JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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Lesson Plan & Tracking

Programe :DIPLOMA	**Session : 2022-23**	**Year : 2nd**	**Sem: III**
Course: MINE SUREVYING I			
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	Unit1	Introduction to surveying: Definition of surveying, objects of surveying, Plane and Geodetic surveying.										
2		Unit1	Classification & Basic principles of surveying										
3		Unit1	Principle of chain surveying. Equipments in Chain surveying,										
4	2	Unit1	cross staff, optical square its principle and use										
5		Unit1	Different operations in chain surveying, Ranging: direct & reciprocal ranging.										
6		Unit1	Line ranger structure, principle of working and its use.										
7	3	Unit1	Chaining: Chaining on flat & slopping ground										
8		Unit1	obstacle in chaining (No numerical). Errors in changing. Offsetting.										
9		Unit2	Compass Surveying: The Prismatic & Surveyors compass, their Comparison. Bearing of a line: Definitions: True & Magnetic Meridian; True and Magnetic bearings, Fore & Back bearings,										
10	4	Unit2	Whole circle bearing system & Quadrantal. Bearing system. Conversion of bearings from one system to other.										
11		Unit2	Calculation of angles from bearings. Calculation of bearings from angles.										
12		Unit2	Local attraction: Sources, detection & its elimination.										

13	**5**	**Unit2**	Magnetic Dip & Magnetic declination. Calculation of True bearings.										
14		**Unit2**	Traversing with compass: Closed and open traverse; plotting a compass traverse; Checks for open & closed traverse										
15		**Unit2**	Introduction to Plane table and its accessories, Temporary adjustments of Plane table, centering, levelling, orienting the plane table by method of back sighting by method of magnetic needle										
16	**6**	**Unit2**	Methods of plane tabling Radiation, Intersection, Traversing, Resection method.										
17		**Unit2**	Advantages & disadvantages of plane table survey, Errors in plane table survey.										
18		**Unit3**	Levelling: Definitions of the terms used in Levelling. Concept of datum, Back sight, Foresight stations, change point, height of instrument										
19	**7**	**Unit3**	Dumpy and tilling level Construction and temporary adjustments.										
20		**Unit3**	Levelling staff, their types. Balancing of back sight and Fore sight distances. Holding and Reading the staff										
21		**Unit3**	simple and differential levelling, and booking of readings. Reduction of levels by Collimation system and by Rise & fall system. Arithmetic check,										
22	**8**	**Unit3**	computation of missing readings. Classification of leveling: Differential, Reciprocal, and Fly levelling, Profile levelling, cross sectioning. Plotting of a profile and cross section										
23		**Unit3**	Difficulties in levelling, common mistakes in levelling. Permanent adjustments of Dumpy & Tilling level.										
24		**Unit3**	Automatic level (General idea only)**.**Transferring levels underground: Measurement of depth of vertical shaft										

25		**Unit3**	Establishing u/g bench mark in relation to surface bench mark. Marking center & grade line of drift,										
26	**9**	**Unit3**	Marking Highest flood level. Study and use of Abney level, Auto set level, Temporary adjustments.										
27		**Unit4**	Contouring: Introduction and concept, definitions, purpose, Characteristic of Contour line, contour interval, factors affecting contour interval, Horizontal equivalent										
28		**Unit4**	Methods of Locating contours**.**Direct method, indirect method.										
29	**10**	**Unit4**	Interpolation of contours by estimation, arithmetical and by graphical method.										
30		**Unit4**	Plotting of contour maps. Uses of contour map.										
31		**Unit4**	Measurement of areas & volumes by Simpson's and Trapezoidal, prizmoidal rule, measurement of stock of coal, overburden mines**.**										
32	**11**	**Unit4**	Subsidence monitoring, data required for subsidence studies, parameters required during monitoring,										
33		**Unit4**	layout of survey lines, survey stations, measurement techniques and Instrumentation,										
34		**Unit4**	Measurement of displacement,slope and subsurface movement										
35	**12**	**Unit4**	frequency of subsidence measurement**.**General requirements of mine plan,										
36		**Unit4**	Types of plan, copies of plans & sections to be submitted,										

37	13	**Unit4**	plans & sections to be submitted after abandonment and discontinuance, list of plans,										
38		**Unit4**	sections and instruments and their storage, Preparation of plans by surveyors. Duties and responsibility of Mine Surveyors										
39			REVISION										