

GOVT. POLYTECHNIC MAYURBHANJ
LESSON PLAN OF MINERAL PROCESSING
WINTER (2023-2024)

Discipline :Metallurgy Engg.		Semester: 3rd Sem		Name of the Teaching Faculty : Sushree Subhashree Das	
Subject : MP Course code-TH2		No. of Days / per week class allotted : 04		Semester From date : 01.08.2023	To Date : 30.11.2023
MONTH	Week	Day	Unit	Topics	
AUGUST	1st	1st	UNIT-1	Various mineral resources of India	
		2nd	UNIT-2	Distinction between mineral and ore	
	2nd	1st		Explain the scope of mineral dressing	
		2nd		Communication and liberation	
		4th		Different physical and chemical properties of ore	
		5th	UNIT-3	Crushings: Describe crushing operations	
	3rd	1st		Explain the type of crushers: Blake & Dodge crusher	
		2nd		Describe capacity and reduction ratio of crusher	
		4th		Explain angle of nip of a crusher	
		5th		Explain in details gyratory and roll crusher	
SEPTEMBER	1st	1st		Explain the principle of operation of gyratory and roll crusher	
	3rd	2nd		Explain the principle of operation of gyratory and roll crusher	
		4th	UNIT-4	Grinding: Classify different types of grinding equipments	
		5th		Explain the ball mill operations	
	4th	5th		State the difference between open circuit and close circuit grinding	
		1st		State the difference between dry grinding and wet grinding	
		2nd	UNIT-5	Laboratory sizing technique: Explain the methods of size analysis	
		4th		Describe different types of standard screens with screening techniques	
		5th		Explain in details rotap shieve shaker	
	5th	1st	UNIT-6	Industrial screening: Explain the principle of screening.	
		2nd		Describe the factors affecting srtatification in jigs.	
		4th		Classify types of screening.	
	6th	5th		Explain the effectiveness, capacity, efficiency of industrial screens.	
		5th		Explain different types of classifiers and their applications.	
OCTOBER	1st	1st	UNIT-7	Gravity concentration: Describe the general principles of flowing film concentrain.	
		1st		Describe in details the operation and application of wilfley table.	
		2nd		Define jigging.	
	2nd	2nd		Describe the factors affecting srtatification in jigs.	
		4th		Explain the types of jigs and their uses.	
		5th		Rash purnima(holiday)	
		5th	UNIT-8	Heavy media separation: Explain the fundamental principle of heavy media separations.	
	3rd	1st		Explain the different industrial processes using heavy liquid and heavy suspensions	
		2nd		Details of heavy media suspension.	
		3rd		Internal assesment	
		4th		Internal assesment.	
	4th	1st		Describe the factors affecting srtatification in jigs.	
		2nd		Describe the factors affecting srtatification in jigs.	
		3rd	UNIT-9	Flotation: Define froth and skin flotation.	
	5th	4th		DURGA PUJA HOLIDAY	
		4th		Explain the practical utility of frothre, collector	
		5th		Explain the practical utility of modifier	
NOVEMBER	1st	1st		Explain the practical utility of activator	
		2nd		Explain the practical utility of depressant (without physic- chemical principles)	
	2nd	2nd		Describe the application with practical examples of froth flotation process.	
		4th		Describe different types of flotation cells.	
		4th		Discussion on application of the flotation processes.	
		5th		CLASS TEST-1	
	3rd	1st	UNIT-10	Magnetic & Elecrostatic Separator	
		2nd		Explain the principle of magnetic separator with their application to mineral dressing	
		4th		Explain the principle of magnetic separator with their application to mineral dressing	

		5th		Explain the principle of magnetic separator with their application to mineral dressing
	4th	1st		Explain the principle of electrostatic separator with their application to mineral dressing
		2nd		Explain the principle of electrostatic separator with their application to mineral dressing
		3rd		Previous year Question answer