



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



Sub: Physical Science

Class: 8

Date: 30.01.21

Duration: 40 min

Worksheet 05

Full Marks: 15

MATTER

Choose the Correct options:

- Matter can neither be created, nor be destroyed but can be changed from one form to another and the total mass of the substances before and after the change remains the same. This statement is the law of
 - Conservation of Mass
 - Conservation of energy
 - Mass- Energy Equivalence
 - All of these
- The law of conservation of mass is valid for:
 - Chemical changes
 - Physical Changes
 - Nuclear transmutation
 - Both a and b
- 2 g of Barium chloride is added to a solution of 3 g Sodium sulphate in 12 g of water. A solution is obtained which shows white precipitation. The weight of the entire mixture is _____
 - 15 g
 - 12 g
 - 5 g
 - 17 g
- A 80 g candle burns to give 10 g residue and carbon dioxide and water vapour. What is the combined mass of carbon dioxide and water vapour produced?
 - 48 g
 - 38 g
 - 70 g
 - 80 g
- 8 g of iodine is taken in a petri-dish covered with an inverted funnel. The mouth of the funnel is covered by a cotton gauze. The mass of the entire arrangement is 87 g. The petri-dish is heated so that the entire iodine sublimates and collects at the mouth of the funnel. Assuming no iodine escapes through the cotton gauge what is the mass of iodine present after the process?
 - 8 g
 - 87 g
 - 79 g
 - 95 g
- In a nuclear fission reactor, 0.0005 mg of Uranium is bombarded with three slow neutrons to give 0.00029 g of Thorium and 0.00019 g of Barium. Three slow neutrons are also produced. Which of the laws are obeyed in this reaction?
 - Conservation of mass
 - Conservation of energy
 - Mass- Energy Equivalence
 - All of these
- A catalyst is a substance present in a reaction which itself doesn't combine with the reactants to produce the products but influences the rate of reaction. The mass of catalyst remains unchanged during a chemical reaction. Which of the following principles are obeyed by this process?
 - Conservation of mass
 - Conservation of energy
 - Mass- Energy Equivalence
 - Both a and b
- When Nitrogen and Oxygen combine in the presence of an electric arc a huge amount of energy is absorbed for the formation of nitric oxide. Which of the following laws are valid for this reaction?
 - Conservation of mass
 - Conservation of energy
 - Conservation of momentum
 - Both a and b
- An electric current on being passed through acidulated water breaks it down into hydrogen and oxygen in the ratio of 2:1 by volume when their masses of the

individual atoms are in the ratio 1:16. If 16 g of oxygen is produced, what is the mass of hydrogen obtained?

- a. 1 g
 - b. 2 g
 - c. 8 g
 - d. 32 g
10. Who postulated the Law of Conservation of mass as a fundamental law of Physics?
- a. John Dalton
 - b. Antoine Lavoisier
 - c. Max Planck
 - d. John Dewey
11. Which of the following are not made of the same substance?
- a. Water vapour and ice
 - b. Carbon dioxide and dry ice
 - c. Oxygen and ozone
 - d. Helium vapour and Helium
12. Nuclear fusion reaction between hydrogen nuclei fuels the energy of the sun. This reaction does not violate
- a. Conservation of mass
 - b. Conservation of energy
 - c. Mass- Energy Equivalence
 - d. All of these
13. 12 g carbon burns completely in 32 g oxygen to produce _____ g of carbon dioxide.
- a. 12 g
 - b. 32 g
 - c. 48 g
 - d. None of these
14. 2 g of hydrogen combines with 71 g of chlorine to produce _____ g of hydrogen chloride gas.
- a. 2 g
 - b. 71 g
 - c. 73 g
 - d. None of these
15. Which of the following does not obey the law of conservation of mass?
- a. Radioactive decay
 - b. Nuclear fusion
 - c. Nuclear fission
 - d. All of these