JHARKHAND Rai University
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Lesson Plan & Tracking

Programe : DIPLOMA	**Session : 2022-2023**	**Year : 2022**	**Sem: V**
Course: MINING SURVEYING II			
Name of the Faculty: SUMEET KISHORE	**Commencement Date:29/8/2022**		**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	Theodolite: Classification of theodolite, definitions and terms used in operating theodolite										
2		UNIT 1	Temporary adjustments of transit theodolite. Fundamental axes of theodolite										
3		UNIT 1	Measurement of horizontal and vertical angles, Observe magnetic bearing of a line,										
4	2	UNIT 1	Use of theodolite for Prolonging a straight line, for lining in, Lay-off horizontal angle,										
5		UNIT 1	Sources of errors in theodolite work and their elimination. Permissible errors in mine surveying										
6		UNIT 1	Theodolite traversing: Methods of traversing, by included angles & Deflection angles										
7	3	UNIT 1	Checks in closed & open traverse,										
8		UNIT 1	Traverse computation: latitude, departure, Consecutive coordinates, independent coordinates,										
9		UNIT 1	Error of closure. Adjustment of closed traverse, balancing by Bowditch and transit rule, Gales Traverse table,										
10		UNIT 1	Permanent adjustments of theodolite.(only relationship of different axis of theodolite)										

11	4	UNIT 2	Geodetic Triangulation: Basic principles, Triangulation figures										
12		UNIT 2	Classification, Base line measurement. Correction to Base line Measurement.										
13	5	UNIT 2	Tachometric surveying: Instruments, Requirement of a tachometer.										
14		UNIT 2	Tachometric methods: Fixed hair method; Reduction formula for horizontal distance & elevation with horizontal sights										
15		UNIT 2	Setting out of curves: Classification of curves. Definition of various parts of curves,										
16	6	UNIT 2	Elements of simple circular curve, Relation between radius of curve & degree of curve										
17		UNIT 2	Setting out curves by Linear methods and single theodolite method										
18		UNIT 2	Super elevation or cant. Purpose of super elevation,										
19	7	UNIT 2	Study and use of Planimeter including digital planimeter.										
20		UNIT 3	Underground surveying: Marking of underground stations,										
21		UNIT 3	Correlation Survey- Direct traversing through incline, by plumbing wires in shaft, co plannining method										
22	8	UNIT 3	Weisbach triangle method, Weiss quadrilateral method, Gyro- theodolite method. stope survey										
23		UNIT 3	Definition & Purpose of stope survey, Classification of stope surveying										
24		UNIT 3	Methods of stope surveying Stop survey flat deposit: Tape triangulation, Tie Method,										
25	9	UNIT 3	Instrumental method Stope survey in steeply inclined deposit.										
26		UNIT 3	Stop survey in massive ore bodies, irregular in dip & shape										
27		UNIT 4	Advances in mine surveying: Global Positioning System										

28	**10**	**UNIT 4**	Principle, The system, application in Opencast mine surveying, Advantages and Disadvantages.										
29		**UNIT 4**	Total station; application in distance measurement, angle measurement										
30		**UNIT 4**	Electronic Distance Measurement; Principle of measurement, types etc										
31	**11**	**UNIT 4**	Gyro theodolite; principle of gyro, gyro attachments and Laser plummet										
32		**UNIT 4**	Dip & fault: Introduction, Definition of Dip, Strike Apparent dip, Full dip,										
33		**UNIT 4**	Numerical for determining true and apparent dip,										
34	**12**	**UNIT 4**	strategically thickness of seam										
35		**UNIT 4**	Definition of Fault. Normal fault, Reverse fault.										
36		**UNIT 4**	Numerical on fault problems, connection of mine plan to national Grid										