

Lesson Plan


Subject: Principle of Extractive Metallurgy

Name of faculty: Sagarika Palei

Semester: 4TH Class allotted: 4p/week Branch: METALLURGICAL Session: 2024(S)

Discipline	Semester	Fromdate:	Todate:	TeachingAid
Subject:	No.ofdays/per week:	Theory/Practical-Topics/Lesson		
Week	Date/Period			
1	16/01/2024 TO 20/01/2024	D.COURSE CONTENT : 1.0 Definition of metallurgical terms : 1.1 Define ores and minerals 1.2 Define gangue, flux and slag 1.3 Define matte and speiss		WhiteBoard Marker Smart board
2	22/01/2024 TO 27/01/2024	1.4 Define metals and alloys 2.0 Principle of pre-treatment of ores for metal extractions : 2.1 Explain drying		WhiteBoard Marker Smart board
3	29/01/2024 TO 03/02/2024	2.2 Define and explain calculation 2.3 Explain different agglomeration process		WhiteBoard Marker Smart board
4	05/02/2024 TO 10/02/2024	2 agglomeration process like briquetting nodulising, vacuum extrusion,		WhiteBoard Marker Smart board


Signature of HOD

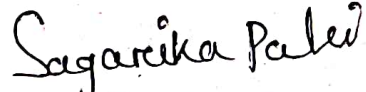

Signature of faculty

Lesson Plan

Week	Date/Period	Theory/Practical-Topics/Lesson	Teaching Aid
5	12/02/2024 TO 17/02/2024	, sintering, palletizing 3.1 Pyrometallurgical processes 3.2 Explain roasting and different roasting methods	WhiteBoard Marker Smartboard
6	19/02/2024 TO 24/02/2024	3.3 Explain Ellingham diagram (oxides) and predominance area diagram (sulphides) 3.4 Explain smelting and different smelting practices, Flash smelting	WhiteBoard Marker Smartboard
7	26/02/2024 TO 02/03/2024	3.5 hearth smelting, matte smelting 3.6 Explain the method of distillation and sublimation	Marker WhiteBoard
8	04/03/2024 TO 09/03/2024	3.7 Explain the process of converting of matte and pig iron 3.8 Explain hydrometallurgical process	WhiteBoard Marker Smartboard
9	11/03/2024 TO 16/03/2024	3.9 Explain different stages of hydrometallurgical process 3.10 Write the flow diagram of hydrometallurgical extraction	WhiteBoard Marker Smartboard
10	18/03/2024 TO 23/03/2024	3.11 Explain leaching and different leaching methods, bacterial leaching and pressure leaching 3.12 Electrometallurgical process	Marker WhiteBoard Smartboard
11	27/03/2024 TO 30/03/2024	3.13 Define electrolysis, ionic conductivity, EMF series, Faraday's law of electrolysis 3.14 Explain electro-winning, electro-refining 4.0 Basic approaches to refining : 4.1 Explain refining, process – zone refining, fire refining	WhiteBoard Marker Smartboard
12	02/04/2024 To 06/04/2024	– zone refining, fire refining 5.1 Explain principles of metallurgical thermodynamics, zeroth law	Marker WhiteBoard Smartboard
		I.A	

13.	08/04/2024 To 13/04/2024	5.2 Review 1 st , 2 nd , and 3 rd law of thermodynamics, explain their application to metallurgical process. 5.3 Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction.	White Board Marker Smart board
14	15/04/2024 To 20/04/2024	5.4 State Henry's law and Siver's Law 6. Reaction Kinetics : 6.1 Explain first order reaction and its significance	White Board Marker Smart board
15	22/04/2024 TO 26/04/2024	6.2 Explain the application of first order reaction of metallurgical processes	White Board Marker Smart board


Signature of HOD


Signature of faculty