Answer Key 1.5

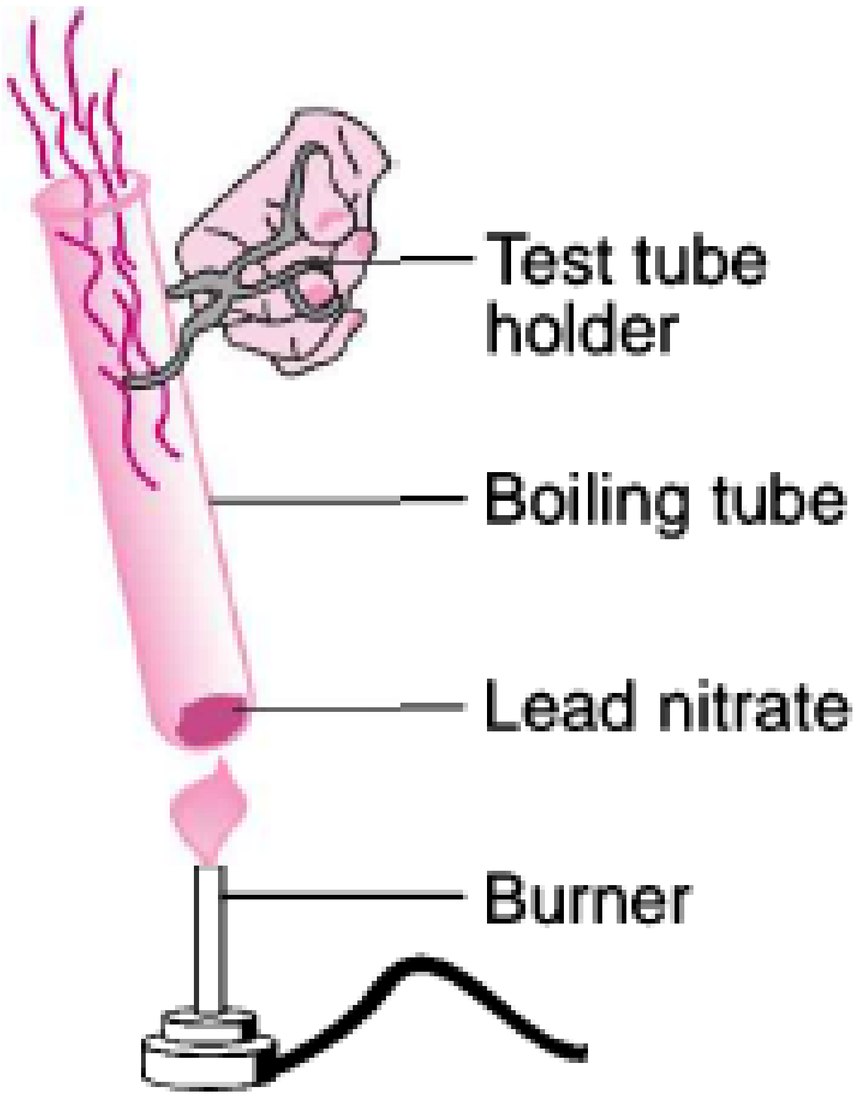
Marks - 25

Case study based questions

10th Science

Chemical Reactions and Equations

Passage - 1 **5 Marks**



In the above image, an experiment is performed where 3 g of lead nitrate powder is heated in a boiling tube over the flame. We observe fumes of some gas and some solid compound is percipitated at bottom of the boiling tube.

