Lesson Plan

Subject: Principle of Extractive Metallurgy(TH-3) Name of faculty:

Semester: 4TH Class allotted: 4p/week Branch: METALLURY Session:2025(S)

Discipline	Semester	Fromdate: Todate:	TeachingAid
Subject:	No.ofdays/per week	Theory/Practical–Topics/Lesson	
Week	Date/Period		
1	04/02/2025 TO 08/02/2025	**1. Definition of metallurgical terms :** Define ores and minerals. Define gangue, flux and slag . Define matte and speiss .	WhiteBoard Marker Smart board
2	10/02/2025 TO 15/02/2025	Define metals and alloys **2.Principle of pre-treatment of ores for metal extractions** : Explain drying	WhiteBoard Marker Smart board
3	17/02/2025 TO 22/02/2025	Define and explain calculation Explain different agglomeration process	WhiteBoard Marker Smart board
4	24/02/2025 TO 01/03/2025	agglomeration process like briquetting nodulising,vacuum extrusion,	WhiteBoard Marker Smart board

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Week	Date/Period	Theory/Practical–Topics/Lesson	Teaching Aid
5	03/03/2025 TO 08/03/2025	, sintering, palletizing Pyrometallurgical processes Explain roasting and different roasting methods	WhiteBoard Marker Smartboard
6	01/03/2025 TO 15/03/2025	Explain Ellingham diagram (oxides) and predominance area diagram(sulphides). Explain smelting and different smelting practices, Flash smelting.	WhiteBoard Marker Smartboard
7	17/03/2025 TO 22/03/2025	hearthsmelting, matte smelting. Explain the method of distillation and sublimation.	Marker WhiteBoard
8	24/03/2025TO 29/03/2025	Explain the process of converting of matte and pig iron. Explain hydrometallurgical process.	WhiteBoard Marker Smartboard
9	31/03/2025 TO 05/04/2025	Explain different stages of hydrometallurgical process. Write the flow diagram of hydrometallurgical extraction.	WhiteBoard Marker Smart board
10	07/04/2025 TO 12/04/2025	Explain leaching and different leaching methods, bacterial leaching andpressure leaching. Electrometallurgical process.	Marker WhiteBoard Smart board
11	14/04/2025 TO 19/04/2025	Define electrolysis, ionic conductivity, EMF series, faraday's law ofelectrolysis. Explain electro wining, electro refining. **4.Basic approaches to refining** : Explain refining, process – zone refining, fire refining.	WhiteBoard Marker Smart board
12	21/04/2025 TO 26/04/2025	– zone refining, fire refining Explain principles of metallurgical Thermodynamics ,zeroth law of thermodynamics.	Marker WhiteBoard Smart boar

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13.	28/04/2025 TO 03/05/2025	Review 1st, 2nd, and 3rd law of thermodynamics, explain their application tometallurgical process. Explain on details the concept of Internal Energy, enthalpy, entropy andentropy change, Free energy of a chemical reaction.	White Board Marker Smart board
14	05/05/2025TO 10/05/2025	State Henry's law and Sivert's Law . **6.Reaction Kinetics** : Explain first order reaction and its significance.	White Board Marker Smart board
15	12/05/2025 TO 17/05/2025	Explain the application of first order reaction of metallurgical processes .	White Board Marker Smart board

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