JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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Lesson Plan & Tracking

Programe : DIPLOMA	**Session : 2022-23**	**Year : 2022**	**Sem: FIVE**
Course: SURFACE MINING			
Name of the Faculty: MRITUNJAY KUMAR	**Commencement Date: 29th August 2022**		**Date of Closure:**

Lecture No.	Week	Unit	Topics to be Covered	Blended Mode			Date	Duration	Tracking of Lectures	Related Course Outcome	Signature of Faculty	Signature of HoD	Remarks (if any)
				ICT Tool/Platform/ LMS	Resources	Activity							
1	1	Unit 1	Introduction:										
2		Unit 1	Surface mining-basic concepts										
3		Unit 1	applicability										
4	2	Unit 1	advantages and disadvantages; Role of surface mining in total mineral production										
5		Unit 1	Surface mining unit operations; Surface mining equipment systems– classification, applicability,										
6		Unit 1	advantages and disadvantages. Opening up of deposits:										
7	3	Unit 1	Boxcut –objective, types, parameters, methods; Factors affecting selection of box cut site										
8		Unit 1	Production benches– formation, parameters and factors affecting their selection.										
9		Unit 1	parameters and factors affecting their selection.										

10	**4**	**Unit 2**	Discontinuous/cyclic methods of excavation and transport: Shovel: Applicability										
11		**Unit 2**	limitations of shovel, Cycle time and productivity calculation for shovel										
12		**Unit 2**	Dragline operation: Applicability and limitations, different modes of operation										
13	**5**	**Unit 2**	Cycle time and productivity calculation; Maximum usefulness factor and its significance in selection of dragline for a given situation										
14		**Unit 2**	Scrapers: Applicability and limitations, various types										
15		**Unit 2**	Method and cycle of operation										
16	**6**	**Unit 2**	Dozers: Applicability and limitations; Types and classification; merits and demerits; Method and cycle of operation.										
17		**Unit 2**	Front-end- loaders: Applicability and limitations.										
18		**Unit 2**	Applicability and limitations.										
19	**7**	**Unit 3**	Continuous methods of excavation and transport: Bucket wheel excavators: Applicability and limitations										
20		**Unit 3**	Types and principle of operation; Calculation of productivity.										
21		**Unit 3**	Continuous surface miners: Types, classification,										
22	**8**	**Unit 3**	applicability and limitations; Principles of operation										
23		**Unit 3**	Conveyors: types of conveyors										

24		**Unit 3**	Mode of operation, applicability and limitations										
25		**Unit 3**	applicability and limitations										
26	**9**	**Unit 3**	Merits and demerits										
27		**Unit 3**	conveyor as a system of transportation										
28		**Unit 4**	Different types of in-pit crushing										
29	**10**	**Unit 4**	conveying methods										
30		**Unit 4**	respective applicability &limitations										
31		**Unit 4**	Types of mine slope										
32	**11**	**Unit 4**	high wall and waste dumps										
33		**Unit 4**	Common modes of slope failure										
34		**Unit 4**	Factors influencing stability of slopes										
35	**12**	**Unit 4**	Slope stability										
36		**Unit 4**	assessment technique										