JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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Lesson Plan & Tracking

Programe : DIPLOMA	**Session : 2022-23**	**Year : 2022**	**Sem: V**
Course: MINE VENTILATION			
Name of the Faculty: SURAJ DEV SINGH	**Commencement Date:29th August 2022**		**Date of Closure:**

Lecture No.	Week	Unit	Topics to be Covered	Blended Mode			Date	Duration	Tracking of Lectures	Related Course Outcome	Signature of Faculty	Signature of HoD	Remarks (if any)
				ICT Tool/Platform/ LMS	Resources	Activity							
1	1	UNIT 1	Mine Air: Different Gases / Damps found in mines, Definition of damps, their threshold limits,										
2		UNIT 1	physiological effects, source of production and detection, Degree of gassiness of seam.										
3		UNIT 1	Flame safety lamps, its principle, construction, safety features, and comparison										
4	2	UNIT 1	Detection of Methane by flame safety lamp,										
5		UNIT 1	MSA Methanometer its principle of working, construction.										
6		UNIT 1	Principle of other method of detection of methane										
7	3	UNIT 2	Mine Climate**:** Purpose and standards of ventilation,										
8		UNIT 2	standards for minimum & maximum velocity of air for different locations										
9		UNIT 2	Pressure, ventilating press, water gauge, Temperature, sources of heat in mines										
10		UNIT 2	Moisture content of mine air relative humidity, wet bulb temperature, measurement of relative humidity										

11	4	UNIT 2	Cooling power of mine air, determination of coiling power,										
12		UNIT 2	methods of improving cooling power of mine air effect of heat and humidity on miners.										
13	5	UNIT 2	Natural Ventilation: Natural ventilation Pressure, geothermic gradient, Factors causing NVP										
14		UNIT 3	Effect of seasonal changes on direction of Natural ventilation, limitation of Natural ventilation.										
15		UNIT 3	Motive column, calculation of natural ventilation pressure.										
16	6	UNIT 3	Artificial Ventilation										
17		UNIT 3	Different types of fans used in mines: centrifugal & axial flow, their principle of working, Exhaust & forcing type.										
18		UNIT 3	Purposes of evasee & volute casing										
19	7	UNIT 3	Reversal of air current, and characteristics curves of fans.										
20		UNIT 3	Fans in series and parallel										
21		UNIT 3	Comparison between axial flow & Centrifugal fan; exhaust & forcing Fan.										
22	8	UNIT 3	Fan laws, Manometric efficiency overall efficiency, theoretical depression produced by fan.										
23		UNIT 3	Numerical on fan laws.										
24		UNIT 4	Distributuion & coursing of Air in Mines										

25	**9**	**UNIT 4**	Laws of air flow in Mines, Atkinson's formula splitting, advantages & disadvantages										
26		**UNIT 4**	Numerical on splitting										
27		**UNIT 4**	equivalent orifice. Numerical on equivalent orifice.										
28	**10**	**UNIT 4**	Ventilation appliances, Auxiliary ventilation										
29		**UNIT 4**	Different methods, advantages & disadvantages										
30		**UNIT 4**	hazards associated with auxiliary ventilation, precautions required .										
31	**11**	**UNIT 4**	Booster fan: purpose, dangers associated, Precautions before installation. Numerical on Booster fan,										
32		**UNIT 4**	Accessional and Descensional ventilation, Advantages and disadvantages.										
33		**UNIT 4**	Ventilation Survey: scope and importance of ventilation survey, survey interval and location of survey station, ventilation plan.										
34	**12**	**UNIT 4**	Measurement of quantity & pressure difference, anemometer, pitot static tube, Manometer.										
35		**UNIT 4**	Conduct of Pressure & quantity survey, precautions during and before conducting ventilation survey.										