



Dicipline:	Mining	Semester: 4th	Name of the Teaching Faculty: Satyaditt Manapatra	
Subject:	Mine ventilation.	No of Days/Week Class Allotted: _____	Semester From date: 18/02/22 To date: 18/03/22	No. of Weeks: _____
WEEK	Class Day	Theory Topics		
1st	1st	Natural ventilation Introduction,		
	2nd	definition of natural ventilation & factors affecting natural ventilation,		
	3rd	describe the different types of thermo meter.		
	4th	describe the different types of barometer		
	5th			
2nd	1st	Describe katz thermometer,		
	2nd	Describe water gauge,		
	3rd	Calculate ventilation pressure by using pitot static tube,		
	4th	Explain effects of heat & humidity.		
	5th			
3rd	1st	explain natural ventilation using column, geometric gradient.		
	2nd	" "		
	3rd	enumerate laws of mine air circulation &		
	4th	solve problems on above,		
	5th			

WEEK	Class Day	Theory Topics
4 th	1st	statutory provisions as per, CMR - 2017 MMR - 1961
	2nd	" "
	3rd	Air crossings & distribution,
	4th	Describe ventilation & toping, air crossing ventilation door, breathe panel air
	5th	
5 th	1st	" "
	2nd	Describe different types of ventilation,
	3rd	A. accidental and direct/indirect ventilation,
	4th	Horizontal & vertical ventilation,
	5th	
6 th	1st	Boundary ventilation,
	2nd	Central & combined ventilation,
	3rd	explain splitting of air current,
	4th	some numerical problems on splitting,
	5th	

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WEEK	Class Day	Theory Topics		
7 th	1st	Describe air flow at pit top.		
	2nd	Mechanical Ventilation Introduction.		
	3rd	Explosion Construction.		
	4th	Principle of operation of centrifugal flow fans.		
	5th			
8 th	1st	State fan laws and calculate fan efficiency and capacity.		
	2nd	" "		
	3rd	Explain installation of mine fan with reversal arrangement.		
	4th	Describe fan draft, fan drive, exhausters and diffusers.		
	5th			
9 th	1st	Explain fan characteristics and mine characteristics.		
	2nd	Describe method of output of mine fans.		
	3rd	Booster fan and its effects.		
	4th	Describe installation location.		
	5th			

WEEK	Class Day	Theory Topics
10th	1st	Purpose of booster fan,
	2nd	Solve problem relating to booster fan
	3rd	Auxiliary Ventilation Introduction,
	4th	Describe system of auxiliary ventila- -ation,
	5th	
11th	1st	Describe advantages and disadvantages of auxiliary ventilation,
	2nd	Ventilation survey Introduction,
	3rd	Describe methods of pressure survey using barometer gauge and pitot tube with manometer
	4th))))
	5th	
12th	1st	Describe the method of measurement of cross-sectional area,
	2nd	Describe the method of velocity measurements by using anemometer, voltmeter and pitot-static tube and smoke and cloud density
	3rd))))
	4th	Determine percentage of oxygen, methane carbon monoxide SO ₂ and H ₂ S.
	5th	

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WEEK	Class Day	Theory Topics		
13 th	1st	Leakage of air in mine .		
	2nd	Describe causes and preventive measures of leakage of air in mine .		
	3rd))))	
	4th))))	
	5th			
	1st			
	2nd			
	3rd			
	4th			
	5th			
	1st			
	2nd			
	3rd			
	4th			
	5th			