

Discipline: Mining	Semester: 5th	Name of the Teaching Faculty Subhranshu Khuntia	
Subject: Mining Hazard & Safety	No of Days/Week Class Allotted: _____	Semester From date: 11/10/21 To date: 18/11/22	No. of Weeks: _____

WEEK	Class Day	Theory Topics
1st	1st	Composition of atmospheric air, mine gases, their properties, physical effects.
	2nd	Fire damp, black damp, Stink damp, white damp & after damp in mines.
	3rd	Flame Safety Lamp & its working principle.
	4th	Gas testing with flame safety lamp by accumulation test & percentage test.
	5th	
2nd	1st	Precaution for gas testing.
	2nd	Various parts of flame safety lamp, its special features.
	3rd	Limitation of flame safety lamp
	4th	Gradual emanation
	5th	
3rd	1st	Blower & its effects in U/G mines.
	2nd	Outburst of Firedamp in U/G workings.
	3rd	Types of fire & spontaneous heating.
	4th	Causes & factors affecting spontaneous heating.
	5th	

WEEK	Class Day	Theory Topics
4th	1st	Incubation period & preventive measures against spontaneous heating.
	2nd	CO/O_2 ratio & CO/O_2 ratio & CO_2/O_2 deficiency ratio.
	3rd	problems on CO/O_2 , CO/O_2 & CO_2/O_2 ratio.
	4th	Complete revision of Spontaneous heating
	5th	
5th	1st	Introduction class of Mine explosion
	2nd	Coal dust explosion & Fire damp explosion with their causes & prevention.
	3rd	———— do ————
	4th	Inflammability of coal dust & Fire damp.
	5th	
6th	1st	Coward's diagram & Interpretation.
	2nd	Prevention, suppression & Treatment of dust.
	3rd	Sampling of dust in mines.
	4th	Stone dust barriers.
	5th	

Wk	Class Day	Theory Topics
7th	1st	Introduction to mine Inundation.
	2nd	Sources of water in mines & its danger
	3rd	precaution against inundation
	4th	Burnside safety bonding apparatus.
	5th	
8th	1st	Precaution while approaching water logged area.
	2nd	Water dams - its construction & design.
	3rd	Explanation of water danger plan.
	4th	Statutory provision for working near water body.
	5th	
9th	1st	Mine lighting & illumination.
	2nd	Effects on safety: Level of illumination at different working places at mines.
	3rd	Lighting in mines.
	4th	Standards of lighting at different parts of mine as per mine regulation.
	5th	

WEEK	Class Day	Theory Topics
10th	1st	Introduction class of noise & vibration
	2nd	Effects of noise & vibration on miners.
	3rd	Effects of vibration on mine structures & surface infrastructures.
	4th	Sources of noise, vibration effects, how to control these measures.
	5th	
11th	1st	Rescue Apparatus & its applications on mines.
	2nd	Proto-IV (Description & illustration)
	3rd	Proto-V (Description & illustration)
	4th	Drager BC-174.
	5th	
12th	1st	Self rescuer (Detailed explanation)
	2nd	Smoke helmet with diagram
	3rd	Gas mask with diagram
	4th	Complete revision of mine rescue & Recovery.
	5th	

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Subject:	No of Days/Week Class Allotted: _____	Semester From date: _____ To date _____	No. of Weeks:	

WEEK	Class Day	Theory Topics
13th	1st	Revise Class
	2nd	Revise Class
	3rd	Revise Class
	4th	Revise Class
	5th	
14th	1st	Doubt Class
	2nd	Doubt Class
	3rd	Doubt Class
	4th	Doubt Class
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	