

GOVERNMENT POLYTECHNIC JAJPUR

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DEPARTMENT OF METALLURGICAL ENGINEERING

LESSON PLAN

Discipline	Semester	Name of teaching faculty:
Metallurgy	5 th	Smruti Sangita Sahu (P.T.G.F.)
Subject	No day/ week class:	No of week: 15 Session: Winter 2023 Dt: 1/08/23 to 30/11/23
NFM	04	
Week	Class Day	Topic
1st	1st	Introduction and Discuss on Non-Ferrous Ore Reserves In India
	2nd	Discuss Non Ferrous Industries In India
	3rd	Details about Aluminium
	4th	Extraction of Al by Bayer's Process of Alumina Production
2nd	1st	Fused Salt Electrolysis of Alumina By Hall-Heroult
	2nd	Discuss anode Effect
	3rd	Refining of Aluminium & Uses of Al
	4th	Introduction of Tin
3rd	1st	Process of Tin ore Concentration
	2nd	Process of concentrate Smelting For Tin Extraction
	3rd	Refining of Tin and its uses
	4th	Introduction of Copper
4th	1st	Pyrometallurgical Extraction of Copper
	2nd	Process of Roasting of Copper Ore
	3rd	Process of Matte Smelting of Copper Ore
	4th	Converting of Copper Matte
5th	1st	Refining of copper and its Uses
	2nd	Introduction of Lead
	3rd	Pyrometallurgical Extraction of Lead
	4th	Roasting and Sintering of Lead Ore
6th	1st	Extraction of Lead by Blast Furnace Smelter
	2nd	Refining of Base Bullion and its uses
	3rd	Assignment and Quiz Test
	4th	Doubt clearing
7th	1st	Class Test - 1
	2nd	Discuss Zinc
	3rd	Pyrometallurgical Extraction of Zinc
	4th	Hydrometallurgical Extraction of Zinc
8th	1st	Roasting of Zinc ore concentrate
	2nd	Vertical Retort Process
	3rd	Refining of Zinc
	4th	Leaching and preparation Zinc Base Solution

9th	1st	Electrolysis of Zinc Solution and Uses
	2nd	Details about Nickel
	3rd	Pyrometallurgical Method of Nickel Extraction
	4th	Roasting of Nickel Ore
10th	1st	Smelting of Nickel concentrate
	2nd	Refining of Nickel and it's uses
	3rd	Introduction of Extraction of Metals From Halides
	4th	Extraction of Titanium
11th	1st	Type of Treatment Given to Titanium Ore
	2nd	Process of chlorination And Mag. Reduction For Titanium
	3rd	Process of Refining of Ti & Uses of Ti
	4th	Assignment
12th	1st	Quiz Test
	2nd	Doubt clearing and Question Discussion
	3rd	Class Test - 2
	4th	Discuss about Precious Metals
13th	1st	Extraction of Gold
	2nd	Cyanidation for Gold Extraction
	3rd	Uses of Gold
	4th	Introduction on Production of Secondary Metals
14th	1st	Process of Production of Copper from Scrap
	2nd	Process of Production of Lead from Scrap
	3rd	Process of Production of Zinc from Scrap
	4th	Process of production of Al from Scrap
15th	1st	Doubt clearing and Revision
	2nd	Discussion previous years semester Questions
	3rd	Selection Question in exam point of view
	4th	Internal Assessment

Smriti S. Sahu
Signature of faculty