



Discipline: MINING ENGG	Semester: 5 TH	Name of the Teaching Faculty: ER. D.S.PRADHAN
Subject: Mine Hazard and safety	No. of Days/per week class allotted: 4	Semester From Date: 01/ 08/2023 To Date: 9/12/2023 No. of Weeks : 15
Week	Class Day	Theory/Practical Topics
1 st	01	Composition of atmospheric air. Different mine gases, their properties and physical effects .
	02	State fire damp, black damp, stink damp, white damp and after damp in mines.
	03	Describe flame safety lamp & its working principle.
	04	Explain gas testing by flame safety lamp by accumulation test & percentage test
2 nd	01	State precaution for gas testing.
	02	Describe various parts of flame safety lamp, special features. State limitations of flame safety lamp
	03	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
	04	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
3 rd	01	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
	02	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
	03	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
	04	Describe gradual exudation, blower & outbursts of firedamp in U/g workings.
4 th	01	Define incubation period
	02	Define spontaneous heating and its causes and effects.
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	04	Define spontaneous heating and its causes and effects.
5 th	01	Define spontaneous heating and its causes and effects.
	02	State preventive measures against spontaneous heating.
	03	State preventive measures against spontaneous heating.
	04	State preventive measures against spontaneous heating.
6 th	01	State preventive measures against spontaneous heating.
	02	Explain CO/O ₂ ratio & CO ₂ /O ₂ ratio.
	03	Describe coal dust explosion & fire damp explosion with their causes & prevention
	04	Describe coal dust explosion & fire damp explosion with their causes & prevention
7 th	01	Describe coal dust explosion & fire damp explosion with their

		causes & prevention
	02	State inflammability of coal dust & fire damp.
	03	State inflammability of coal dust & fire damp.
	04	Explain Coward's diagram
8 th	01	State prevention, suppression & treatment of dust.
	02	State prevention, suppression & treatment of dust.
	03	Describe sampling of dust in Mines.
	04	Stone dust barrier
9 th	01	State sources of water in mines & its danger.
	02	State precaution against inundation.
	03	Describe burnside safety boring apparatus
	04	State precaution while approaching water logged area
10 th	01	Describe water dams- its construction & design. (Without derivation of formula)
	02	Describe water dams- its construction & design. (Without derivation of formula)
	03	Explain water danger plan.
	04	Statutory provision for working near water body.
11 th	01	Define illumination and its units
	02	Laws of Illumination
	03	Standards of lighting at different parts of mine as per mine regulation
	04	Standards of lighting at different parts of mine as per mine regulation
12 th	01	Standards of lighting at different parts of mine as per mine regulation
	02	Explain the effect of noise & vibration on miners & mine structures & other surface structure with respect to statutory provision.
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13 th	01	Explain the effect of noise & vibration on miners & mine structures & other surface structure with respect to statutory provision.
	02	Explain the effect of noise & vibration on miners & mine structures & other surface structure with respect to statutory provision.
	03	Proto-IV, Proto-V, Drager BG-174, Self rescuer, Smoke helmet, Gas mask.
	04	Proto-IV, Proto-V, Drager BG-174, Self rescuer, Smoke helmet, Gas mask.
14 th	01	Proto-IV, Proto-V, Drager BG-174, Self rescuer, Smoke helmet, Gas mask.
	02	Construction of Rescue brigade and their role in rescue and recovery operation.
	03	Construction of Rescue brigade and their role in rescue and recovery operation.
	04	Mine Rescue rules 1985 Annexure I,II,III.
15 th	01	Mine Rescue rules 1985 Annexure I,II,III.
	02	Mine Rescue rules 1985 Annexure I,II,III.
	03	Mine Rescue rules 1985 Annexure I,II,III.

	04	Mine Rescue rules 1985 Annexure I,II,III.
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