

ICSE Board
Class VII Chemistry
Sample Paper – 1 Solution

Question 1

1. **(b)** Plant extracts

Plant extracts are used for dyeing and colouring clothes.

2. **(a)** Porcelain

An evaporating dish is made of Porcelain.

3. **(a)** Copper and tin

Bronze is an alloy of copper and tin.

4. **(d)** Petrol

Petrol is volatile in nature.

5. **(a)** Carbon dioxide and water vapour

Burning of fuels releases carbon dioxide and water vapour in the atmosphere.

6. **(a)** law of conservation of mass

Balancing chemical equation is based on Law of conservation of mass.

7. **(c)** Fats

Nuts contain Fats.

8. **(d)** CNG

CNG releases least amount of pollutants in the air. .

9. **(d)** Helium

Helium is used in advertising signboards.

10. **(c)** Gypsum

Gypsum is hydrated calcium sulphate.

11. **(b)** Sublimation

Sublimation involves a change from the solid state directly to the gaseous state.

12. **(c)** Distillation

Petroleum is refined using distillation.

13.(b) Hg

The symbol of mercury is Hg.

14.(b) H₂

The molecular formula of hydrogen is H₂.

15.(b) Respiration

The process by which oxidation of food in our body take place is respiration.

Question 2

(A)

1. Hydrogen gas
2. Bronze
3. Glass
4. Catalyst
5. Triatomic molecules

(B)

1. Latin name for copper is cuprum.
2. Oxygen occupies about 21% of air by volume.
3. Helium is used in observation balloons.
4. Distillation is used for preparing solutions for medicinal purposes and laboratories, in car batteries etc.
5. Plaster of Paris is calcium sulphate.

Question 3

(A)

Column A	Column B
Global warming	Ozone
Acid rain	Nitrogen dioxide
Rust	Hydrated ferric oxide
Catalyst	Manganese oxide
Photosynthesis	Carbon dioxide

(B)

1. **Helium (He):** It is the second lightest element known to man. It is used for filling up balloons.
2. **Argon (Ar):** It is used in electric bulbs.
3. **Neon (Ne):** It is used in advertising sign boards.
4. **Radon (Rn):** It is the only radioactive inert gas used for cancer treatment.
5. **Xenon (Xe) and Krypton (Kr):** Both are used in photography.

Question 4

(A)

Silicon	metalloid
Sulphur	Non-metal
Platinum	Metal
Hydrogen	Non-metal
Copper	Metal

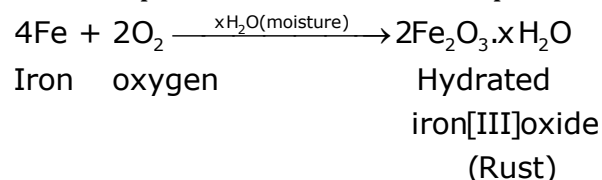
(B)

1. Homogeneous mixtures

A mixture in which the components or constituents are uniformly distributed throughout its volume is called homogeneous mixtures.

2. Rusting in iron

Rusting is a slow oxidation process in which iron slowly reacts with oxygen of the air in the presence of moisture and produces a flaky brown substance called rust.



Rust is hydrated ferric oxide, which forms a reddish brown coating over iron.

Rusting corrodes iron, weakens iron structure, and thus causes economic loss.

3. Nitrogen fixation

The phenomenon by which nitrogen is converted into nitrates and nitrites and get fixed in the soil or directly due to some bacterial action is known as nitrogen fixation.

4. Atomicity

The number of atoms of an element which join to form a molecule of that element is known as the atomicity of that molecule.

5. Polyatomic molecules

Polyatomic molecules of an element contain more than three atoms of the same type.

Question 5

(A)

1. Hydrochloric acid: HCl
2. Potassium hydroxide: KOH
3. Sulphuric acid: H₂SO₄
4. Aluminium sulphate: Al₂(SO₄)₃
5. Magnesium oxide: MgO

(B)

Characteristics of Chemical Reactions

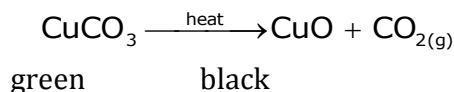
Chemical reactions are characterised by certain changes which can be easily observed. They help to recognise the changes in reactants and the formation of new products. Some of these are as follows:

1. Change of colour:

In some chemical reactions, change of colour takes place when reactants form the products.

Example:

- 1) When green-coloured copper carbonate is heated, it turns into black-coloured copper oxide.

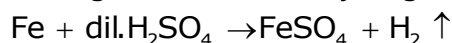


2. Evolution of a gas:

In some reactions, one of the products is a gas, which can be recognised by effervescence (bubbles), smell or colour.

Example:

- 1) When dilute sulphuric acid is added to iron flakes, a strong effervescence is observed indicating the evolution of hydrogen gas.

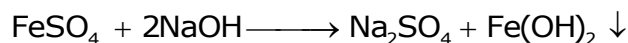


3. Formation of a precipitate:

In certain chemical reactions, an insoluble solid substance is formed called precipitate. It is formed when two solutions of soluble substances react.

Examples:

- 1) When iron sulphate solution is added to sodium hydroxide solution, a dirty green-coloured precipitate is formed.

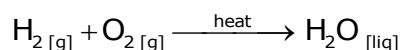


4. Change of state:

In certain chemical reactions, a change of state is observed. The reactant may be solid or liquid which changes into a gaseous product or *vice versa*.

Examples:

- 1) When hydrogen gas is burnt in oxygen gas, it results in the formation of water which is liquid in normal condition.



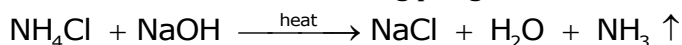
Reactants are gases → Product is in the liquid state

5. Change of smell:

During some chemical reactions, a strong smell is noticed.

Example:

When solid ammonium chloride is heated with sodium hydrochloride solution, ammonia is evolved which has a strong pungent smell.



Question 6

(A)

1. True
2. False. New substance is formed during chemical change.
3. False. Sulphuric acid is a strong acid.
4. True
5. True

(B)

Bunsen burner	Heating purposes
Thistle funnel	Transferring liquids
Wire gauze	Preventing cracking of glass apparatus during heating
Measuring cylinder	Measuring liquids
Conical flask	Mixing and storing gases

Question 7

1.

Metals	Non-metals
Solids at room temperature Exception: Mercury	Liquids, gases or brittle solids
Lustrous (show brightness)	Non-lustrous Exceptions: Graphite, iodine
Malleable Exception: Zinc	Non-malleable Exception: Carbon fibre
Ductile Exceptions: Zinc, mercury	Non-ductile Exception: Carbon fibre
High tensile strength	Low Tensile strength Exception: Carbon fibre
Sonorous	Not sonorous
Good conductor of heat and electricity	Non or poor conductor of electricity Exception: Graphite
Corrosive	Non-corrosive

2.

Pure substance	Mixture
- A pure substance has a definite set of properties. - The components of a pure substance cannot be separated using a physical method of separation. - Example: Pure oil	- A mixture has no definite set of properties. - The components of a mixture can be separated using a physical method of separation. - Example: Mixture of oil and water

3.

Physical changes	Chemical changes
- Physical changes are temporary and reversible. - During a physical change, no new substance is formed. - During a physical change, the composition and properties of the original substance is not altered. - Example: Boiling of milk	- Chemical changes are permanent and irreversible. - During a chemical change, a new substance is formed. - During a chemical change, the composition and properties of the original substance is altered. - Example: Curdling of milk