

Lesson Plan

Subject : NON-FERROUS EXTRACTIVE METALLURGY (TH-5(A)) Name of faculty: SAGARIKA PALEI

Semester: 4th Class allotted: 3p/week

Branch: Metallurgical Engg. Session: 2026(S)


Discipline	Semester	From date: 22/12/2025 To date: 18/04/2026	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical –Topics/Lesson	
Week	Date/Period		
1	22/12/2025 TO 27/12/2025	Introduction • Ores and minerals, gangue, flux and slag • matte and speiss	White Board Marker Smart board
2	29/12/2025 TO 03/01/2026	• Non-ferrous ore reserves in India & non ferrous industries in India. Methods of Extraction • Pyrometallurgical processes: roasting and different roasting methods, smelting and different smelting practices Flash smelting, hearth smelting, matte smelting	White Board Marker Smart board
3	05/01/2026 TO 10/01/2026	Explain the method of distillation and sublimation Explain the process of converting of matte and pig iron	White Board Marker Smart board
4	12/01/2026 TO 17/01/2026	• Hydrometallurgical process: stages of hydrometallurgical process, flow diagram for hydrometallurgical extraction,)	White Board Marker Smart board
5	19/01/2026 TO 24/01/2026	, , leaching and different leaching methods (bacterial leaching and pressure leaching • Electrometallurgical process: electrolysis, electro wining, electro refining	White Board Marker Smart board

Cash
Signature of H.O.D

S. Palei
Signature of Faculty

6	27/01/2026 TO 31/01/2026	Extraction of Metals from Sulphide Ores • Pyrometallurgical Extraction of Copper: roasting of copper ore, matte smelting of copper ore. conversion of copper matte, refining of copper, uses of copper.	White Board Marker Smart board
7	02/02/2026 TO 07/02/2026	• Pyrometallurgical and Hydrometallurgical Method of Extraction of Zinc: roasting of zinc ore concentrates, extraction by vertical retort process, refining of zinc. Leaching and preparation zinc base solution, electrolysis of zinc solution, uses of zinc	White Board Marker Smart board
8	09/02/2026 TO 14/02/2026	• Pyrometallurgical Method of Nickel Extraction: roasting of nickel ore, smelting of nickel concentrate, refining of nickel, uses of nickel.	White Board Marker Smart board
9	16/02/2026 TO 21/02/2026	Extraction of Metals from Oxide ores • Extraction of aluminum: Bayer's process of alumina production, fused salt electrolysis of alumina by Hall Heroult process,	White Board Marker Smart board
10	23/02/2026 TO 28/02/2026	: refining of aluminum, anode effect, uses of aluminum. Extraction of Metals from Halides.	Marker White Board Smart board
11	02/03/2026 TO 07/03/2026	• Extraction of Titanium: extraction of titanium, treatments given to titanium ore, chlorination and mag,.	White Board Marker Smart board
12	09/03/2026 TO 14/03/2026	reduction for titanium extraction, refining of titanium (distillation, uses of titanium	Marker White Board Smart board
13	16/03/2026 TO 18/03/2026	Extraction of Precious Metals • Extraction of gold: cyanidation for gold extraction, uses of gold.	White Board Marker Smart board
14	23/03/2026 TO 28/03/2026	• Extraction of Lithium: electrolysis for Li extraction, properties of Li and uses of Li.	White Board Marker Smart board


Signature of H.O.D


Signature of Faculty

15	30/03/2026 TO 04/03/2026	• Production of Secondary Metals. Process for production of copper, lead, zinc & aluminum metals from scraps.,	White Board Marker Smart board
16	06/04/2026 TO 11/04/2026	Revision....	White Board Marker Smart board
17	13/04/2026 TO 18/04/2026	Revision....	White Board Marker Smart board

Signature of H.O.D

Signature of Faculty