LESSON PLAN FOR LAND SURVEY PRACTICE-I

Discipline: Civil Engineering	Semester :4th	Name of the Teaching Faculty: SUBRAT KUMAR PANIGRAHI
Subject - LAND SURVEY PRACTICE-I	Numbers of classes per week:5	Semester from date: 04.02.2025 to date:17.05.2025 No. of weeks: 15 Session: 2024-25 (SUMMER)
week	Class day	TOPICS
1st		**Linear Measurements, Chaining and Chain Surveying:**
	1	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.
	2	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.
	3	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.
	4	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
	5	1.7 Setting oblique offsets to objects (at least 3) from a chain using tape
	6	2.1 Testing and adjustment of Prismatic compass and Surveyor's compass.
	7	2.1 Testing and adjustment of Prismatic compass and Surveyor's compass.
2nd	8	2.2 Measurement of bearings of lines (at least 3 lines) and determination of included angles using Prismatic compass and Surveyor's compass.
	9	2.2 Measurement of bearings of lines (at least 3 lines) and determination of included angles using Prismatic compass and Surveyor's compass.
	10	2.3 Setting out triangles (at least 2) with compass, given the length and bearing of one side and included angles.
	11	2.3 Setting out triangles (at least 2) with compass, given the length and bearing of one side and included angles.
	12	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.

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	13	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.
	14	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.
3rd	15	2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book. (5 to 6 students/groups)
	16	2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book. (5 to 6 students/groups)
	17	2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book. (5 to 6 students/groups)
	18	3.1 Study of direction, Scale, Grid Reference and Grid Square
	19	3.2 Study of Signs and Symbols
	20	3.3 Cadastral Map Preparation Methodology
	21	3.4 Unique identification number of parcel
4th	22	3.5 Positions of existing Control Points and its types
	23	3.5 Positions of existing Control Points and its types
	24	3.6 Adjacent Boundaries and Features, Topology Creation and verification.
	25	3.6 Adjacent Boundaries and Features, Topology Creation and verification.
	26	4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.
	27	4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.
	28	4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.
5th	29	4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.
	30	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects)
	31	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects)
	32	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects)
	33	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects)
	34	4.3 Plane table surveying by Resection method (two point &three point problem method)
	35	4.3 Plane table surveying by Resection method (two point &three point problem method)
6th	36	4.3 Plane table surveying by Resection method (two point &three point problem method)
	37	4.3 Plane table surveying by Resection method (two point &three point problem method)

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	38	4.3 Plane table surveying by Resection method (two point &three point problem method)
	39	5.1 Measurement of horizontal angles (3nos.) by repetition and reiteration method and compare two methods
	40	5.2 Prolonging a given straight line with the help of a theodolite
	41	5.2 Prolonging a given straight line with the help of a theodolite
	42	5.3 Determination of magnetic bearing of 3 given straight lines Setting out a closed traverse with 6 sides and entering the field data
7th	43	5.3 Determination of magnetic bearing of 3 given straight lines Setting out a closed traverse with 6 sides and entering the field data
	44	5.4 Plotting the traverse from exercise 4.1 and checking the error of closure
	45	5.4 Plotting the traverse from exercise 4.1 and checking the error of closure
	46	5.5 Setting out an open traverse with 5 sides and entering the field data
	47	5.5 Setting out an open traverse with 5 sides and entering the field data
	48	5.6 Plotting the traverse from exercise 4.3 and checking the error of closure
	49	6.1 Making temporary adjustments of Levels
8th	50	6.2 Determining Reduced Levels of five given points taking staff readings with Levels.
	51	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,
	52	recording the readings in level book and application of Arithmetic check. (At least 3 change points must be covered)
	53	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)
	54	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.
	55	6.6 Locating contour points in the given area by direct method / indirect method
	56	6.7 Conducting block level survey in the given area
9th	57	6.8 Plotting and drawing contour map of a given area by radial method
	58	6.8 Plotting and drawing contour map of a given area by radial method
	59	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
	60	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

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		Decision Making
	61	7.1 Film
	62	7.1 Film
	63	7.2. Focal Length
10th	64	7.2. Focal Length
	65	7.3. Scale
	66	7.3. Scale
	67	7.4. Types of Aerial Photographs (Oblique, Straight)
	68	7.4. Types of Aerial Photographs (Oblique, Straight)
	69	7.4. Types of Aerial Photographs (Oblique, Straight)
	70	8.1 Classification of Photogrammetry
11th	71	8.1 Classification of Photogrammetry
	72	8.1 Classification of Photogrammetry
	73	8.2 Aerial Photogrammetry
	74	8.2 Aerial Photogrammetry
	75	8.2 Aerial Photogrammetry
	76	8.3 Terrestrial Photogrammetry
	77	8.3 Terrestrial Photogrammetry
12th	78	8.3 Terrestrial Photogrammetry
	79	Photogrammetry Process: 8.4 Acquisition of Imagery using aerial and satellite platform
	80	Photogrammetry Process: 8.4 Acquisition of Imagery using aerial and satellite platform
	81	Photogrammetry Process: 8.4 Acquisition of Imagery using aerial and satellite platform
	82	8.5 Control Survey
	83	8.5 Control Survey
	84	8.5 Control Survey
13th	85	8.6 Geometric Distortion in Imagery
	86	8.6 Geometric Distortion in Imagery
	87	8.6 Geometric Distortion in Imagery
	88	8.7 Application of Imagery and its support data
	89	8.7 Application of Imagery and its support data
	90	8.7 Application of Imagery and its support data
	91	8.8 Orientation and Triangulation
14th	92	8.8 Orientation and Triangulation
	93	8.8 Orientation and Triangulation
	94	8.9 Stereoscopic Measurement: X-parallax and Y-parallax
	95	8.9 Stereoscopic Measurement: X-parallax and Y-parallax
	96	8.9 Stereoscopic Measurement: X-parallax and Y-parallax
	97	8.9 Stereoscopic Measurement: X-parallax and Y-parallax
	98	8.10 DTM/DEM Generation

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15th	99	8.10 DTM/DEM Generation
	100	8.10 DTM/DEM Generation
	101	8.10 DTM/DEM Generation
	102	8.11 Ortho Image Generation
	103	8.11 Ortho Image Generation
	104	8.11 Ortho Image Generation
	105	8.11 Ortho Image Generation

01/2/25
Lecturer

01/2/25
HOD (Civil)

Academic Co-ordinator

Principal
Govt. polytechnic Nabarangpur

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