

## Lesson Plan

Subject- MINERAL PROCESSING (Code): TH.2 Name of faculty: Semester: 3<sup>rd</sup>

Class allotted : 50/60p Branch : METALLURGY, Session: 2024(w)

Discipline	Semester	From date: 01/07/24 To date: 26/10/24	Teaching Aid
Subject:	No. of days/ per week: 4p/week	Theory/ Practical – Topics/Lesson	
Week	Date/Period		
<b>1</b>	01/07/2024 TO 06/07/2024	<b>1.0 Various mineral resources of India</b>  <b>2.0 Unit Operations : Ore dressing :</b> 2.1 Distinction between Mineral and Ore	White board & Marker
<b>2</b>	08/07/2024 TO 13/07/2024	2.2 Explain the scope and objective of Ore dressing  2.3 Comminution and liberation	White board & Marker
<b>3</b>	15/07/2024 TO 20/07/2024	2.4 Different physical and chemical property of ore with their application to mineral dressing	White board & Marker
<b>4</b>	22/07/2024 TO 27/07/2024	<b>3.0 Crushings :</b> 3.1 Describe crushing operations 3.2 Explain the type of crushers: Blake and Dodge jaw Crushers 3.3 Describe capacity and reduction ratio of crusher	White board & Marker
<b>5</b>	29/07/2024 TO 03/08/2024	3.4 Explain angle of nip of a crusher 3.5 Explain in details gyratory and roll crushers 3.6 Explain the principle of operation of gyratory and roll crushers	White board & Marker
<b>6</b>	05/08/2024 TO 10/08/2024	<b>4.0 Grinding:</b> 4.1 Classify different types of grinding equipment 4.2 Explain the ball mill operations	White board & Marker

7	12/08/2024 TO 17/08/2024	4.3 State the difference between open circuit and close circuit grinding 4.4 State the difference between dry grinding and wet grinding	White board & Marker
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8	20/08/2024 TO 24/08/2024	<b>5.0 Laboratory Sizing Technique :</b> 5.1 Explain the methods of size analysis 5.2 Describe different types of standard screens	White board & Marker
9	27/08/2024 TO 31/08/2024	with screening techniques  5.3 Explain in details Rotap sieve shaker	White board & Marker
10	02/09/2024 TO 06/09/2024	<b>6.0 Industrial Screening :</b> 6.1 Explain the principle of screening 6.2 Classify types of screening 6.3 Explain the effectiveness, capacity, efficiency of Industrial screens	White board & Marker
11	09/09/2024 TO 13/09/2024	I.A	White board & Marker
12	14/09/2024 TO 21/09/2024	6.4 Explain different types of classifiers and their applications  <b>7.0 Gravity Concentration :</b> 7.1 Describe the general principles of flowing film concentration	White board & Marker
13	23/09/2024 TO 28/09/2024	7.2 Describe in details the operations and application of wilfley table 7.3 Define jigging	White board & Marker

14	30/09/2024 TO 05/10/2024	7.4 Describe the factors affecting stratification in jigs 7.5 Explain the types of jigs and their uses  <b>8.0 Heavy Media Separations :</b> 8.1 Explain the fundamental principle of heavy media separations	White board & Marker
15	07/10/2024 TO 09/10/2024	8.2 Explain the different industrial process using heavy liquid and heavy suspensions, Du - Pont process, chance process <b>9.0 Flotation :</b> 9.1 Define are froth and skin flotation	White board & Marker

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Week	Date/Period	Theory/ Practical –Topics/Lesson	Teaching Aid
16	17/10/2024 TO 19/10/2024	9.2 Explain the elementary principle of froth flotation 9.3 Explain the practical utility of frother, collector, modifier, activators, depressant (without physic – chemical Principle) 9.4 Describe the application with practical examples of froth flotation process 9.5 Describe different types of flotation cells	White board & Marker
17	21/10/2024 TO 26/10/2024	<b>10.0 Magnetic &amp; Electrostatic Separator :</b> 10.1 Explain the principles of magnetic and Electrostatic separator with their application to mineral dressing	White board & Marker


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