


Dicipline:	Mining	Semester:	3 th	Name of the Teaching Faculty: Satyaji. Mahapatra	
Subject:	Mining Hazard & Safety	No of Days/Week Class Allotted:	_____	Semester From date: 13/09/22 To date: 18/01/23	No. of Weeks: 14
WEEK	Class Day	Theory Topics			
from 15/09/22 to 16/09/22	1st	Composition of atmospheric air, mine gases, their properties & physical effects?			
	2nd	Fire damp, black damp, stowage damp & white damp & after damp in mines.			
	3rd				
	4th				
	5th				
from 19/09/22 to 21/09/22	1st	Precautions for gas testing, various parts of flame safety lamp, special features.			
	2nd	Limitations of flame safety lamp, flame of flame safety lamp.			
	3rd	Emission of firedamp in up working accumulation test & percentage test.			
	4th	Description of gradual exaudation			
	5th				
from 26/09/22 to 01/10/22	1st	Description of Blower in up working			
	2nd	Outburst of firedamp in up working			
	3rd	Relationship between dominant & inducing factors of outburst.			
	4th	Fires, classification of fires & extinguishers used to quench the fire.			
	5th				

Theory Topics




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WEEK	Class Day	Theory Topics
From 10/10/22 to 15/10/22	1st	C.T.C fibre extinguishers, B.C.R fibre extinguishers.
	2nd	Define Dneubation period, preventive measures.
	3rd	spontaneous heating & DTS causes & effect.
	4th	Factors affecting spontaneous heating.
	5th	
From 17/10/22 to 22/10/22	1st	explanation of mine air samples, thick-ness, of seams, geological disturbances.
	2nd	preventive measures against spontaneous heating.
	3rd	symptoms of spontaneous heating in underground mines.
	4th	explain CO/O ₂ ratio and CO ₂ /O ₂ ratio.
	5th	
From 24/10/22 to 29/10/22	1st	solved problems based on these methods
	2nd	Introduction to mine explosion.
	3rd	Description of coal dust explosion, its causes & prevention.
	4th	Description of fire damp explosion, its causes & prevention.
	5th	

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WEEK	Class Day	Theory Topics		
From 01/11/22 to 05/11/22	1st	Inflammability of coal dust & fire damp.		
	2nd	Explanation of Coward's diagram		
	3rd	Lower explosibility limit of fire damp with respect to oxygen.		
	4th	Prevention, suppression & Treatment of dust.		
	5th			
From 07/11/22 to 12/11/22	1st	Description of sampling of dust in mines.		
	2nd	Stone dust barrier, location of Stone dust barriers.		
	3rd	Introduction to mine Inundation.		
	4th	State sources of water in mines & its danger.		
	5th			
From 14/11/22 to 19/11/22	1st	Precaution against inundation.		
	2nd	Description of burnside safety boring apparatus.		
	3rd	Precaution while approaching water logged Area.		
	4th	Describe water damp - Its construction & design (Derivation of formula).		
	5th			

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From 29/11/22 to 06/11/22	1st	Discussion of water danger plan.
	2nd	Statutory provision for working near water body.
	3rd	Define illumination & its units.
	4th	Technical terms in lighting & photometry
	5th	
From 28/11/22 to 03/12/22	1st	Acetylene portable hand lamp, electric cap lamp
	2nd	Electric discharge lamps & fluorescent tubes for mine lighting.
	3rd	Standards of lighting at different parts of mine regulation.
	4th	Explain the effect of noise & vibration on miners.
	5th	
From 05/12/22 to 10/12/22	1st	Mine structures & other surface with respect to statutory provision.
	2nd	Various diseases affects human due to noise & vibration.
	3rd	Introduction to mine rescue & recovery
	4th	self controlled breathing apparatus.
	5th	

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WEEK	Class Day	Theory Topics		
From 12/12/22 to 17/12/22	1st	Proto-IV apparatus, design, function.		
	2nd	Proto-V apparatus, design, function.		
	3rd	Drager BG-174 design, function.		
	4th	Self rescuer, smoke helmet		
	5th			
From 19/12/22 to 22/12/22	1st	Gas mask workings, uses		
	2nd	Construction of Rescue brigade		
	3rd	Role of Rescue brigade in rescue and recovery operations		
	4th	Mine rescue rules 1985 Annexure I.		
	5th			
From 02/01/23 to 07/01/23	1st	Mine rescue rules 1985 Annexure II.		
	2nd	Mine rescue rules 1985 Annexure III.		
	3rd	Sylvester's method, mouth to mouth resuscitation.		
	4th	Miscellaneous numericals solve.		
	5th			

WEEK	Class Day	Theory Topics
From - 9/10/23 to 14/10/23	1st	Diagram representing various safety equipment. Its practicability, operation.
	2nd	Self rescuer, Smoke helmet.
	3rd	Gas mask working & uses in Mine rescue.
	4th	Construction of rescue brigade.
	5th	
16/10/23 to 20/10/23	1st	Role of rescue brigade in rescue and recovery operations.
	2nd	Mine rescue rules 1985. Annexure I
	3rd	Mines rescue rules - 1985 Annexure II
	4th	
	5th	 
	1st	
	2nd	
	3rd	
	4th	
	5th	