

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-V • EXAMINATION – SUMMER • 2015

Subject Code: 152102**Date: 05/05/2015****Subject Name: Non Ferrous Extractive Metallurgy****Time: 02.30pm-05.00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain pyro metallurgical extraction of copper. **07**
(b) Explain Bayer's Process for Aluminium extraction. **07**
- Q.2** (a) Define Ore and Minerals. Write important Minerals/Ores for different non ferrous metals like Al, Cu, Ni, Pb, Zn. **07**
(b) Discuss pyro metallurgical extraction of Ni. **07**
- OR**
- (b) Short note on Hall and Heroult's process. **07**
- Q.3** (a) Explain electrolytic extraction and refining of Mg. **07**
(b) Draw flow diagram of recovery of precious metal from anode slime of copper. **07**
- OR**
- Q.3** (a) Mention the ores of tin. Draw and explain the process for Extraction of Tin. **07**
(b) What do you mean by smelting? Explain ferric chloride leaching of copper concentrate. **07**
- Q.4** (a) Short note on Dow process. **07**
(b) Draw and explain the lead extraction process. **07**
- OR**
- Q.4** (a) Discuss the Amalgamation process for gold extraction. **07**
Q.4 (b) Describe the hydrometallurgical processes for nickel production. Give the applications of nickel. **07**
- Q.5** (a) Explain the pyrometallurgical processes for nickel. **07**
(b) Discuss application and refining of Tin. **07**
- OR**
- Q.5** (a) Which Ores are available for Gold extraction? Explain any one method for extraction of Gold. **07**
(b) Discuss the parke's process for silver recovery from lead. **07**