Q1. (1) Brown

Q2. (3) Yellow

Q3. (4) NO_2

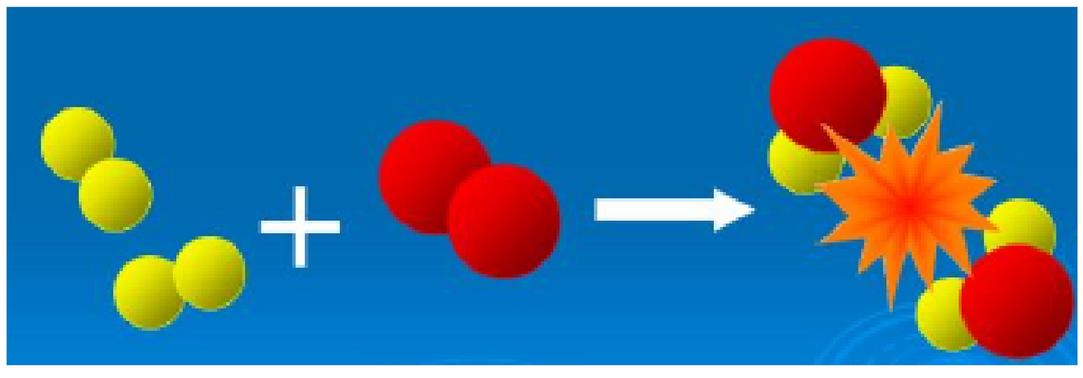
Answer Key 1.5

Marks - 25

Q4. (2) PbO

Q5. (4) Redox

Passage - 2 **5 Marks**



Whenever a chemical change occurs, we can say that a chemical reaction has taken place. A schematic representation of any chemical reaction with the help of symbols and formulas of various species is called a chemical equation. A chemical equation should include all the information regarding the reaction

Q1. (1) (g)

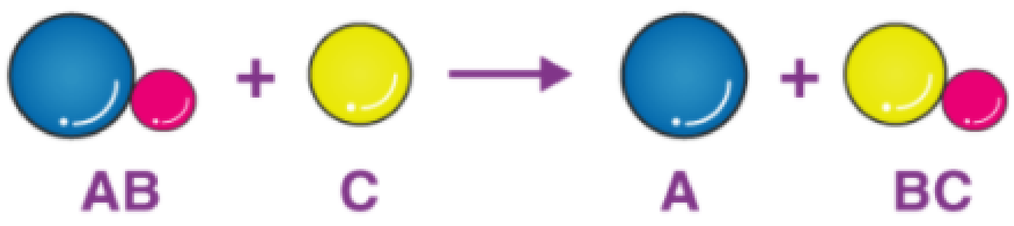
Q2. (2) (s)

Q3. (1) (I)

Q4. (2) FALSE

Q5. (2) FALSE

Passage - 3 **5 Marks**



Answer Key 1.5

Marks - 25

Chemical reaction in which a more reactive element displaces a less reactive element from its compound is called as displacement reaction. Both metals and non-metals take part in displacement reactions.Some applications of displacement reactions are thermite welding, steel making, extraction of metals, and relief from acid indigestion.

Q1. (1) Double displacement reaction

Q2. (2) Single displacement reaction

Q3. (3) Both (1) and (2)

Q4. (1) H_2S is reducing agent and SO_2 is oxidising agent

Q5. (1) TRUE

Passage - 4 **5 Marks**

Chemical reactions are characterized by the change in the state, colour and the temperature.Many changes which happens around us are the result of the chemical reaction. Therefore, the chemical reactions are classified into various categories to simplify their study .

