

Chemistry Practical Class 9 Verification of the law of conservation of mass in a chemical reaction Viva Questions with Answers

Q1. What is the law of conservation of mass?

Answer: The law of conservation of mass states that mass is neither created nor destroyed during a chemical reaction. The total mass of the reactants is equal to the total mass of the products after the completion of the reaction.

Q2. Who proposed the law of conservation of mass?

Answer: The law of conservation of mass was proposed by Antoine Lavoisier.

Q3. What kind of changes the chemicals undergo during a reaction?

Answer: The chemicals could undergo physical changes, chemical changes or nuclear changes.

Q4. What is meant by physical reaction?

Answer: Physical reaction is a reaction in which only the state of the reactant changes i.e. solid to liquid or liquid to gas etc. There is no making or breaking of bonds during the reaction.

Q5. What is meant by a chemical reaction?

Answer: A chemical reaction is a reaction in which the reactants are converted to products by the making or breaking of bonds. A chemical transformation takes place from the reactants to the products.

Q6. What is meant by a nuclear reaction?

Answer: A nuclear reaction is a reaction in which the nucleus of an element is changed by addition or removal of protons.

Q7. Give an example of a physical reaction.

Answer: The conversion of ice to water is an example of physical reaction.

Q8. Give an example of a chemical reaction.

Answer: The conversion of calcium carbonate to calcium oxide and carbon dioxide is an example of chemical reaction.

Q9. Give an example of a nuclear reaction.

Answer: The conversion of uranium to barium and krypton is an example of a nuclear reaction.

Q10. Give the equation of chemical reaction performed to verify the law of conservation of mass.

Answer: $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{s}) \rightarrow \text{BaSO}_4(\text{s}) + 2\text{NaCl}(\text{aq})$

Q11. What was the total mass of reactants?

Answer: The total mass of reactants was found to be 111.65 g.

Q12. What was the total mass of products?

Answer: The total mass of products was found to be 111.65 g.

Q13. Was the total mass of reactants equal to or greater than or less than the total mass of products?

Answer: The total mass of reactants was equal to the total mass of products.

Q14. What is the above written reaction an example of?

Answer: The above written reaction is an example of double displacement reaction.

Q15. What is the density of water?

Answer: The density of water is 1g/ml.

Q16. What is the inference drawn from the experiment?

Answer: The inference is, No loss of mass occurs in a chemical reaction.

Q17. The word 'atom' was coined by which scientist?

Answer: John Dalton coined the term atom.

Q18. What is an atom?

Answer: An atom is the fundamental unit of matter. It exists independently and is the smallest unit of an element.

Q19. How do atoms combine with each other?

Answer: Atoms combine in whole number ratios with each other.

Q20. What is the unit of atomic radii?

Answer: Nanometer (10^{-9}m) is the unit of atomic radii.

Q21. What is meant by a molecule?

Answer: A molecule is defined as a group of atoms which are combined together chemically.

