

METALLURGY

UNIT TEST

STD: XI
CODE: AX

MARKS: 75
TIME: 1.30 Hrs

PART - I

CHOOSE THE CORRECT ANSWER

(15X1=15)

- The set of elements that occur in the native state is
(a) Cu, Ag, Au (b) Fe, Cu, Ni (c) Ag, Au, Pt (d) Zn, Cu, Pt
- The earthen impurities associated with ores are called
(a) Gangue (b) matrix (c) gangue or matrix (d) minerals
- The composition of bauxite is
(a) $Al_2O_3 \cdot 2H_2O$ (b) $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$ (c) Cu_2O (d) Fe_2O_3
- Example for a halide ore is
(a) Zinc blende (b) magnesite (c) Horn silver (d) mica
- Metalloids which have large ionization energies occur as
(a) Chlorides (b) oxides (c) silicates (d) sulphides
- Which of the following cannot be extracted from the oceans?
(a) Na (b) Al (c) Cl_2 (d) Mg
- Sulphide ores are concentrated by
(a) Hydraulic washing (b) magnetic separation (c) froth floatation (d) Calcinations
- Pbs is
(a) Calamine (b) galena (c) zinc blende (d) argentite
- Which of the following represents roasting?
(a) $2ZnS + 3O_2 \rightarrow 2ZnO + 2SO_2$ (b) $CaO + SiO_2 \rightarrow CaSiO_3$
(c) $ZnO + C \rightarrow Zn + CO$ (d) $ZnCO_3 \rightarrow ZnO + CO_2$
- In the extraction of copper, the matte formed in the molten state is a mixture of
(a) Sulphide of Cu and Fe (b) Oxide of Cu and Fe (c) sulphide of Fe and Ag (d) Coke and limestone
- In the basic Bessemer process, the converter is lined with
(a) SiO_2 (b) CaO (c) C (d) NaOH
- In the reactions $CaO + SiO_2 \rightarrow CaSiO_3$ and $FeO + SiO_2 \rightarrow FeSiO_3$, the slag will be
(a) CaO and FeO (b) FeO and SiO_2 (c) CaO and $FeSiO_3$ (d) $CaSiO_3$ and $FeSiO_3$
- The reaction that takes place at anode is
(a) Reduction (b) Oxidation (c) redox reaction (d) Roasting
- The electrolyte used in the electrolytic refining of Cu is
(a) $CuSO_4$ (b) HCl (c) $FeSO_4$ (d) $AgNO_3$
- In the refining of copper, the anode mud formed consists of
(a) Cu, Ag, and Au (b) Au, Ag and Pt (c) Fe, Cu, and Ni (d) Sc, Ti and V

PART - III

ANSWER ALL THE QUESTIONS:

(10X3=30)

- Distinguish between ore and mineral with a suitable example.
- Name the elements obtained from sea water source.
- Mention the different methods of concentration of ores.
- What is gravity separation?
- Give examples for sulphide ores?
- Write formula for (a) Epsom salt (b) Argentite (c) Pyrolusite
- What is calcination? Give example.
- What is meant by electrolytic refining? Give example.
- Define: (a) Roasting (b) smelting
- Name the metals which can be purified by electrolytic refining method.

PART - III

ANSWER ALL THE QUESTIONS

(4X5=20)

- Explain froth floatation process with a neat diagram.
- Write note on magnetic separation method.
- Explain different types of roasting with suitable example.
- How is nickel extracted by Mond's process?

PART - IV

(1x10=10)

- Write notes on
(a) Electrolytic refining of copper
(b) Zone refining.