

TEST-B**SOLVED**

Time: 1 hr.

Max. Marks: 30

SECTION-A**Tick the correct option:**

- Which of the following ore is not being concentrated by Froth floatation process? [1]
(i) Siderite (ii) Copper glance (iii) Sphalerite (iv) Copper pyrite
- The incorrect statement is [1]
(i) Hall-Heroult process → extraction of aluminium from molten Alumina
(ii) Baeyer process → concentration of bauxite ore
(iii) Hoopes process → electrolytic refining of aluminium
(iv) Zone refining process → refining of zinc
- Which of the following metal is not obtained by using carbon reduction? [1]
(i) Iron (ii) Zinc (iii) Aluminium (iv) All are obtained

Assertion-Reason type Questions:

- (i) If assertion and reason both are correct and reason is the correct explanation of assertion.
(ii) If assertion and reason both are correct and reason is not the correct explanation of assertion
(iii) If assertion is correct and reason is wrong.
(iv) If assertion is wrong and reason is correct.
- Assertion: Low grade copper ores gives copper by using hydrometallurgy. [1]
Reason: Copper is below hydrogen in the activity series.
- Assertion: Iron obtained from blast furnace is called cast iron. [1]
Reason: Cast iron is brittle, cannot be welded and containing about 3% carbon.

One word /One Sentence type Questions.

- What is the role of limestone in the metallurgy of iron? [1]
- State the principle involved in the hydraulic washing. [1]

SECTION-B

- Give reason: [2]
(i) Hydrometallurgy is used for copper ore but not for zinc ore.
(ii) Zinc oxide can be reduced to zinc by coke and not carbon monoxide.

9. Describe giving balanced chemical equation, the extraction of copper from copper pyrites. [2]
10. Name the reducing agent used in the [3]
- (i) reduction of Fe_2O_3 to Fe in the lower part and upper part of the blast furnace.
 - (ii) auto-reduction of Cu_2O
 - (iii) thermite process
11. Explain the role of [3]
- (i) iodine in the van Arkel method
 - (ii) cresol in the Froth floatation process
 - (iii) fluorspar in the electrolytic reduction of pure alumina.
12. Explain the principle involved in the [3]
- (i) purification of nickel by Mond's process
 - (ii) electrolytic refining of copper
 - (iii) conversion of pig iron into cast iron
13. Write a short note on the following: [3]
- (i) Froth floatation process
 - (ii) Chromatographic method of purification
 - (iii) Refining by distillation
14. Account for the following [3]
- (i) Cast iron is hard and brittle
 - (ii) Na and Mg are obtained from the minerals by electrolytic reduction method.
 - (iii) Copper from low grade copper ores can be obtained by leaching
15. (a) A metal used in jewellery exist in the earth crust in its native state only. Pure metal can be obtained by using sodium cyanide in the presence of oxygen. Write all the equations involved in the extraction of this metal from its impure native state.
- (b) State the impurities present in the anode mud obtained in the electrolytic refining of copper. Why are they so present?
- (c) What is blister copper? Why is it called so? [2+2+1]

