

METALS AND NON-METALS

1. Which of the following can be beaten into thin sheets. []

- a) Zinc b) Phosphorus
c) Sulphur d) Oxygen

A. Zinc

2. Which of the following statement is correct []

- a) All metals are ductile
b) All non - metals are ductile
c) Generally, metals are ductile
d) Some non - metals are ductile

A. Generally metals are ductile

3. Fill in the blanks

- a) Phosphorus is a very reactive non - metal.
b) Metals are good conductors of heat and electricity.
c) Iron is more reactive than copper.
d) Metals react with acids to produce hydrogen gas.

4. Mark 'T' if the statement is true and 'F' if it is false.

- a) Generally non - metals react with acids [F]
b) Sodium is a very reactive metal [T]
c) Copper displaces Zinc from Zinc sulphate solution [F]
d) Coal can be drawn into wires [F]

5. Some properties are listed in the following table. Distinguish between metals and non - metals on the basis of these properties.

A.

Properties	Metal	Non - Metal
1) Appearance	Metallic Lustre	Non - Lustrous
2) Hardness	Hard	soft
3) Malleability	Malleable	Non - malleable
4) Ductility	Ductile	Non - ductile
5) Heat conduction	good conductors	bad - conductors
6) Conduction of electricity	good conductors	bad - conductors

6. Give reason for following

- a) **Immersion rods for heating liquids are made up of Metallic substances:**
Immersion rods are made up of metallic substances because metals are good conductors of heat and electricity
- b) **Aluminium is used to make electrical wires:** Aluminium is good conductor of electricity.
- c) **Sodium and Potassium are stored in Kerosene:** Sodium and Potassium metals are very reactive because they react with oxygen and water easily, so that Sodium and Potassium are always stored in kerosene.

7. Can you store Lemon pickle in an aluminium utensil? Explain

A. No. Lemon contains citric acid. Generally all acids react with metals like aluminium.

8. Match the substances given in Column A with their uses given in Column B.

A. **Column - A**

A) Gold	[4]
B) Iron	[5]
C) Aluminium	[3]
D) Carbon	[6]
E) Copper	[2]
F) Mercury	[1]

Column - B

- 1) Thermometers
- 2) Electric wire
- 3) Wrapping food
- 4) Jewellery
- 5) Machinery
- 6) Fuel

9. What happen when

a) **Dilute Sulphuric acid is poured into a Copper plate?**

b) **Iron nails are placed in Copper sulphate solution? Write word equations of the reactions involved?**

A. a) Copper sulphate is formed and hydrogen gas is released Moderate reaction under hot condition
 $\text{Copper} + \text{dilute Sulphuric acid} \rightarrow \text{Copper sulphate} + \text{Hydrogen gas}$

b) Brown coating is deposited on the Iron nails, because of the displacement of copper from Copper sulphate solution by Iron.
 $\text{Iron} + \text{Copper sulphate (solution)} \rightarrow \text{Iron sulphate solution} + \text{Copper (pure metal)}$

10. Saloni took a piece of burning charcoal and collected the gas evolved in a test tube

a) **How will she find the nature of the gas?**

b) **Write down word equations of all the reactions taking place in this process?**

A. a) Burning charcoal releases CO_2 gas. When wet litmus paper in contact with the gas, gas turns wet blue litmus paper into red, then the gas will be acidic.

b) i) $\text{Carbon} + \text{oxygen} \rightarrow \text{Carbondioxide}$

ii) $\text{Carbondioxide} + \text{water} \rightarrow \text{Carbonic acid (from wet litmus)}$

11. One day Reeta went to a jeweller's shop with her mother. Her mother gave an old gold jewellery to the goldsmith to polish. Next day when they brought the jewellery back, they found that there was a slight loss in its weight. Can you suggest a reason for the loss in weight?

A. The gold jewellery is dipped into an acidic solution called aqua regia (a mixture of hydrochloric acid and nitric acid) for polishing. On dipping the gold jewellery in the acid solution, the outer layer of gold dissolves and the inner shiny layer appears. This causes a slight loss in its weight.