



4. Which method is used to purify Blister (copper copper obtained from its sulphide ore) Explain.

Ans. Blister copper is purified by poling. In this method the molten metal is stirred with logs (Pores) of green. The impurities are removed either as gases or they get oxidized and form slag over the molten metal. The reducing gases evolved from the wood prevent the oxidation of copper.

5. Give examples for the metals undergo corrosion ? Why do they corrode ? how to prevent corrosion ?

Ans. 1) Iron, silver, copper. Generally undergo corrosion.
 2) In metallic corrosion a metal is oxidised by loss of electron's generally to oxygen and results in the formation of oxides.
 3) **Prevention** : Covering the surface with paint or some chemicals e.g. : Bisphenol.
 B) Electroplating.

6. What is the main difference in Blast furnace and Reverberatory furnace regarding fire box and hearth ?

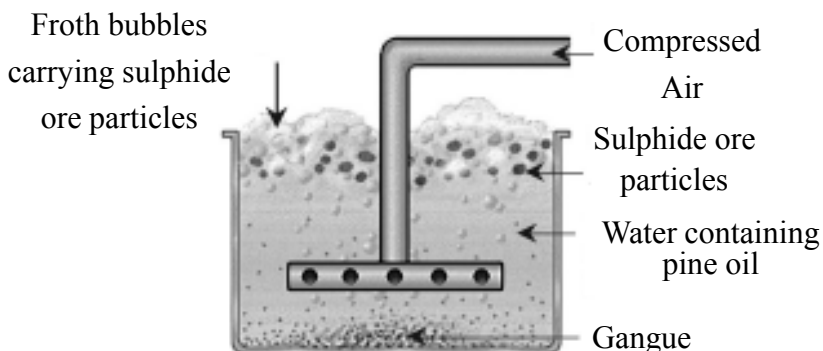
Ans. In Blast Furnace both fire box and hearth are combined in big chamber which accommodates both ore and fuel.

In Reverberatory Furnace fire box and hearth are separated, but the vapours obtained due to the burning of the fuel touch the ore in the hearth and heat it.

4 Mark Questions

III.1. Which method is used for dressing sulphide ore. Explain with a neat diagram ?

Ans. 1) Froth Flotation method is used for dressing the sulphide ore.
 2) The ore with impurities is finely powdered and kept in water taken in a flotation cell.
 3) Air under pressure is blown to produce froth in water.
 4) Froth produced takes the ore particles to the surface.
 5) The impurities settle at the bottom.
 6) Froth is separated and washed to get ore particles.



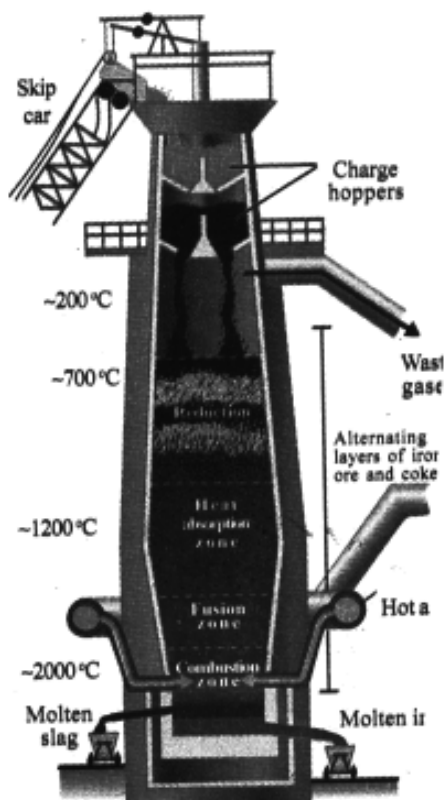
Froth floatiion process for the concentration of sulphide ores

4. Describe an experiment to prove that the presence of air and water are essential for corrosion Explain the procedure. (As-3)

- Ans. 1) Take three test tubes and place clean Iron nails in each of them.
2) Label these test tubes A, B and C.
3) Pour some water in test tube A and cork it.
4) Pour Boiled water in test tube B and add 1 ml of oil and cork it. The oil float on water and prevent the air from dissolving in the water.
5) Put some anhydrous calcium chloride in test tube C and cork it. It absorbs any moisture present in the test tube.
6) Leave these test tubes for a few days and then observe.
7) We notice that iron nails rust in test tube A only. Because the nails are exposed to air and water.
8) The nails in B are exposed only to water and Nails in test tube C are exposed to dry air.
9) From this we can say that air and water are essential for corrosion.

