

GOVERNMENT POLYTECHNIC JAJPUR

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DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

Discipline: MINING	Semester: 5th	Name of the Teaching faculty: SOUMYA RANJAN SAMAL	
Subject: MINE MACHINERY - I	No of Days/Week class allotted: 4	Semester from Date: 01/08/2023 No of weeks: 15	To Date: 30/11/2023
Week	Class Day	Topics	
1st	1st	State the types of wire ropes used in Mines.	
	2nd	State the types of wire ropes used in Mines.	
	3rd	Describe constructional features of wire ropes.	
	4th	Describe constructional features of wire ropes.	
2nd	1st	Explain lay of wire ropes.	
	2nd	Explain lay of wire ropes.	
	3rd	Define factor of safety to wire ropes nominal.	
	4th	Define actual factor of safety of wire ropes.	
3rd	1st	State factors influencing the F.O.S.	
	2nd	State factors influencing the F.O.S.	
	3rd	State efficiency of rope construction, space factor & cross sectional area rope.	
	4th	State efficiency of rope construction, space factor & cross sectional area rope.	
4th	1st	State factors affecting deterioration of ropes.	
	2nd	State factors affecting deterioration of ropes.	
	3rd	CLASS TEST 1	
	4th	Describe care & maintenance of ropes.	
5th	1st	State & describe testing & examination of wire ropes.	
	2nd	Give the procedure of splicing of wire rope	
	3rd	Give the procedure of splicing of wire rope	
	4th	Describe rope capel for haulage winding & recapping.	
6th	1st	Describe rope capel for haulage winding & recapping.	
	2nd	Describe rope capel for haulage winding & recapping.	
	3rd	Describe rope capel for haulage winding & recapping.	
	4th	Describe rope capel for haulage winding & recapping.	
7th	1st	Transportation in mines by rope haulage.	
	2nd	State type of rope haulage	
	3rd	Describe various types of rope haulage with simple sketches.	
	4th	Describe various types of rope haulage with simple sketches.	
8th	1st	State & describe different type of safety devices on rope haulage roadways.	
	2nd	INTERNAL-I	
	3rd	State function of headgear.	
	4th	Describe constructional features of headgear pulley.	

9th	1st	Define angle of fleet.
	2nd	Describe cage, cage suspension gear.
	3rd	Describe detaching hooks & its function, safety catch at headgear & keps.
	4th	State types of guide.
10th	1st	State & describe rigid guide & flexible guide
	2nd	State & describe guide rope suspension & tensioning arrangement.
	3rd	State different profiles of winding Drum.
	4th	Describe different types of winding brake.
11th	1st	Describe various types of safety devices on winding system.
	2nd	State & describe principle & constructional features of ground-mounted koepe winder.
	3rd	State & describe principle & constructional features of tower-mounted koepe winder.
	4th	State & describe principle & constructional features of tower-mounted koepe winder.
12th	1st	CLASS TEST 2
	2nd	Describe multirope system of koepe winding.
	3rd	Describe constructional features bottom discharge skip, Top discharge skip
	4th	Compare skip winding cage winding.
13th	1st	State factors affecting pit top & pit bottom layouts.
	2nd	State factors affecting pit top & pit bottom layouts.
	3rd	State factors affecting pit top & pit bottom layouts.
	4th	Describe different types of pit top & pit bottom car/tub circuit layouts.
14th	1st	Describe different types of pit top & pit bottom car/tub circuit layouts.
	2nd	Describe different types of pit top & pit bottom car/tub circuit layouts.
	3rd	INTERNAL-II
	4th	Describe different types of pit top & pit bottom car/tub circuit layouts.
15th	1st	REVISION/DOUBT CLEARING CLASS
	2nd	REVISION/DOUBT CLEARING CLASS
	3rd	REVISION/DOUBT CLEARING CLASS
	4th	REVISION/DOUBT CLEARING CLASS
Sl. No.	Title of the Book	Name of Authors
1	Mine Hoisting	M A Ramulu
2	SME Mining Engg Handbook	
3	Material Handling in Mines, IIT KGP	
4	EMT III	D.J.Desmukh
5	Mine Transport	N.T Kerlin
6	UMS Volume	


Signature of Faculty