

238514 (38)

5th Dip. In Engineering & Other Discipline
Examination, Dec.-Jan., 2009-10

Branch : Mett.

**NON-FERROUS EXTRACTIVE
METALLURGY**

Time Allowed : 4 hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : (i) Solve any five questions.

(ii) All questions carry equal marks.

Q. 1. (a) Write the importance of non-ferrous metals
and alloys over ferrous metals and alloys 10

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(b) Mention the various extraction plants located
in India for Cu, Al and Zn 10

Q. 2. (a) Name the ores of Copper. What is Cu matte?
How copper matte is produced? Write in
detail giving all the reactions. 12

(b) Explain the electrolytic refining of Cu metal. 8

Q. 3. (a) Write in detail the production of Alumina from
the Bauxite ores. 12

(b) Write the important uses of Aluminium. 8

Q. 4. (a) Write an important ores of tin. Also write
concentration process of tin ore. 8

(b) Explain the extraction of tin from its ores. 12

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Q. 5. Describe in detail the suitable route of extraction of Zn from its ore. 20

Q. 6. Give the composition, properties and uses of the following non-ferrous metals and alloys: 20

- (i) Muntz metal
- (ii) Gun metal
- (iii) Duralumin
- (iv) Brass
- (v) Phosphor-bronze

Q. 7. (a) Why carbothermic reduction process is not used for the extraction of Aluminium? 10

(b) Write the refining of Aluminium. 10

Q. 8. Write short notes on (any four):

5 x 4 = 20

~~(a)~~ Al-Si alloy

~~(b)~~ Liquation

~~(c)~~ Anode effect

~~(d)~~ Partial roasting of Cu ore

~~(e)~~ Fire refining of blister Cu