

**National Institute of Open Schooling**  
**Secondary Course: Science And Technology**  
**Lesson 27: Metals and Nonmetals**



**Worksheet-27**

1. A metal 'X' loses two electrons and a non-metal 'Y' gains one electron. Show the electron dot structure of compound formed between them. Is ionic or covalent? Does it have high melting point or low? Will it conduct electricity in solid state or in aqueous solution and why? Will it be soluble in water?

2. A student was given Mn, Zn, Fe and Cu metals. Identify which of them

(a) Will not displace  $H_2$  from dil. HCl.

(b) Will react only with steam to give  $H_2(g)$ .

(c) Will give  $H_2$  with 5%  $HNO_3$ .

Write the chemical reactions involved.

3. Compound X and aluminum are used to join railway tracks.

(a) Identify the compound X.

(b) Name the reaction.

(c) Write down its reaction.

4. Carbon can reduce copper oxide to copper but not calcium oxide to calcium. Why?

5. A metal 'X' is found in the form of filings which burns vigorously when sprinkle on flame. When these filings are treated with sulphur a black colored compound 'Y' is formed which is not attracted by magnet. 'X' reacts with dil HCl to liberate hydrogen gas. Identify 'X', 'Y'. Write the reaction involved.

6. A metal A, which is used in thermite process, when heated with oxygen gives an oxide B, which is amphoteric in nature? Identify A and B. Write down the reactions of oxide B with HCl and NaOH.

7. A non-metal A is an important constituent of our food and forms two oxides B and C. Oxide B is toxic whereas C causes global warming.

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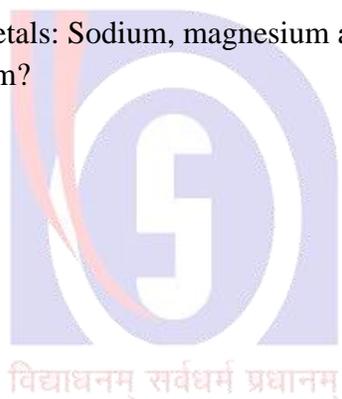
(a) Identify A, B and C.

(b) To which group of periodic table does A belong?

8. An element A reacts with water to form a compound B which is used in white washing. The compound B on heating forms an oxide which on treatment with water gives back B. Identify A, B and C and give the reactions involved.

9. A student has been collecting silver coins and copper coins. One day she observed a black coating on silver coins and a green coating on copper coins. Which chemical phenomenon is responsible for these coatings? Write the chemical names of black and green coatings?

10. You are provided with three metals: Sodium, magnesium and copper. Using only water as the reactant, how will you identify them?



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