

LESSON PLAN:-3RD SEMESTER(2020)				
SUBJECT:-MINERAL PROCESSING				
NAME OF THE FACULTY:-SUSHREE SUBHASHREE DAS				
MONTH	MODULE/UNIT	COURSE TO BE COVERED	CLASSES REQUIRED	REMARK
AUG	1	VARIOUS MINERAL RESOURCES IN INDIA	3	
	2	UNIT OPERATIONS:ORE DRESSING	03	
		Distinction between mineral and ore	01	
		Explain the Scope and Objectives of ore dressing	01	
		Explain the different physical & chemical properties of ores with their application to mineral dressing	01	
	3	CRUSHINGS	07	
		Describe crushing operations	01	
		Explain the types of crushers : Blake and Dodge jaw crushers	01	
		Describe capacity and reduction ratio of crusher	02	
		Explain angle of nip of a crusher	02	
		Explain in details gyratory and roll crushers	02	
		Explain the principle of operation of gyratory and roll crushers	02	
SEPT	4	GRINDING	7	
		Classify different types of grinding equipment : ball mill	2	
		Explain the ball mill operations	2	
		State the difference between open circuit and close circuit grinding	2	
		State the difference between dry grinding and wet grinding	1	
	5	LABORATORY SIZING	6	

		Explain the methods of size analysis	2	
		Describe different types of standard screens with screening techniques	2	
		Explain in details Rotap sieve shaker	2	
OCT	6	INDUSTRIAL SCREENING CLASSIFICATION	6	
		Explain the principle of screening	1	
		Classify types of screening	1	
		Explain the effectiveness, capacity, efficiency of Industrial screens	2	
		Explain different types of classifiers and their applications	2	
	7	GRAVITY CONCENTRATION	8	
		Describe the general principles of flowing film concentration	1	
		Describe in details the operations and application of wilfley table	2	
		Define jigging	1	
		Describe the factors affecting stratification in jigs	2	

		Explain the types of jigs and their uses	2	
NOV	8	HEAVY MEDIA SEPARATION	6	
		Explain the fundamental principle of heavy media separations	3	
		Explain the different industrial process using heavy liquid and heavy suspensions, Du - Pont process, chance process	3	
	9	FLOTATION	8	
		Define are froth and skin flotation	1	
		Explain the elementary principle of froth flotation	1	
		Explain the practical utility of frother, collector, modifier, activators, depressant (without physic – chemical Principle)	2	
		Describe the application with practical examples of froth flotation process	2	
		Describe different types of flotation cells	2	
DEC	10	MAGNETIC AND ELECTROSTATIC SEPARATOR	6	
		Explain the principles of magnetic and Electrostatic separator with their application to mineral dressing	6	