

Discipline: Metallurgy		Semester: 4th semester	Name of the Teaching Faculty: Mr Subrat Kumar Behera		
Subject: Extractive Metallurgy Sub code- TH 3		No of days /week class allotted:04	Semester from Date: 05-04-2021 to 30-06-2021		
Month	week	Class Day	Theory topics	%covered	Remark
April	2nd	1 st	Define ores and minerals Define gangue, flux and slag		
		2 nd	Define ores and minerals Define gangue, flux and slag		
		3 rd	Define matte and speiss Define metals and alloys		
		4 th	Define matte and speiss Define metals and alloys		
	3rd	1 st	Explain drying Define and explain calcilation		
		2 nd	Explain different agglomeration process		
		3 rd	Explain different agglomeration process		
		4 th	Explain different agglomeration process		
	4 th	1 st	Pyrometallurgical processes		
		2 nd	Pyrometallurgical processes		
		3 rd	Pyrometallurgical processes		
		4 th	Explain roasting and different roasting methods		
	5 th	1 st	Explain Ellingham diagram		
		2 nd	Explain smelting and different smelting practices		
		3 rd	Explain the method of distillation and sublimation		
	May	1 st	1 st		
2 nd			Explain hydrometallurgical process		
3 rd			Explain hydrometallurgical process		
4 th			Explain hydrometallurgical process		
2nd		1 st	flow diagram of hydrometallurgical extraction		
		2 nd	Explain leaching and different leaching methods		
		3 rd	Electrometallurgical process		
		4 th	Electrometallurgical process		
3rd		1 st	Electrometallurgical process		
		2 nd	Define electrolysis, ionic conductivity, EMF series, faraday's law of electrolysis		
		3 rd	Define electrolysis, ionic conductivity, EMF series, faraday's law of electrolysis		

		4 th	Explain electro wining, electro refining		
	4 th	1 st	Explain refining, process		
		2 nd	Explain refining, process		
		3 rd	zone refining, fire refining		
		4 th	Explain principles of metallurgical thermodynamics		
June	1 st	1 st	Explain principles of metallurgical thermodynamics		
	2 nd	1 st	Explain principles of metallurgical thermodynamics		
		2 nd	Explain principles of metallurgical thermodynamics		
		3 rd	zeroth law of thermodynamics		
		4 th	1 st , 2 nd , and 3 rd law of thermodynamics		
	3 rd	1 st	1 st , 2 nd , and 3 rd law of thermodynamics		
		2 nd	1 st , 2 nd , and 3 rd law of thermodynamics		
		3 rd	Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction		
		4 th	Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction		
	4 th	1 st	Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction		
		2 nd	Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction		
		3 rd	Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction		
		4 th	Explain on details the concept of Internal Energy, enthalpy, entropy and entropy change, Free energy of a chemical reaction		
	5 th	1 st	Henry's law and Sivert's Law		
		2 nd	Explain first order reaction and its significance		
		3 rd	Explain first order reaction and its significance		
		4 th	Explain the application of first order reaction		