

SYNERGY POLYTECHNIC, BHUBANESWAR
(DEPARTMENT OF MINING ENGINEERING)
(LESSON PLAN 3rd Sem)

Discipline: Mining Engr.	Semester: 3 rd	Name of the Teaching Faculty: Houdananda Pradhan
Subject: Th.5 M.M-I	No of days/per week class allotted: 4	Semester from Date: 14-07-25 to Date: 11-11-25 No of weeks:
Week	Class/ Day	Theory/ Practical Topics
1st	1 st	Describe the features, types, construction, uses and maintenance of wires
	2 nd	Constructional features of wire ropes and lay of wire ropes, Factor of safety
	3 rd	Nominal and actual factor of safety of wire ropes, Factors influencing the F.O.S, Efficiency of rope construction
	4 th	-do-
2nd	1 st	Describe Wire ropes used in Mines
	2 nd	-do-
	3 rd	Efficiency of rope construction, space factor, cross sectional area rope.
	4 th	-do-
3rd	1 st	Explain cross sectional area rope. Factors affecting deterioration of ropes
	2 nd	-do-
	3 rd	Care and maintenance of ropes, Testing and examination of wire ropes.
	4 th	Rope capel for haulage winding and recapping
4th	1 st	Describe different types of rope haulage.
	2 nd	-do-
	3 rd	Transportation in mines by rope haulage,
	4 th	Types of rope haulage, Safety devices on rope haulage roadways,
5th	1 st	-do-
	2 nd	- Different types of clips and couplings
	3 rd	State functions of headgear. Describe constructional features of headgear pulley.
	4 th	-do-
6th	1 st	Cage, cage suspension gear, detaching hooks, safety catch at headgear and keps,
	2 nd	Types of guide, Rigid guide, flexible shoes, guide rope suspension and tensioning arrangement.
	3 rd	-do-
	4 th	Different profiles of winding Drum,
7th	1 st	Different types of winding brake,
	2 nd	-do-
	3 rd	Various types of safety devices on winding system.

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Week	Class/ Day	Theory/ Practical Topics
8 th	1 st	Principle and constructional features of ground-mounted and tower-mounted koepe winder
	2 nd	-do-
	3 rd	-do-
	4 th	-do-
9 th	1 st	Advantages & disadvantages of koepe winding. Multirope system of koepe winding.
	2 nd	-do-
	3 rd	Constructional features bottom discharge skip, Top discharge skip, Skip winding and cage winding.
	4 th	-do-
10 th	1 st	-do-
	2 nd	-do-
	3 rd	Factors affecting pit top and pit bottom 6 11 layouts, Different types of pit top and pit bottom car/tub circuit layouts.
	4 th	-do-
11 th	1 st	Draw various arrangements of pit top and pit bottom layouts.
	2 nd	-do-
	3 rd	-do-
	4 th	Describe different profiles of winding drum and types of friction winding.
12 th	1 st	-do-
	2 nd	-do-
	3 rd	Describe constructional and safety features of cage and shaft fittings
	4 th	-do-
13 th	1 st	-do-
	2 nd	-do-

Sign of Faculty

Head of Dept.

Principal