

III B.Tech II Semester Supplementary Examinations, Apr/May 2006
NON FERROUS EXTRACTIVE METALLURGY
(Metallurgy & Material Technology)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the differences between general roasting and flash roasting.
(b) How is sulphur removed in conventional roasting and matte smelting of copper ore?
(c) Explain the flash smelting techniques in copper extraction process. [5+6+5]
2. (a) What are the important ores of Zinc?. Mention places where Zinc ore deposits occur in India. List out the main applications of Zinc.
(b) What are the important steps in the production of zinc from its sulphide ores by pyrometallurgical process? Explain them. [8+8]
3. (a) What are the important ores of lead?. Mention places where lead ore deposits occur in India. List out the main applications of lead.
(b) What are the important steps in the production of lead from its sulphide ores by pyrometallurgical process? Explain them. [8+8]
4. (a) Discuss Bayer process employed at HINDALCO for the production of alumina with the help of flow sheet.
(b) Explain ALCOA process for the production of aluminium. [8+8]
5. (a) Give details of occurrence of Magnesium ores & location of its industries in India with production capacities
(b) Briefly discuss the Physico-Chemical principles underlying the chlorination process. Why the chlorination performed in the presence of carbon. [8+8]
6. (a) Explain the KROLL's process for the production of Titanium
(b) Explain the Iodide refining process. [9+7]
7. (a) Explain in detail the production of uranium in India.
(b) Explain chemical beneficiation of Uranium ores. [8+8]
8. Give the details of occurrence of ores and location of their industries with production capacities for the following metals in India.
(a) Nickel
(b) Gold.
(c) Tungsten. [5+5+6]
