ASSIGNMENT

Answer the following

Q1 Explain: (i) Zone refining (ii) Column chromatography.

Q2 What is the role of depressant in froth floatation process?

Q3 Copper can be extracted by hydrometallurgy but not zinc. Explain.

Q4 Why copper *matte* is put in silica lined converter?

Q5 What is the role of cryolite in the metallurgy of aluminium?

Q6 Out of C and CO, which is a better reducing agent for ZnO ?

Q7.The iron pillar near Qutab Minar in Delhi is made up of wrought iron. This iron pillar was made around 400 BC by the Indian iron workers. Though wrought iron rust slowely with time but the Indian iron workers have developed a process which prevented the wrought iron pillar from rusting even after thousands of years. The rusting has been prevented because of the formation of a thin film of magnetic oxide of iron on the surface as a result of finishing treatment given to the pillar, painting it with a mixture of different salts, then heating and quenching(rapid cooling). The iron pillar is 8m high and 600kg in weight. This iron pillar stands in good condition more than 200 years after it was made. The iron pillar at Delhi is a wonder of ancient Indian metallurgy. It tells us that ancient Indians had good knowledge of metals and their alloys .

(i) What is an alloy?

(ii) Name two alloys of iron.

(iii) How is an alloy made?

(iv) What are the constituents of stainless steel?

(v) Name any 2 properties of alloys which are different from the properties of the constituent metals.

MULTIPLE CHOICE QUESTIONS (MCQ) (1 Mark)

1-What is the role of Zinc metal in the extraction of Silver.

(i) As Oxidising agent (ii) As Reducing agent (iii) Both of them (iv) None of them .

2-Name the method that is used for the refining of Nickel (i)Mond's Process (ii) Electrolytic Refining (iii) Zone Refining (iv) All of them.

3- Which reducing agent is employed to get copper from leached low grade copper ore. (i)N2 (ii) H2 (iii) coke (iv) CO_2

4-Name the depressant which is used to separate ZnS and PbS ores in froth flotation process. (i) NaCN (ii) NaOH (iii) NaCl (iv) KCl

5-Silica is used as a flux in the extraction of Metals which is an example of (i)Basic (ii) Neutral (iii) Acidic (iv) Amphoteric

6- What name is given to Carbon Reduction process for extracting the metal. (i)Roasting (ii) Calcination (iii) Electrolytic (iv) Smelting

7-Which process is generally used for the concentration of sulphide ores (i)Hydraulic Washing (ii) Magnetic Separation (iii) Froth Flotation (iv) Distillation

8-Which metal is obtained by reacting the ore with dilute sodium cyanide solution. (i)Gold (ii) Silver (iii) Iron (iv) Gold

9-Which one of the purest form of commercial iron (i)Pig Iron (ii) Steel (iii) Wrought Iron (iv) None of them.

10-Name the process by which an ore of tin containing FeCr2O4 is concentrated

i)Magnetic Separation (ii) Liquation (iii) Froth Floatation (iv) Leaching

ASSERTION -REASON TYPE

A statement of assertion is followed by a statement of reason. Mark the correct choice from the options given below.

(a) Both assertion and reason are true and reason is the correct explanation of assertion.

(b) Both assertion and reason are true but reason is not the correct explanation of assertion.

(c) Assertion is true but reason is false.

(d) Both assertion and reason are false.

1. Assertion : Copper is obtained during extraction from cuprous oxide, is called blister copper.

Reason : It has shining surface like blister.

2. Assertion : Carbon and hydrogen are good reducing agents but they are not used to reduce metal oxides at high temperature.

Reason : They react with metals to form carbides and hydrides at high temperature.

3. Assertion : Sulphide ores are converted to oxides before reduction.

Reason : Sulphides can not be reduced easily while oxides can be easily reduced.