Q1. (1) Combination reaction

Answer Key 1.5

Marks - 25

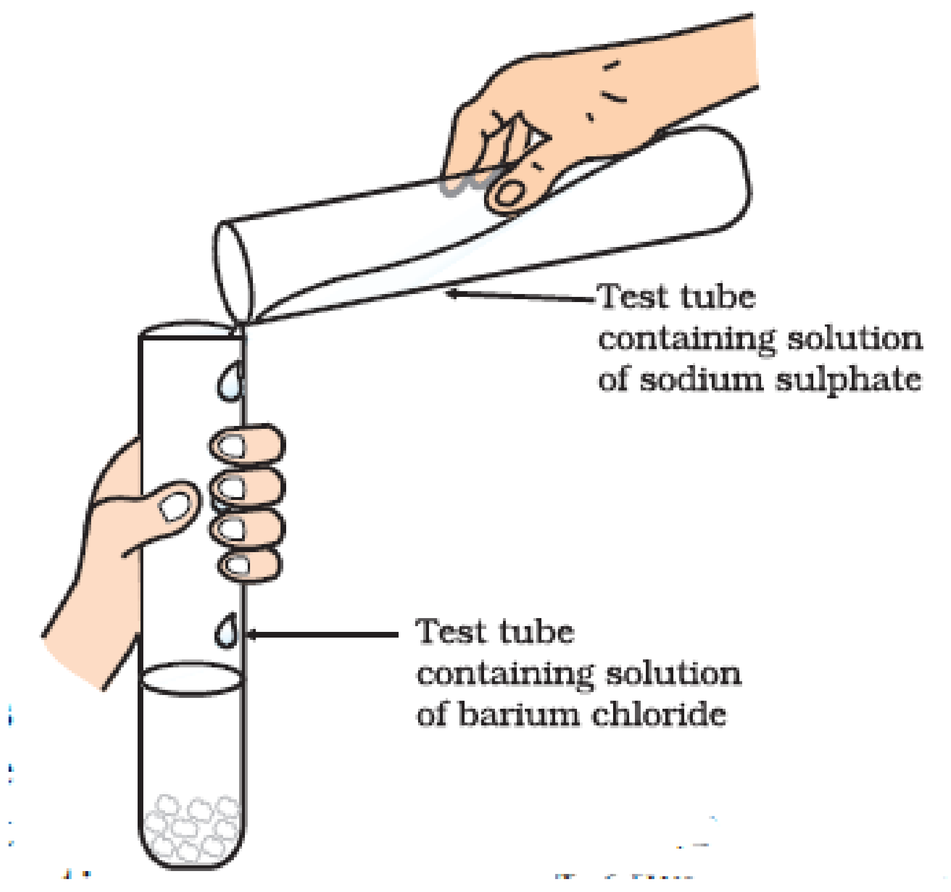
Q2. (4) Double diplacement reaction

Q3. (2) Double diplacement reaction

Q4. (3) Both (1) and (2)

Q5. (2) Displacement reaction

Passage - 5 **5 Marks**



In the above image, an experiment is being performed by a student where 3 mL of sodium sulphate solution is taken in a test tube. In another test tube, about 3 mL of barium chloride solution is taken. The solutions of both the test tubes are mixed and we observe that an insoluble substance is formed.

Q1. (1) White

Q2. (1) TRUE

Answer Key 1.5

Marks - 25

Q3. (2) Double displacement

Q4. (3) Both (1) and (2)

Q5. (1) TRUE

Answer Key 1.6

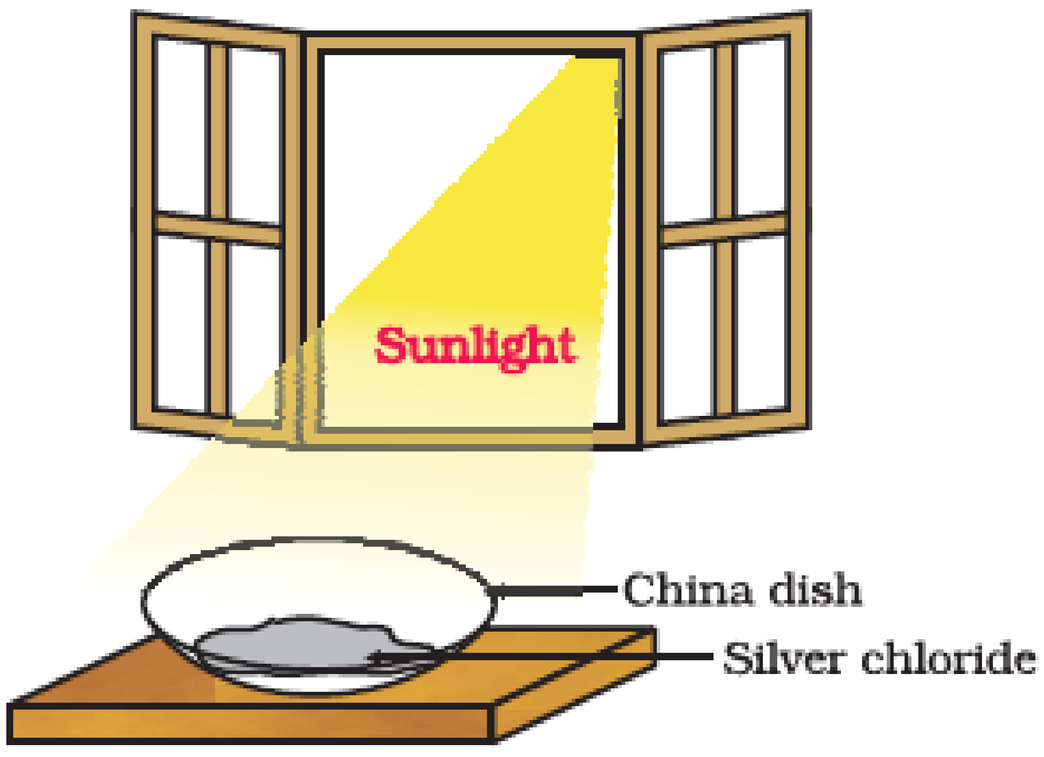
Marks - 25

Case study based questions

10th Science

Chemical Reactions and Equations

Passage - 1 **5 Marks**



In the above image, 2 g silver chloride is taken in a china dish and is kept in sunlight, after sometime we observe that the colour of the silver chloride changes.

