

Total Pages--4

(Set-V₁)

B.Tech-6th(M&M)
Non Ferrous Extractive Metallurgy

Full Marks : 70

Time : 3 hours

Answer six questions including
Q.No.1 which is compulsory

The figures in the right-hand margin indicate marks
Symbols carry usual meaning

1. Answer *all* questions : 2 × 10

- (a) Define hydrogen over potential ?
- (b) What harmful impurities are present in copper metal ?
- (c) What is the purpose of using condenser in Zinc extraction process ?
- (d) Name the collector and frother used for Nickel extraction process ?

(Turn Over)

(Set-V)

- (e) Why gravity concentration method cannot be used in case of Tin metal ?
- (f) What is the purpose of scrap iron in Lead Extraction process ?
- (g) Which is the most attractive source for the extraction of Aluminium and why ?
- (h) What is the difference between ore and mineral ?
- (i) What is the difference between free and lock particle ?
- (j) What is polling ?
2. (a) Discuss Slag Fuming processing. 5
- (b) Name them those govern the economy of metal extraction process. 5
3. (a) Write down the difference between horizontal and vertical report process. 5
- (b) Explain the treatment of Base Bullion. 5

(3)

4. (a) Explain Kroll's process and how is it different from Hunter's process. 5
- (b) How refining occur in case of Tin Metal ? 5
5. (a) What are the advantages of Smelting Process ? 5
- (b) What are the factors that govern the economy of Metal Extraction ? 5
6. (a) What are the factors affecting Bayer's Process ? 5
- (b) What are the properties and application of copper ? 5
7. (a) Explain environmental pollution and address it in relation to various metal extraction processes. 5
- (b) What is anode effect and how it can be reduced ? What is the role of cryolite in aluminium extraction process ? 5

8. Write short notes on any two : 5×2

(i) Mitsubishi process

(ii) Froth floatation process

(iii) Carbonyl process

(iv) ALCAN process.