5 Mark Questions

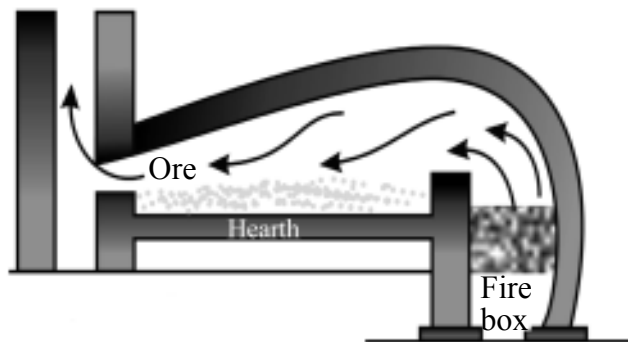
1. Write the process involved in Blast furnace in to extraction of metals with a diagram and label the parts.



Ans. Smelting is carried out in a blast furnace.

2. What is the role of a furnace in metallurgy. Draw a neat diagram of Reverberatory furnace ?

Ans. Furnace is one which is used to carry out pyrochemical process in metallurgy.



PART – B

I. Multiple Choice questions :

1. The reducing agent used in thermite process is ()
 A) Al B) Mg C) Fe D) Si
2. The purpose of smelting an ore is to it ()
 A) Oxidise B) Reduce C) Neutralise D) None
3. The process used to convert sulphide ore into oxide ore is ()
 A) Roasting B) Calcination C) Smelting D) None
4. The substance added to remove the impurity is ()
 A) Gangue B) Flux C) Fuel D) None
5. The most abundant metal in the earth's crust is ()
 A) Silver B) Zinc C) Aluminium D) Iron
6. group elements are called chalcogens ()
 A) 16th B) 15th C) 14th D) 13th
7. Low boiling metals are purified by method ()
 A) Poling B) Distillation C) Liquation D) Electro refining
8. The part of Furnace where we keep Fuel for burning is ()
 A) Hearth B) Fire box C) Chimney D) None
9. During corrosion process takes place ()
 A) Oxidation B) Reduction C) Both D) None
10. is the place inside the furnace where the ore is kept for heating purpose ()
 A) Fire box B) Hearth C) Chimney D) None

II. Matching.

- | I. A | | B |
|----------------|-----|-------------------------|
| 1. Horn silver | () | A. NaCl |
| 2. Epsom salt | () | B. PbS |
| 3. Rock salt | () | C. $MgSO_4 \cdot 7H_2O$ |
| 4. Cinnabar | () | D. AgCl |
| 5. Galena | () | E. HgS |
| | | F. $CaCO_3$ |
| | | G. $CuFeS_2$ |

- | II. A | | B |
|---------------|-----|---------------|
| 1. Oxides | () | A. Rock salt |
| 2. Sulphides | () | B. Epsom salt |
| 3. Chlorides | () | C. Zincite |
| 4. Carbonates | () | D. Zinc Blend |
| 5. Sulphates | () | E. Lime stone |
| | | F. Gold |

Answer

- | | | | | | | | |
|------------|------|------|-------|------|------|------|------|
| I. | 1) A | 2) B | 3) A | 4) B | 5) C | 6) A | 7) B |
| | 8) B | 9) A | 10) B | | | | |
| I. | 1) D | 2) C | 3) A | 4) E | 5) B | | |
| II. | 1) C | 2) D | 3) A | 4) E | 5) B | | |

