Discipline mining Engg.	Semester :- 5th	Name of the Teaching Faculty :-
Subject :- mine machinery-I	NO. of class/day allotted Per week :- 04	Semester Starting from :- to :- NO. of weeks :- 15
Weeks	class/day	Theory / Practical Topic
1st	1st	State the types of wire ropes used in mines its constructional features, Lay of wire ropes & F.O.S
	2nd	Efficiency of rope, space factor & Cross-sectional area. Factors affecting wire ropes.
	3rd	Care & maintenance of ropes, procedure of splicing of wire ropes.
	4th	Rope capeling for haulage winding & recapping.
2nd	1st	Rope haulage System transportation in mines by rope haulage.
	2nd	State types of Rope haulage various types of rope haulage.
	3rd	State and describe different type of safety devices on rope haulage roadways.

Weeks	classes / days	Theory / Practical Topics
	4th	Different types of clips & coupling with neat sketch diagram.
3rd	1st	Headgear its function and diagram.
	2nd	Constructional features of headgear pulley.
	3rd	Define ~~fleet~~ angle of wire Rope with Head gear pulley
	4th	Revision of 3 topics i-e Wire Ropes, Rope Haulage, Headgeer pulley.
4th	1st	Cage and Shaft fittings with its Suitable diagram.
	2nd	Cage Suspension gear, detaching Hooks & its functions with its diagram.
	3rd	Safety catch at headgear & Kops with its diagram
	4th	Types of guides its uses and features with its diagram.

Weeks	classes / days	Theory / Practical topics
5th	1st	Describe Rigid guide, flexible Shoes with its diagram.
	2nd	Guide rope suspension & tensioning arrangement.
	3rd	Drum winding 1. Balanced cylindrical drum without tail Rope. 2. Balanced cylindrical drum with tail Rope. 3. Bi-cylindro-conical drum ; start of wind. 4. bi-cylindro-conical drum; end of wind
	4th	⇒Power and torque diagram of winding engine. ⇒Torque - time diagram for cylindrical drum with tail Rope. ⇒ Torque - time diagram for a bi-cylindro-conical drum hoist.
6th	1st	⇒ Friction winding (Koepe winding) Types of Koepe winding. Advantages, Disadvantages.
	2nd	⇒Multi rope System of winding ⇒ Adjustment for variation in Rope tension.

weeks	classes / days	Theory / Practical topics
	3rd	→ Cground-mounted & towere mounted Keepe winder.
	4th	Revision of both 1, 2, 3 topics.
7th	1st.	Run round arrangement at Pit-top (Cage winding)
	2nd	Ho-feo System of winding with neat sketch.
	3rd	Back shunt Circuit System with neat sketch.
	4th	Turntable Circuit System with neat sketch.
8th	1st	Traversen Circuit layout with description.
	2nd	Creeper layout with its diagram.
	3rd	Haulage System classification of mines with its layout from main face.
	4th.	Types of Haulages its suitable Condn.

weeks:	classes/days	Theory/Practical topics
9th	1st	Types of Haulage 1) Direct Haulage and its advantages and disadvantages with suitable diagram.
	2nd	2) Endless Haulage its advantages and disadvantages with its layout.
	3rd	3) Main and tail Haulage with its suitable cond" and its advantages and disad-vantages.
	4th	4) Gyrantry haulage with its advantages and disadvantages
10th	1st	Detail Revision on types of Haulages in ufg mines with its numericals.
	2nd	Super elevation and its Curvature.
	3rd	Practical class on the concept on Haulage in mines and observation of models.
	4th.	About classes on types of cages, keeps, Safty contrivances.

Weeks	Class / days	Theory / Practical.
11th	1st	→ Full detail Revision on Wire Rope, factors influ-cing wire rope.
	2nd	→ Numerical problems on Rope winding.
	3rd	→ Revision on Rope winding, its procedure, Examination
	4th.	→ Revision of capel for haulage winding & reeapping.
12th	1st	→ Constructional features bottom discharge skip.
	2nd	→ Top discharge skip with its level diagram.
	3rd	→ Revision on Headgear pulley.
	4th	→ Comparison bet" skip winding Cage winding with its figure.
13th	1st	→ Numericals on Haulage
	2nd	→ Numericals on F.O.S and Superelevation.
	3rd	→ Revision of drum winding and its types.

Weeks	classes / days	Theory / Practical.
	4th.	→ Revision on Cage and Shaft fittings → Cage, Shaft fitting, Suspension gear
14th	1st	→ Revision on detaching hooks & its functions, Safety catches.
	2nd	→ Revision on types of catches at headgear & keps.
	3rd.	→ Revision on flexible shoes, guide rope Suspension & tension arrangement.
	4th	→ Revision on friction winding Ground mounted, tower mounted
15th	1st.	→ Revision on Pit-top, Pit-bottom Layout with its Suitable diagram
	2nd	→ Revision on Rope haulage Types of Haulage. its advantages and disadvantages.
	3rd	→ Revision on drum winding Types of winding.
	4th.	→ Skip winding and its Constructional features and design etc.