

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: LAND SURVEY– II (TH-1)

FACULTY: ABHIJIT JENA

ACCADEMIC SESSION: 2023-24(SUMMER)

SEMESTER: 6TH, SEC: C

Sd/-
H O D (Civil Engg.)

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Discipline: Civil Engineering	Semester: 6th / C		Name of the teaching faculty: ABHIJIT JENA
SUBJECT: LAND SURVEY– II (TH-1)	No. of Days/ per week class allotted: 05 period per week. (Mon-1, Tue-2, Wed-1, Thu-1 period)		Semester From Date: 16-01-2024 To Date: 26-04-2024 No. of weeks: 16 weeks
Week	Class Day	No of period available	Theory Topics
1ST	16/01/24	1	1 TACHEOMETRY: 1.1 Principles.
	17/01/24	1	1.1. stadia constants determination
	18/01/24	1	1.2. Stadia tacheometry with staff held vertical and with line of collimation horizontal.
2ND	22/01/24	1	1.2. Stadia tacheometry with staff held vertical and with line of collimation inclined,
	24/01/24	1	Numerical problems.
	25/01/24	1	1.3. Elevations and distances of staff stations – numerical problems
3RD	29/01/24	1	2.1. compound, reverse and transition curve, Purpose & use of different types of curves infield
	30/01/24	2	2.2. Elements of circular curves
	31/01/24	1	Numerical problems
	01/02/24	1	2.3. Preparation of curve table for setting out 2.4. Setting out of circular curve by chain and tape and by instrument

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			angular methods (i) offsets from long chord
4TH	05/02/24	1	2.4. Setting out of circular curve by (ii) Successive bisection of arc, (iii) Offsets from tangent
	06/02/24	2	2.4. Setting out of circular curve by (iv) offsets from chord produced, (v) Rankine's method of tangent angles.
	07/02/24	1	2.5. Obstacles in curve ranging – point of intersection inaccessible.
	08/02/24	1	2.5. Obstacles in curve ranging – point of intersection inaccessible.
5TH	12/02/24	1	3.1. Fractional or Ratio Scale, Linear Scale, Graphical Scale 3.2. What is Map
	13/02/24	2	3.3. Map Scale and Map Projections. 3.3 How Maps Convey Location and Extent
	15/02/24	1	3.4. How Maps Convey characteristics of features 3.5. How Maps Convey Spatial Relationship 3.6. Classification of Maps
6TH	19/02/24	1	3.6.1. Physical Map 3.6.2 Topographic Map 3.6.3. Road Map
	20/02/24	2	3.6.4. Political Map 3.6.5. Economic & Resources Map
	21/02/24	1	3.6.6. Thematic Map

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			3.6.7. Climate Map
	22/02/24	1	4 SURVEY OF INDIA MAP SERIES: 4.1. Open Series map 4.2. Defense Series Map
7TH	26/02/24	1	4.3. Map Nomenclature
	27/02/24	2	4.3.1 Quadrangle Name
	28/02/24	1	4.3.2. Latitude, Longitude & UTM
	29/02/24	1	Class Test 1
8TH	04/03/24	1	4.3.3. Contour Lines 4.3.4. Magnetic Declination
	06/03/24	1	4.3.5. Public Land Survey System 4.3.6. Field Notes
	07/03/24	1	5.1. Aerial Photography: 5.1.1. Film, Focal Length, Scale 5.1.2. Types of Aerial Photographs (Oblique, Straight)
9TH	11/03/24	1	5.2. Photogrammetry:
	12/03/24	2	5.2.1. Classification of Photogrammetry
	13/03/24	1	5.2.2. Aerial Photogrammetry

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	14/03/24	1	5.2.3. Terrestrial Photogrammetry 5.3. Photography process 5.3.1. Acquisition of Imagery using aerial and satellite platform
10TH	18/03/24	1	Class test 2
	19/03/24	2	5.3.2. Control Survey 5.3.3. Geometric Distortion in Imagery, Application of Imagery and its support data orientation and triangulation stereoscopic measurement
	20/03/24	1	5.4.DTM/DEM Generation 5.5. Ortho Image Generation
	21/03/24	1	6.1. Principles, features and use of (i) Micro-optic theodolite, digital theodolite
11TH	27/03/24	1	6.2.Working principles of a Total Station (Set up and use of total station to measure angles, distances of points under survey from total station and the co-ordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry and triangulation distances of points under survey from total station and the co-ordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry and triangulation.
	28/03/24	1	6.2. Cont.
12TH	02/04/24	2	Internal Assesment

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	03/04/24	1	Internal Assesment
	04/04/24	1	7.1.GPS: - Global Positioning 7.1.1. Working Principle of GPS, GPS Signals, 7.1.2. Errors of GPS, Positioning Methods
13TH	08/04/24	1	7.2. DGPS: - Differential Global Positioning System 7.2.1. Base Station Setup 7.2.2. Rover GPS Setup 7.2.3. Download, Post-Process and Export GPS data
	09/04/24	2	7.2.4. Sequence to download GPS data from flashcards 7.2.5. Sequence to Post-Process GPS data 7.2.6. Sequence to export post process GPS data 7.2.7. Sequence to export GPS Time tags to file
	10/04/24	1	7.3.ETS: - Electronic Total Station 7.3. 1..1DistanceMeasurement
14TH	15/04/24	1	7.3.2. Angle Measurement 7.3.3. Leveling 7.3.4. Determining position
	16/04/24	2	7.3.5. Reference networks 7.3.6. Errors and Accuracy

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	17/04/24	1	8.1. Components of GIS, Integration of Spatial and Attribute Information 8.2 Three Views of Information System 8.2.1 Database or Table View, Map View and Model View
	18/04/24	1	8.3. Spatial Data Model 8.4. Attribute Data Management and Metadata Concept
15TH	22/04/24	1	8.5. Prepare data and adding to Arc Map. 8.6. Organizing data as layers.
	23/04/24	2	8.7. Editing the layers. 8.8. Switching to Layout View. 8.9. Change page orientation.
	24/04/24	1	8.10. Removing Borders. 8.11. Adding and editing map information Previous year question discussion 8.12. Finalize the map
	25/04/24	1	Previous year question discussion