BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

SUBJECT: LAND SURVEY– II (TH-1)

ACCADEMIC SESSION: 2022-23(SUMMER)

FACULTY: KSHITISH KUMAR SAHOO

SEMESTER: 6TH, SEC: A

Sd/-

H O D (Civil Engg.)

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING
LESSON PLAN

Discipline: Civil Engineering	**Semester: 6th / A**		**Name of the teaching faculty: KSHITISH KUMAR SAHOO**
SUBJECT: LAND SURVEY– II (TH-1)	**No. of Days/ per week class allotted: 05 period per week. (Mon-1, Wed-1,Thu-1 & Fri-2 period)**		**Semester From Date: 14-02-2023** **To Date: 23-05-2023** **No. of weeks: 15 weeks**
Week	**Class Day**	**No of period available**	**Theory Topics**
1ST	15/02/23	1	**1 TACHEOMETRY:** 1.1 Principles.
	16/02/23	1	1.1. stadia constants determination
	17/02/23	2	1.2. Stadia tacheometry with staff held vertical and with line of collimation horizontal.
2ND	20/02/23	1	1.2. Stadia tacheometry with staff held vertical and with line of collimation inclined, numerical problems.
	22/02/23	1	Numerical problems
	23/02/23	1	1.3. Elevations and distances of staff stations – numerical problems
	24/02/23	2	Numerical problems
3RD	27/02/23	1	2.1. compound, reverse and transition curve, Purpose & use of different types of curves infield
	01/03/23	1	2.2. Elements of circular curves
	02/03/23	1	Numerical problems
	03/03/23	2	2.3. Preparation of curve table for setting out

			2.4. Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord
4TH	06/03/23	1	2.4. Setting out of circular curve by (ii) Successive bisection of arc, (iii) Offsets from tangent
	09/03/23	1	2.4. Setting out of circular curve by(iv)offsets from chord produced, (v) Rankine's method of tangent angles.
	10/03/23	2	2.5. Obstacles in curve ranging – point of intersection inaccessible.
5TH	13/03/23	1	Class test 1
	15/03/23	1	Numerical problems on 2.5
	16/03/23	1	3.1. Fractional or Ratio Scale, Linear Scale, Graphical Scale 3.2. What is Map
	17/03/23	2	3.3. Map Scale and Map Projections. 3.3How Maps Convey Location and Extent 3.4. How Maps Convey characteristics of features 3.5. How Maps Convey Spatial Relationship
6TH	20/03/23	1	3.6. Classification of Maps 3.6.1. Physical Map 3.6.2Topographic Map 3.6.3. Road Map
	22/03/23	1	3.6.4. Political Map

			3.6.5. Economic & Resources Map 3.6.6. Thematic Map 3.6.7. Climate Map
	23/03/23	1	**4 SURVEY OF INDIA MAP SERIES:** 4.1. Open Series map 4.2. Defense Series Map
	24/03/23	2	4.3. Map Nomenclature
7TH	27/03/23	1	4.3.1QuadrangleName
	29/03/23	1	4.3.2. Latitude, Longitude & UTM
	31/03/23	2	4.3.3. Contour Lines 4.3.4. Magnetic Declination
8TH	03/04/23	1	4.3.5. Public Land Survey System
	05/04/23	1	4.3.6. Field Notes
	06/04/23	1	**5.1. Aerial Photography:** 5.1.1. Film, Focal Length, Scale
9TH	10/04/23	1	5.1.2. Types of Aerial Photographs (Oblique, Straight)
	12/04/23	1	5.2. Photogrammetry: 5.2.1. Classification of Photogrammetry

			5.2.2. Aerial Photogrammetry
	13/04/23	1	Class test 2
10TH	17/04/23	1	5.2.3. Terrestrial Photogrammetry
	19/04/23	1	5.3. **Photography process** 5.3.1. Acquisition of Imagery using aerial and satellite platform
	20/04/23	1	5.3.2. Control Survey 5.3.3. Geometric Distortion in Imagery, Application of Imagery and its support data orientation and triangulation stereoscopic measurement 5.4.DTM/DEM Generation 5.5. Ortho Image Generation
	21/04/23	2	6.1. Principles, features and use of (i) Micro-optic theodolite, digital theodolite
11TH	24/04/23	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.

	26/04/23	1	6.2 Continue
	27/04/23	1	6.2 Continue
	28/04/23	2	Internal Assessment
12TH	01/05/23	1	7.1.GPS: - Global Positioning 7.1.1. Working Principle of GPS, GPS Signals, 7.1.2. Errors of GPS, Positioning Methods
	03/05/23	1	Class test 3
	04/05/23	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 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
13TH	08/05/23	1	**7.3.ETS: - Electronic Total Station** 7.3. 1..1DistanceMeasurement 7.3.2. Angle Measurement

			7.3.3. Leveling 7.3.4. Determining position 7.3.5. Reference networks
	10/05/23	1	7.3.6. Errors and Accuracy
	11/05/23	1	8.1. Components of GIS, Integration of Spatial and Attribute Information 8.2Three Views of Information System 8.2.1Database or Table View, Map View and Model View
	12/05/23	2	8.3. Spatial Data Model 8.4. Attribute Data Management and Metadata Concept 8.5. Prepare data and adding to Arc Map. 8.6. Organizing data as layers.
14TH	15/05/23	1	8.7. Editing the layers. 8.8. Switching to Layout View. 8.9. Change page orientation.
	17/05/23	1	8.10. Removing Borders. 8.11. Adding and editing map information Previous year question discussion 8.12. Finalize the map

	18/05/23	1	Revision
15TH	22/05/23	1	Previous year question solving.