LESSON PLAN FOR ACADEMIC SESSION: 2025-26 (WINTER)

Discipline: Metallurgical Engineering	**Semester : 5th**	**Name of the Teaching Faculty : Amarjit Mohanta**
Subject : NON FERROUS METALLURGY	No. of days / week class allotted	Semester From : 15/07/2025 to 15/11/2025 Nos. of Weeks per semester : 15
Week	**Class Day**	**Theory Topics**
1ST	1st	Discuss the non-ferrous ore reserves in India &non ferrous industries in India.
	2nd	Discuss the non-ferrous ore reserves in India &non ferrous industries in India.
	3rd	Discuss the non-ferrous ore reserves in India &non ferrous industries in India.
	4th	Extraction of aluminum Describe the Bayer"s process of alumina production.
2ND	1st	Describe the Bayer"s process of alumina production.
	2nd	Explain the fused salt electrolysis of alumina by Hall Heroult process.
	3rd	Explain the fused salt electrolysis of alumina by Hall Heroult process.
	4th	Discuss anode effect
3RD	1st	Explain the method of refining of aluminum
	2nd	Explain the method of refining of aluminum
	3rd	Explain the method of refining of aluminum
	4th	State the uses of aluminum.
4TH	1st	Extraction of Tin
	2nd	Explain the process of tin ore concentration.
	3rd	Explain the process of tin ore concentration.
	4th	Explain the process of concentrate smelting for tin extraction.
5TH	1st	Describe the process of refining of tin.
	2nd	State the uses of tin.
	3rd	Pyrometallurgical Extraction of Copper.
	4th	Describe the process of roasting of copper ore.
6TH	1st	Describe the process of matte smelting of copper ore.
	2nd	Explain the process of converting of copper matte.
	3rd	Explain the refining of copper.

	4th	State the uses of copper.
7TH	1st	Pyrometallurgical Extraction of Lead. Explain roasting and sintering of lead ore.
	2nd	Explain the process of extraction of lead by blast furnace smelter.
	3rd	Describe in detail the process of refining of base bullion.
	4th	State the uses of lead.
8TH	1st	Pyrometallurgical and HydrometalliIrgia1 Method of Extraction of j Zinc. Describe the roasting of zinc ore concentrate.
	2nd	Explain how zinc is extracted by vertical retot process.
	3rd	Explain the refining of zinc.
	4th	Explain the process of leaching and preparation zinc base solution
9TH	1st	Describe the electrolysis of zinc solution
	2nd	State the uses of zinc. Explain the roasting of nickel ore.
	3rd	Explain the method of smelting of nickel concentrate.
	4th	Explain the method of refining of nickel State the uses of nickel.
10TH	1st	Extraction of Titanium Describe extraction of titanium
	2nd	Extraction of Titanium Describe extraction of titanium
	3rd	Explain the type of treatment given to titanium ore.
	4th	Explain the type of treatment given to titanium ore.
11TH	1st	Explain the process of chlorination and mag. reduction for titanium extraction.
	2nd	Explain the process of chlorination and mag. reduction for titanium extraction.
	3rd	Explain the process of refining of titanium (distillation)
	4th	Explain the process of refining of titanium (distillation)
12th	1st	State the uses of titanium
	2nd	State the uses of titanium
	3rd	Explain extraction of gold.
	4th	Explain extraction of gold.
13th	1st	Explain the process of cyanidation for gold extraction
	2nd	Explain the process of cyanidation for gold extraction
	3rd	State the uses of gold.

	4th	Explain the process of production of copper
14th	1st	Explain the process of production of copper
	2nd	Explain the process of production of lead
	3rd	Explain the process of production of zinc
	4th	Explain the process of production of aluminium
15th	1st	Class Test
	2nd	Revision
	3rd	Class Test
	4th	Revision

Amar 12/09/25
Prepared by
Amarjit Mohanta

Rwaharan 12/9/25
Head of the Department
(Metallurgy Engineering)
GP Sonepur

12/9/25
Academic co-ordinator
GP Sonepur