LESSON PLAN
FOR SUMMER SESSION (2023-24)

Name of Faculty : Mr. Yogeswar Bisoyee	
Discipline: Civil Engineering	
Semester: 4th	**Practical : 7P/ W**
Subject: Land Survey Practice-1	**Total Periods: 105 Periods**
Semester From date 16/01/24	**To Date : 26/04/2024**

WEEKS	PERIODS	PRACTICAL TOPICS
January 3rd week	3	Linear Measurements, Chaining and Chain Surveying: 1.1 Testing and adjusting of a metric chain. 1.2 Measurement of distance between two points (more than 2 chain lengths apart) with chain including direct ranging.
	7	1.3 Setting out different types of triangles, given the lengths of sides with chain and tape. 1.4 Measurement of distance between two points by chaining across a sloped ground using stepping method and a clinometer
January 4th week	10	1.4 Measurement of distance between two points by chaining across a sloped ground using stepping method and a clinometer
	14	1.5 Measurement of distance by chaining across a obstacles on the chain line i) a pond ii)a building iii) a stream/ river (in the event of non-availability of stream / river, a pond or lake may be taken, considering that chaining around the same is not possible.
February 1st week	17	1.6 Setting perpendicular offsets to various objects (at least 3) from a chain line using-(1) tape, (2) cross-staff, (3) optical square and comparing the accuracy of the 3 methods
	21	1.7 Setting oblique offsets to objects (at least 3) from a chain using tape Record Check
February 2nd week	24	Angular Measurement and Compass Surveying: 2.1 Testing and adjustment of Prismatic compass and Surveyor's compass.
	28	2.2 Measurement of bearings of lines (at least 3 lines) and determination of included angles using Prismatic compass and Surveyor's compass.
February 3rd week	31	2.3 Setting out triangles (at least 2) with compass, given the length and bearing of one side and included angles.
	35	2.4 Setting out a closed traverse of 5 sides, using prismatic compass, given bearing of one line and included angles and lengths of sides. 2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book. Record Check
February 4th week	38	Map Reading Cadastral Maps & Nomenclature: 3.1 Study of direction, Scale, Grid Reference and Grid Square

	42	3.2 Study of Signs and Symbols 3.3 Cadastral Map Preparation Methodology
March 1st week	45	Unique identification number of parcel 3.5 Positions of existing Control Points and its types 3.6 Adjacent Boundaries and Features, Topology Creation and verification.
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March 2nd week	52	Plane Table Surveying: 4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.
	56	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects) 4.3 Plane table surveying by Resection method (two point &three point problem method) Record Check
March 3rd week	59	Theodolite Traversing: 5.1 Measurement of horizontal angles (3nos.) by repetition and reiteration method and compare two methods 5.2 Prolonging a given straight line with the help of a theodolite
	63	5.3 Determination of magnetic bearing of 3 given straight lines Setting out a closed traverse with 6 sides and entering the field data 5.4 Plotting the traverse from exercise 4.1 and checking the error of closure
March 4th week	66	5.5 Setting out an open traverse with 5 sides and entering the field data 5.6 Plotting the traverse from exercise 4.3 and checking the error of closure Record Check
	70	Leveling and Contouring: 6.1 Making temporary adjustments of Levels 6.2 Determining Reduced Levels of five given points taking staff readings with Levels.
March 5th week	73	6.3 Determining the difference of levels between two points (3 pairs of points / group) by taking staff readings form single set up of level, recording the readings in level book and application of Arithmetic check. (At least 3 change points must be covered)
	77	6.4 Conduct Fly Leveling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by both height of collimation and rise & fall method and applying Arithmetic check. (At least 3 change points must be covered) 6.5 Conduct profile leveling along the given alignment for a road / canal for 150m length, taking L. S. at every 15m and C. S. at 1m & 3m apart on both sides at every 30m interval and recording the data in level book and applying arithmetical check.
April 1st week	80	6.6 Locating contour points in the given area by direct method / indirect method 6.7 Conducting block level survey in the given area
	84	6.8 Plotting and drawing contour map of a given area by radial method 6.9 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making Record Check

April 2nd week	87	Basics of Aerial Photography: 7.1 Film 7.2. Focal Length
	91	7.3. Scale 7.4. Types of Aerial Photographs (Oblique, Straight) Record Check
April 3rd week	94	Basics of Photogrammetry, DEM and Ortho Image generation: Photogrammetry: 8.1 Classification of Photogrammetry 8.2 Aerial Photogrammetry 8.3 Terrestrial Photogrammetry
	98	8.4 Acquisition of Imagery using aerial and satellite platform 8.5 Control Survey 8.6 Geometric Distortion in Imagery 8.7 Application of Imagery and its support data 8.8 Orientation and Triangulation
April 4th week	102	8.9 Stereoscopic Measurement: X-parallax and Y-parallax 8.10 DTM/DEM Generation 8.11 Ortho Image Generation
	105	Record Check

Concern faculty

signature

12/1/24

H.O.D

Civil Engineering

12/1/24

Academic Coordinator

GP Nabarangpur

12.01.24.

Principal

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