


DEPARTMENT OF MINING ENGINEERING

LESSON PLAN


Discipline: MINING	Semester: 5th	Name of the Teaching faculty: Ghanshyam Dhurua
Subject: MINE HAZARD AND SAFETY	No of Days/Week class allotted: 4	Semester from Date: 1/10/21 To Date: 8/1/22 No of weeks: 16
Week	Class Day	Topics
1st	1st	Composition of atmospheric air. Different mine gases, their properties and physical effects
	2nd	Composition of atmospheric air. Different mine gases, their properties and physical effects
	3rd	Composition of atmospheric air. Different mine gases, their properties and physical effects
	4th	Composition of atmospheric air. Different mine gases, their properties and physical effects
2nd	1st	State fire damp in mines.
	2nd	State black damp in mines.
	3rd	State stink damp in mines.
	4th	State white damp in mines.
3rd	1st	State after damp in mines.
	2nd	Describe flame safety lamp & its working principle.
	3rd	Describe flame safety lamp & its working principle.
	4th	Explain gas testing by flame safety lamp by accumulation test & percentage test.
4th	1st	Explain gas testing by flame safety lamp by accumulation test & percentage test.
	2nd	State precaution for gas testing.
	3rd	Describe various parts of flame safety lamp, special features.
	4th	Describe various parts of flame safety lamp, special features.
5th	1st	State limitations of flame safety lamp.
	2nd	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
	3rd	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
	4th	Define incubation period, define spontaneous heating and its causes and effects.
6th	1st	Define incubation period, define spontaneous heating and its causes and effects.
	2nd	State preventive measures against spontaneous heating.

	3rd	State preventive measures against spontaneous heating.
	4th	CLASS TEST 1, Previous year questions, quiz test
7th	1st	Explain CO/O ₂ ratio.
	2nd	Explain CO ₂ /O ₂ ratio.
	3rd	Describe coal dust explosion with their causes & prevention.
	4th	Describe fire damp explosion with their causes & prevention.
8th	1st	State inflammability of coal dust.
	2nd	State inflammability of fire damp.
	3rd	Explain Coward's diagram.
	4th	Explain Coward's diagram.
9th	1st	State prevention, suppression & treatment of dust.
	2nd	State prevention, suppression & treatment of dust.
	3rd	Describe sampling of dust in Mines.
	4th	Describe sampling of dust in Mines.
10th	1st	Stone dust barrier.
	2nd	State sources of water in mines & its danger.
	3rd	State precaution against inundation.
	4th	State precaution against inundation.
11th	1st	Describe burnside safety boring apparatus.
	2nd	Describe burnside safety boring apparatus.
	3rd	State precaution while approaching water logged area.
	4th	State precaution while approaching water logged area.
12th	1st	Describe water dams- its construction & design. (Without derivation of formula)
	2nd	Describe water dams- its construction & design. (Without derivation of formula)
	3rd	Explain water danger plan.
	4th	CLASS TEST 2, Previous year questions, quiz
13th	1st	Explain water danger plan.
	2nd	Statutory provision for working near water body.
	3rd	Statutory provision for working near water body.
	4th	Define illumination and its units.
14th	1st	Define illumination and its units.
	2nd	Standards of lighting at different parts of mine as per mine regulation.
	3rd	Standards of lighting at different parts of mine as per mine regulation.
	4th	Explain the effect of noise & vibration on miners & mine structures & other surface structure with respect to statutory provision.
15th	1st	Explain the effect of noise & vibration on miners & mine structures & other surface structure with respect to statutory provision.
	2nd	Explain Proto-IV, Proto-V, , Smoke helmet, Gas mask.
	3rd	Explain Drager BG-174, Self rescuer.

16th	4th	Construction of Rescue brigade and their role in rescue and recovery operation.
	1st	Construction of Rescue brigade and their role in rescue and recovery operation.
	2nd	Mine Rescue rules 1985 Annexure I,II,III.
	3rd	Mine Rescue rules 1985 Annexure I,II,III.
	4th	Previous year questions, quiz


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