

Discipline	Semester	Name Of the Teaching faculty.
Subject	No. Of Days.	Rudra Mohan Nayak
Mine Ventilation	Per week.	Semester From Date - 14/02/23
	class allotted.	TO Date - 23/05/23
		Name Of Weeks:- 15
Week	Class/Day	Theory - III
1st.	1st.	Definition of natural ventilation and factors affecting natural ventilation.
	2nd	Definition of natural ventilation and factors affecting natural ventilation.
	3rd	Definition of natural ventilation and factors affecting natural ventilation.
	4th	Definition of natural ventilation and factors affecting natural ventilation.
2nd	1st.	Describe the different types of Thermometer.
	2nd.	Describe the different types of Barometer.
	3rd.	Describe Kater's Thermometer.
	4th	Describe water gauge.
3rd.	1st.	Calculate ventilation pressure by using pitot static tube.
	2nd	Explain effects of heat. Explain effects of Humidity.
	3rd	Explain natural ventilation motive column, geothermic gradient.
	4th	Explain natural ventilation motive column, geothermic gradient.
4th	1st.	Enumerate laws of mine air friction.
	2nd	Solve problems on above.
	3rd	Solve problems on above.
	4th	Statutory provision as per CMR 2017
5th	1st.	Describe Ventilation Stopping.
	2nd.	Describe air crossing, ventilation door, Draught, etc.



	3rd	Describe air crossing, ventilation doors, brattice partition.	11th
6th	4th	Describe different types of ventilation.	
	1st	Accessorial and Declensional Ventilation.	
	2nd	Homotropical ventilation. Antitropical Ventilation.	
	3rd	Boundary ventilation.	
7th	4th	Central and Combined Ventilation.	12th
	1st	Explain splitting of air current.	
	2nd	Solve numerical problems on $\rho$ splitting.	
	3rd	Describe air locks set put top.	
8th	4th	Explain construction principle of centrifugal flow fans.	
	1st	Explain construction principle of Centrifugal flow fans.	
	2nd	State fan laws and calculate fan efficiency and capacity.	13th
	3rd	State fan laws and calculate fan efficiency and capacity.	
9th	4th	Explain installation of mine fan with reversal arrangement.	
	1st	Explain installation of mine fan with reversal arrangement.	
	2nd	Describe fan drift, fan drive, evasee and Diffusers.	14th
	3rd	Describe fan drift, fan drive, evasee and Diffusers.	
10th	4th	Explain fan characteristics and mine characteristics.	
	1st	Describe methods of output control of mine fans.	
	2nd	Describe installation, location and purpose of Booster fan.	
	3rd	Describe installation, location and purpose of Booster fan.	15th
	4th	Describe installation, location and purpose of Booster fan.	



11th	1st.	Solve problems relating to Booster fan.
	2nd	Describe systems of auxiliary ventilation.
	3rd	Describe advantages and disadvantages of auxiliary ventilation.
	4th	Describe methods of pressure survey using Barometer.
12th	1st.	Describe methods of pressure survey using Barometer.
	2nd.	Describe methods of pressure survey using gauge and pitot tube with manometer.
	3rd.	Describe the methods of measurement of cross-sectional area.
	4th	Describe the methods of velocity measurement by using anemometer.
13th	1st.	Describe the methods of velocity measurement by using velometer.
	2nd	Describe the methods of velocity measurement by using pitot-static tube.
	3rd	Describe the methods of velocity measurement by using smoke and cloud method.
	4th	Determine percentage of Oxygen, methane, Carbon monoxide $SO_2$ and $H_2S$ .
14th	1st.	Describe causes and preventive measures of leakage of air in mines.
	2nd.	Describe causes and preventive measures of leakage of air in mines.
	3rd.	INTERNAL
	4th	Previous years questions Discussion.
15th	1st.	REVISION/DOUBT CLEARING CLASS
	2nd.	REVISION/DOUBT CLEARING CLASS
	3rd	REVISION/DOUBT CLEARING CLASS
	4th	REVISION/DOUBT CLEARING CLASS