Q1. (1) White

Q2. (2) Grey

Q3. (3) Decomposition

Q4. (1) TRUE

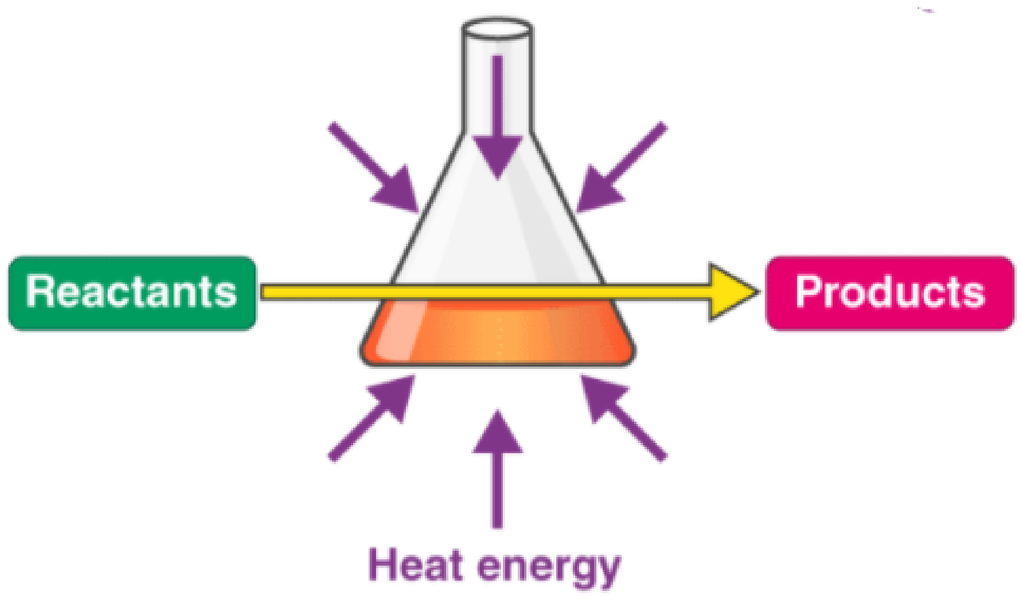
Q5. (4) Thermal decomposition

Answer Key 1.6

Marks - 25

Passage - 2

5 Marks



the decomposition reactions require energy either in the form of heat, light or electricity for breaking down the reactants. These type of reactions are used in manufacture of cement, metallurgical processes , getting relief from acid indigestion, thermite welding.

Q1. (1) Endothermic reaction

Q2. (1) It is a decomposition reaction and endothermic in nature

Q3. (3) Both (1) and (2)

Q4. (1) It is a decomposition reaction and endothermic in nature

Q5. (1) TRUE

Passage - 3

5 Marks

Answer Key 1.6

Marks - 25

In order to increase the fertiility of the soil farmers use compost. It is pre-pared by decomposition of the vegetables, fruits and other organic waste, the process involves a chemical reaction.

Q1. (3) Combination

Q2. (3) Both (1) and (2)

Q3. (3) Both (1) and (2)

Q4. (3) Displacement

Q5. (3) 3

Passage - 4 **5 Marks**

Answer Key 1.6

Marks - 25

Combustion forms the classic example of redox reactions in real-life. However, whenever we talk about combustion, we usually view it as a physical change than a chemical one. The burning of organic material and combustion of hydro-carbons in fossil fuels form yet another important example of redox reactions.

Q1. (3) Both (1) and (2)

Q2. (4) All of the above

Q3. (1) TRUE

Q4. (1) Oxidised

Answer Key 1.6

Marks - 25

Q5. (2) Reduced

Passage - 5 **5 Marks**

In the above image, a black substance is shown which is obtained by heating a shiny brown metal in presence of oxygen.When the given metal comes in contact with air and water it developes the green layer on it's surface.

Q1. (1) Copper

Q2. (2) CuO

Q3. (3) Combination

Q4. (2) FALSE

Q5. (1) $CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(aq)$
