Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V- EXAMINATION – SUMMER 2016

Subject Code: 152102 **Date: 21/05/2016**

Subject Name: Non - Ferrous Extractive Metallurgy

Time: 02:30 PM to 05:00 PM **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 process flow sheet of Cu extraction with all the important parameters involved in the process	**07**
	(b	Describe in brief about Bayer process for production of alumina.	**07**
Q.2	**(a)**	Define Ore and Minerals. Give important Minerals/Ores for different non ferrous metals like Al, Cu, Pb, Mg, Zn	**07**
	(b	List out production plants for non ferrous metal extraction in India. Mention application of Tin.	**07**
		OR	
	(b	Explain Hall-Heroults process for aluminum extraction.	**07**
Q.3	**(a)**	Define converting. Discuss the different stages of copper converting.	**07**
	(b	Discuss the parke's process for silver recovery from lead	**07**
		OR	
Q.3	**(a)**	With the help of line diagram, explain the Pidgeon process .	**07**
	(b	Draw and explain flow sheet for Nickel production from its sulphide ore.	**07**
Q.4	**(a)**	Mention the ores of tin. Draw and explain the process for tin extraction.	**07**
	(b	Describe the refining process to produce refined lead from base bullion.	**07**
		OR	
Q.4	**(a)**	Discuss the Amalgamation process for gold extraction.	**07**
	(b	Explain the WORCRA process for Copper production. Mention the advantages of this process.	**07**
Q.5	**(a)**	Write in detail about pyro metallurgical route for extraction of lead.	**07**
	(b	Write a note on Occurrence of gold. Draw flow diagram of recovery of precious metal from anode slime of copper	**07**
		OR	
Q.5	**(a)**	Explain electrolytic extraction and refining of Mg.	**07**
	(b	Give the ores of nickel with their chemical formula. Explain the carbonyl process for refining of nickel.	**07**

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