

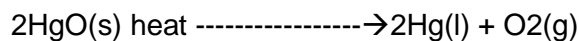
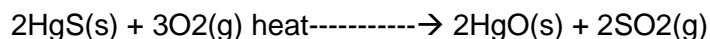
CLASS-10TH -CHAPTER -3 Metals and Non-metals

Metal and non-metals

Short Answer Type Questions:- (3 marks)

Q.1:- Write suitable example, explain how a metal low in the activity series can be extracted?

Ans:- Metals low in the activity series are less reactive. The oxides of these metals can be reduced to metals by heating alone. For example, extraction of Mercury (Hg) from Cinnabar (HgO).



Q.2:- Write three properties of ionic compounds.

Ans:- (i) Ionic compounds have high melting points. (ii) Ionic compounds are soluble in water. (iii) Ionic compounds conduct electricity in aqueous and molten state.

HOTS

1. What is anodizing? What is its use?

Ans. The process of forming a thick oxide layer of aluminium oxide that makes it resistant to further corrosion.

2. What is aqua regia? What is its use?

Ans. Aqua regia is a mixture of conc. HCl and conc. HNO₃ in the ratio 3:1. It can dissolve gold and platinum.

3. What do you mean by thermite reaction? What is its use?

Ans. The reaction between Iron(II) oxide Fe₂O₃ with Al is used to join rail track joints or cracked machine parts. This reaction is known as thermite reaction.

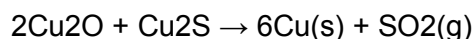
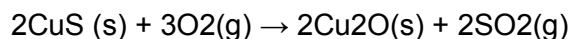


4. Why active metals do not liberate H₂ gas when treated with dil. HNO₃?

Ans. This is because HNO₃ is strong oxidizing agent. It oxidizes H₂ produced to water and itself gets reduced to nitrogen oxides.

5. Sometimes the ore itself acts as a reducing agent. Give an example.

Ans. During roasting of Cu₂S, the ore itself acts as a reducing agent.



MCQ for practical skills

1. An iron nail is dipped in copper sulphate solution. It is observed that

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- I. The colour Of the solution remain unchanged .
- II. The colour Of the solution becomes red .
- III. The colour Of the solution turns to light green .
- IV. None of these

Ans:- (III)

2. SO₂

- I. turns dry blue litmus paper red
- II. turns moist blue litmus paper red
- III. turns moist red litmus paper blue
- IV. none of these

Ans:- (II)

3. Metal A when dipped in solution of salt of metal B ,then metal B is displaced . this shows that

- I. Metal A is more reactive than metal B
- II. Metal B is more reactive than metal A
- III. Metal A and metal B are equally reactive
- IV. None of these

Ans:- (I)

4. When iron nail is dipped in aqueous solution of copper sulphate , it is observed that

- I. Brown coloured layer is formed on the surface of iron nail
- II. Blue coloured layer is formed on the surface of iron nail
- III. green coloured layer is formed on the surface of iron nail
- IV. none of these

Ans:- (i)

MULTIPLE CHOICE QUESTIONS

Q.1-which of the following metals will not react with oxygen,even when heated very strongly in air?

(a) Zn (b) Al (c)Ag (d)Fe

Ans-© Ag

Q.2-electrometallurgical process is employed to extract?

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(a)Fe (b)Pb (c)Na (d)Ag

Ans – © Na

Q.3-which of the following elements occurs in free in nature

(a)Co (b)Fe (c)Ni (d)Pt

Ans-(d) Pt Q.4-What is not true about calcinations?

(a)to remove all organic matter (b)to convert ore into metal

©to remove moisture from the ore (d)to decompose carbonates and hydroxides

Ans-(b)to convert ore into metal.

Q.5 what is not true about roasting?

(a)to convert sulphides into oxides

(b)to remove volatile impurities ©to dry the ore

(d)to convert the the ore into fine powder

Ans-(d) to convert ore into fine powder

Q.6 which of the following pairs will give displacement reaction

(a)NaCl solution and copper metal (b)MgCl₂ solution and aluminium metal

©FeSO₄ solution and silver metal

(d)AgNO₃ solution and copper metal

Ans-(d) AgNO₃ solution and copper metal

Q.7-A non-metallic oxide which is neutral in nature is

(a)CO₂ (b)CO ©P₂O₅ (d)none of these

Ans-(b)CO