

# SYNERGY SCHOOL OF ENGINEERING

## LESSON PLAN

Session ( 2025 - 26 )

<b>Discipline:</b> Mining Engineering	<b>Semester:</b> 3 <sup>rd</sup> , Winter/ 2025	<b>Name of the Teaching Faculty:</b> Biswambar Majhi, Lecturer Email ID biswambarmajhikjr@gmail.com
<b>Subject:</b> Mine Machinery – I, Theory-	<b>No. of Days/Week:</b> 04	<b>Start Date:</b> 14/07/25 <b>End Date:</b> 15/11/25

Week	Class Day	Theory 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 & lay of wire ropes.
	4th	Define factor of safety to wire ropes nominal & actual factor of safety of wire ropes.
2nd	1st	Define factor of safety to wire ropes nominal & actual factor of safety of wire ropes.
	2nd	State factors influencing the F.O.S.
	3rd	State factors influencing the F.O.S.
	4th	State efficiency of rope construction, space factor & cross sectional area rope.
3rd	1st	State efficiency of rope construction, space factor & cross sectional area rope.
	2nd	State factors affecting deterioration of ropes.
	3rd	State factors affecting deterioration of ropes.
	4th	Describe care & maintenance of ropes.
4th	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
5th	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	Assignment & Surprise Test
6th	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
7th	1st	State & describe different type of safety devices on rope haulage roadways.

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	2nd	State & describe different types of clips & couplings .
	3rd	State & describe different types of clips & couplings .
	4th	State function of headgear.
8th	1st	Describe constructional features of headgear pulley.
	2nd	Describe constructional features of headgear pulley.
	3rd	Define angle of fleet
	4th	Describe cage, cage suspension gear, detaching hooks & its function, safety catch at headgear & keps..
9th	1st	Describe cage, cage suspension gear, detaching hooks & its function, safety catch at headgear & keps..
	2nd	State types of guide.
	3rd	State & describe rigid guide, flexible shoes, guide rope suspension & tensioning arrangement
	4th	State & describe rigid guide, flexible shoes, guide rope suspension & tensioning arrangement
10th	1st	State different profiles of winding Drum..
	2nd	Describe different types of winding brake.
	3rd	Describe various types of safety devices on winding system
	4th	State & describe principle & constructional features of ground-mounted & tower-mounted koepe winder..
11th	1st	State & describe principle & constructional features of ground-mounted & tower-mounted koepe winder..
	2nd	State advantages & disadvantages of koepe winding.
	3rd	Describe multirope system of koepe winding
	4th	Describe multirope system of koepe winding
12th	1st	Describe constructional features bottom discharge skip, Top discharge skip.
	2nd	Describe constructional features bottom discharge skip, Top discharge skip
	3rd	Compare skip winding cage winding.
	4th	State factors affecting pit top & pit bottom layouts.
13th	1st	State factors affecting pit top & pit bottom layouts.
	2nd	State factors affecting pit top & pit bottom layouts.
	3rd	Describe different types of pit top & pit bottom car/tub circuit 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	Previous yr question discussion based on ch 1
	3rd	Previous yr question discussion based on ch 2
	4th	Previous yr question discussion based on ch3
15th	1st	Previous yr question discussion based on ch 4
	2nd	Previous yr question discussion based on ch 5
	3rd	Previous yr question discussion based on ch 6
	4th	Previous yr question discussion based on ch 7 & 8

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10/07/25  
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