

BRAIN INTERNATIONAL SCHOOL

Chemistry Assignment

CLASS- X

OCT'24

Sub: Chemistry

Chapter 3: Metals and Non-metals

1. MULTIPLE CHOICE QUESTIONS:

(i) Although metals form basic oxides, which of the following metals form an amphoteric oxide?

- (a) Na (b) Ca (c) Al (d) Cu

(ii) Electrical wires have a coating of an insulating material. The material, generally used is :

- (a) Sulphur (b) Graphite (c) PVC (d) All can be used

2. ASSERTION-REASON QUESTIONS:

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

- (i) Both A and R are true and R is correct explanation of the assertion.
(ii) Both A and R are true but R is not the correct explanation of the assertion.
(iii) A is true but R is false.
(iv) A is false but R is true.

(a) Assertion: Silver articles become black when exposed to air.

Reason: Copper reacts with moist carbon dioxide in the air and gains a green coat.

(b) Assertion: Metals at the top of reactivity series are not formed in nature as free element.

Reason: Galvanisation is a method of protecting steel and iron from rusting.

3. Read the paragraph and answer the following questions accordingly:

On the basis of reactivity of different metals with oxygen, water and acids as well as displacement reactions, the metals have been arranged in the decreasing order of their reactivity. This arrangement is known as activity series or reactivity series of metals.

The basis of reactivity is the tendency of metals to lose electrons. If a metal can lose electrons easily to form positive ions, it will react readily with other substances.

Therefore, it will be a reactive metal. On the other hand, if a metal loses electrons less rapidly to form a positive ion, it will react slowly with other substances. Therefore, such a metal will be less reactive.

(i) Which of the following metals is less reactive than hydrogen?

- (a) Copper
(b) Zinc
(c) Magnesium
(d) Lead

- (ii) Which of the following metals is more reactive than hydrogen?
- (a) Mercury
 - (b) Platinum
 - (c) Iron
 - (d) Gold
- (iii) Which of the following metals reacts vigorously with oxygen?
- (a) Zinc
 - (b) Magnesium
 - (c) Sodium
 - (d) Copper
- (iv) Hydrogen gas is not evolved when a metal reacts with nitric acid. It is because HNO_3 is a strong oxidising agent. It oxidises the H, produced to water and itself gets reduced to any of the nitrogen oxides (N_2O , NO , NO_2). But _____ and _____ react with very dilute HNO_3 to evolve H_2 gas.
- (a) Pb, Cu
 - (b) Na, K
 - (c) Mg, Mn
 - (d) Al, Zn

4. Answer the following questions :

1. How can a layer of aluminium oxide on an aluminium object we made thicker ?
What is this process called ?
2. A metal that exists as a liquid at room temperature is obtained by heating its sulphide in the in the presence of air .Identify the metal and its ore and give the reaction involved .
3. Of the three metals X,Y and Z ,X reacts with cold water, Y with hot water and Z with steam only .Identify X,Y and Z and also arrange them in order of increasing reactivity.
4. Explain the formation of calcium chloride with the help of electron dot structure.
5. Why do ionic compounds not conduct electricity in solid state but conduct electricity in molten and aqueous state ?