

Academic Lesson Plan of Summer 2024

WEEK	DAY	TOPIC
Department : MINING ENGG.		
Semester : 4TH		
Name of the Teaching Faculty : S. BISWAL		
Subject : ELECTRICAL EQUIPMENT IN MINES (TH-4)		
No. of Days/per week class allotted : 4Period/week		
Semester from : 16TH JANUARY 2024		
No of Weeks : 15 Weeks		
Topic to be covered :		
WEEK	DAY	TOPIC
1st Week	1st	Describe various types of Eletrical cables used in Mines.
	2nd	State and Explain the Purpose of uses.
	3rd	Describe and Explain circuit Breakers and Draw Circuit Diagram of gate-end Box and Drill pannel.
	4th	Describe and Explain circuit Breakers and Draw Circuit Diagram of gate-end Box and Drill pannel.
2nd Week	1st	Describe Different Types of protective system.
	2nd	Describe Different Types of protective system.
	3rd	Select electric Devices for Mining Use.
	4th	Describe and Explain different types of Electric Breaking.
3rd Week	1st	Describe and Explain different types of Electric Breaking.
	2nd	Describe proof apparatus and Intrincically safe apparatus.
	3rd	Describe proof apparatus and Intrincically safe apparatus.
	4th	Explain Underground Signally Arrangement.
4th Week	1st	Electrical Cable for Mining use and Classified cable for mining Use.
	2nd	Constructional Feature of High Tension and low tension Cables armored and Trailing cable.
	3rd	State Size of cables and their use.
	4th	State procedures of cable Laying at Surface, Underground Road way and in Shaft.
5th Week	1st	State procedures of cable Laying at Surface, Underground Road way and in Shaft.
	2nd	Describe cable joint Box Mining Type.
	3rd	Protective System. Fuse-Material
	4th	Rewireble Fuse , HRC Fuse
	5th	Use of Fuse.
6th Week	1st	Circuit Braker-Describe and Explain Air Circuit Breaker.
	2nd	Describe and Explain Minimum Oil Circuit Breaker.
	3rd	Describe and Explain Bulk Oil Circuit Breaker.
	4th	Describe and Explain Air blast Circuit Breaker.
7th Week	1st	Describe and Explain SF6 Circuit Breaker.
	2nd	Explain Essential Qualities of a good protective Systems.
	3rd	State and Describe typesof Relay.
	4th	State and Describe typesof Relay.
	1st	Describe Protection of Transformer by Different Relay.

WEEK	DAY	TOPIC
8th Week	2nd	Describe Protection of Transformer by Different Relay.
	3rd	Describe General principle of Working Basis Remote Control Circuit.
	4th	Various Protective Devices of Gate end Box.
9th Week	1st	Describe Function and Operation of Drill pannel.
	2nd	Describe Function and Operation of Drill pannel.
	3rd	Earthing System in Mines.
	4th	Voltage Limit.
10th Week	1st	Fundamentals of Transformer.
	2nd	Industrial Devices- Mining type - Explain Starting and Running Characteristic of DC and AC Motor.
	3rd	Industrial Devices- Mining type - Explain Starting and Running Characteristic of DC and AC Motor.
	4th	State Selection of Motors for Mining Use.
11th Week	1st	Electric Breaking use in Mines.
	2nd	Describe and Explain Regenerative Breaking.
	3rd	Describe and Explain Magnetic Breaking.
	4th	Flame proof and Intrinsically safe Apparatus. Define Flame proof Apparatus and Intrinsically Safe Apparatus.
12th Week	1st	Describe and Explain the Safety Features of Flame proof and Intrinsically Safe Apparatus.
	2nd	Describe and Explain the Safety Features of Flame proof and Intrinsically Safe Apparatus.
	3rd	Underground Signaling Arrangement.
	4th	Describe Signals and Shaft Signal.
13th Week	1st	Describe Communication Systems in underground mines.
	2nd	Point to point Communication.
	3rd	Intercome System or telephone.
	4th	Cordless System.
14th Week	1st	Sensor and their Application.
	2nd	Battery Locomotive, Automation with thyroster control.
	3rd	Electrical LHD, Electrical Mine Phone.
	4th	Electrical LHD, Electrical Mine Phone.
15th Week	1st	INTERNAL.
	2nd	Previous year Question Discussion.
	3rd	Previous year Question Discussion.
	4th	Revision and Doubt clearing Class.

S. Biswal
Signature of the faculty

16/01/2024
Signature of the Principal