



SYNERGY SCHOOL OF ENGINEERING, DHENKANAL

LESSON PLAN

SESSION(2026-27)

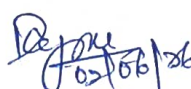
Discipline:- Mining engineering	Semester: 3 rd , Winter/2026	Name of the Teaching Faculty:- MITHUN PALEI (Lecturer in Mining) Email ID:paleimithun660@gmail.com
Subject: Mine Machinery-I	No of Days/Week: 03	Start Date: 01/07/26 End Date: 05/11/26

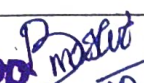
WEEK	CLASS DAY	THEORY TOPICS
1 ST	1 ST	State the types of wire ropes used in mines.
	2 ND	Constructional features of wire ropes and lay of wire ropes,
	3 RD	Nominal and actual factor of safety of wire ropes
2 ND	1 ST	Factors influencing the F.O.S of wire rope.
	2 ND	Factors affecting deterioration of ropes.
	3 RD	Factor of safety, Care and maintenance of ropes
3 RD	1 ST	Testing and examination of wire ropes, Splicing of wire ropes,
	2 ND	Rope capel for haulage winding and recapping
	3 RD	Efficiency of rope construction, space factor, cross sectional area rope.
4 TH	1 ST	Transportation in mines by rope haulage.
	2 ND	Types of rope haulage,
	3 RD	Safety devices on rope haulage roadways
5 TH	1 ST	Different types of clips and couplings.
	2 ND	State functions of headgear structure in mining.
	3 RD	Describe constructional features of headgear pulley
6 TH	1 ST	Define angle of deflection. Cage and shaft fittings.
	2 ND	Describe Cage, cage suspension gear, detaching hooks.
	3 RD	Describe Cage, cage suspension gear, detaching hooks.

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7 TH	1 ST	Describe various types of guide,
	2 ND	Describe flexible shoes, Rigid guide.
	3 RD	Describe safety catch at headgear and keps.
8 TH	1 ST	Describe flexible shoes and its uses.
	2 ND	Describe guide rope suspension and tensioning devices.
	3 RD	Describe guide rope suspension and tensioning devices.
9 TH	1 ST	Winding drum: Different profiles of winding Drum, Principle and and
	2 ND	Winding drum: Different profiles of winding Drum, Principle and and
	3 RD	Different types of winding Brake.
10 TH	1 ST	Various types of safety arrangement in winding system.
	2 ND	Describe Friction Winding system.
	3 RD	Principle and constructional features of ground-mounted koepe winder.
11 TH	1 ST	Principle and constructional features of tower-mounted koepe winder.
	2 ND	Describe safety arrangement features of ground-mounted.
	3 RD	Describe safety arrangement features of ground-mounted.
12 TH	1 ST	Advantages & disadvantages of koepe winding
	2 ND	Describe Skip winding.
	3 RD	Describe bottom discharge skip.
13 TH	1 ST	Top discharge skip
	2 ND	Skip Winder, and Cage Winder.
	3 RD	Construction of skip,
14 TH	1 ST	Pit top & Pit bottom circuit layout;
	2 ND	Factors affecting pit top and pit bottom layouts
	3 RD	Factors affecting pit top and pit bottom layouts
15 TH	1 ST	Different types of pit top and pit bottom car/tub circuit layouts.
	2 ND	Different types of pit top and pit bottom car/tub circuit layouts.
	3 rd	Revision.


Signature of Faculty


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