

LESSON PLAN-4th SEMESTER ( 2021 )				
SUBJECT:PRINCIPLES OF EXTRACTIVE METALLURGY				
NAME OF THE FACULTY: SOURAV ADHYA				
MONTH	MODULE/UNIT	COURSE TO BE COVERED	CLASSES REQUIRED	REMARKS
April	1	<b>Defination of Metallurgical Terms</b>	<b>5</b>	
		Discuss about ores minerals, gangue, flux and slag.	3	
		Define Matte,Speiss, also metals and alloys	2	
	2	<b>Principles of Pretreatment of ores for Metal Extraction</b>	<b>10</b>	
		Explain about drying	2	
		Define and Explain calculation	2	
		Explain Different Agglomeration process like Briquetting, Nodulising	3	
		Discuss about vaccum extrusion, Sintering and palletizing	3	
May	3	<b>General Methods and Principles of Extraction</b>	<b>25</b>	
		Pyrometturgical Processes	2	
		Explain Roasting and Different roasting Methods	3	
		Explain Ellingham Diagram and Predominance Area Diagram	4	
		Explain smelting and Different smelting practice like flash smelting and matte smelting	2	
		Explain Distillation Methods and sublimation	2	
		Conversion of matte and pig iron	1	
		Explain Hydrometallurgical process	2	
		Different Stages of Hydrometallurgical process	2	
		Flow Diagram of Hydrometallurgical Extraction	1	
		Explain Leaching and Different Leaching methods	2	
		Electrometallurgical process	1	
		Defining Electrolysis, Ionic Conductivity, EMF Series, Faraday's Law of Electrolysis	2	
		Explain Electrowing and Electrorefining	1	
June	4	<b>Basic Approaches to refining</b>	<b>3</b>	
		Explain Refining	1	
		Discuss about Zone refining and Fire refining	2	
	5	<b>Principles of Metal Extractions</b>	<b>10</b>	
		Principles of Metallurgical Thermodynamics Zeroth law of thermodynamics	2	

		Reviewing 1st, 2nd and 3rd Law of Thermodynamics and their application in Metallurgical process	5	
		Discussing about the concept of Internal energy, Enthalpy, and Entropy also free energy of a chemical reaction	2	
		State Henry's law and Sivert's law	1	
July	6	<b>Principles of Metallurgical Thermodynamics</b> <b>Reaction kinetics</b>	<b>7</b>	
		Explain First Order reaction and its significance	3	
		Explain the application of first order reaction Of Metallurgical processes	4	