law of chemical combination which was given by:
a.) Lavoisier

b.) Proust

Q7. An element X has a valency of 1 and the other element Y has a valency of 2. What will the formula of its compound be?

Q8. How does an atom exist?

Q9. What is meant by the symbol of an element? Explain with examples.

Q10. What do you mean by the Law of constant proportions?

Q11. Hydrogen and oxygen combine in the ratio of 1:8 by mass to form water. What mass of oxygen gas would be required to react completely with 3g of hydrogen gas?

Q12. Define polyatomic ions.

Q13. What is the chemical formula? Explain by giving examples.

Q14. Define 1 mole. Illustrate its relationship with the Avogadro constant.

Q15. Fill in the blanks.
a.) Mole is the link between the ___ atoms and the ___ atoms.
b.) A compound made up of only two elements is called a ____.
c.) Ionic compounds are formed by the combination between ____ and ____.
d.) If an atom has less electrons than normal, then it gets ____ charge.
e.) ____ represents the name of the substance.

Q16. Differentiate between:
a.) Atoms and molecules
b.) Cations and anions
c.) Molecular mass and molar mass

Q17. a.) In which one of the following cases is the number of hydrogen atoms is more?
Two moles of HCl or one mole of NH_3.
b.) Calculate the mass of 1 mole of $CaCO_3$.
c.) Give two examples of triatomic molecules.

Q18. a.) When 3.0 g of carbon is burnt in 8.00 g oxygen, 11.00 g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.00 g of carbon is burnt in 50.00 g of oxygen? Which law of chemical combination will govern your answer?
b.) If one mole of carbon atoms weighs 12 grams, what is the mass (in grams) of 1 atom of carbon?

Q19. a.) Calculate the mole ratio of 240 g of calcium and 240 g of magnesium.

b.) If sulphur exists as S_8 molecules, calculate the number of moles in 100 g of sulphur.

Q20. The mass of a single atom of an element X is 2.65×10^{-23} g. What is its atomic mass? What could this element be?