


Lesson Plan

Subject- MINERAL PROCESSING (Code): III/2
 Name of faculty: Semester: 3rd
 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		
1	01/07/2024 TO 06/07/2024	<p>1.0 Various mineral resources of India</p> <p>2.0 Unit Operations : Ore dressing 2.1 Distinction between Mineral and Ore</p>	White board & Marker
2	08/07/2024 TO 13/07/2024	<p>2.2 Explain the scope and objective of Ore dressing</p> <p>2.3 Communication and liberation</p>	White board & Marker
3	15/07/2024 TO 20/07/2024	<p>2.4 Different physical and chemical property of ore with their application to mineral dressing</p>	White board & Marker
4	22/07/2024 TO 27/07/2024	<p>3.0 Crushings : 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</p>	White board & Marker
5	29/07/2024 TO 03/08/2024	<p>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</p>	White board & Marker
6	05/08/2024 TO 10/08/2024	<p>4.0 Grinding: 4.1 Classify different types of grinding equipment 4.2 Explain the ball mill operations</p>	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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Week	Date/Period	Theory/ Practical –Topics/Lesson	Teaching Aid
8	20/08/2024 TO 24/08/2024	5.0 Laboratory Sizing Technique : 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	6.0 Industrial Screening : 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 7.0 Gravity Concentration : 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 8.0 Heavy Media Separations : 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 9.0 Flotation : 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	10.0 Magnetic & Electrostatic Separator : 10.1 Explain the principles of magnetic and Electrostatic separator with their application to mineral dressing	White board & Marker

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