

# LESSON PLAN

DEPARTMENT OF CIVIL ENGINEERING, ITT, CHOUDWAR

SUBJECT: LAND SURVEY– II

Periods: 4 per week

SEMESTER: 6TH

NAME OF FACULTY: RITUPURNA SWAIN

Week	Class Day	Theory / Practical Topics
1st	1 <sup>st</sup>	<b>1.TACHEOMETRY:</b> Principles, stadia constants determination
	2 <sup>nd</sup>	2. Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems
2 <sup>nd</sup>	1 <sup>st</sup>	Elevations and distances of staff stations – numerical problems
	2 <sup>nd</sup>	compound, reverse and transition curve, Purpose & use of different types of curves in field
3 <sup>rd</sup>	1 <sup>st</sup>	Elements of circular curves, numerical problems
	2 <sup>nd</sup>	Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord
4 <sup>th</sup>	1 <sup>st</sup>	(ii) successive bisection of arc,
	2 <sup>nd</sup>	(iii) offsets from tangents,
5 <sup>th</sup>	1 <sup>st</sup>	(iv) offsets from chord produced, (v) Rankine's method of tangent angles
	2 <sup>nd</sup>	Obstacles in curve ranging – point of intersection inaccessible
6 <sup>th</sup>	1 <sup>st</sup>	Fractional or Ratio Scale, Linear Scale, Graphical Scale
	2 <sup>nd</sup>	What is Map, Map Scale and Map Pro How Maps Convey Location and Extent How Maps Convey characteristics of features & How Maps Convey Spatial Relationship
7 <sup>th</sup>	1 <sup>st</sup>	Classification of Maps 3.5.1 Physical Map 3.5.2 Topographic Map 3.5.3 Road Map

		3.5.4 Political Map 3.5.5 Economic & Resources Map 3.5.6 Thematic Map 3.5.7 Climate Map
	2 <sup>nd</sup>	Open Series map & Defense Series Map
8 <sup>th</sup>	1 <sup>st</sup>	Map Nomenclature Quadrangle Name Latitude, Longitude, UTM's Contour Lines
	2 <sup>nd</sup>	Magnetic Declination Public Land Survey System Field Notes
9 <sup>th</sup>	1 <sup>st</sup>	Aerial Photography: Film, Focal Length, Scale Types of Aerial Photographs (Oblique, Straight)
	2 <sup>nd</sup>	Photogrammetry: Classification of Photogrammetry
10 <sup>th</sup>	1 <sup>st</sup>	Aerial Photogrammetry Terrestrial Photogrammetry
	2 <sup>nd</sup>	Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform Control Survey Geometric Distortion in Imagery
11 <sup>th</sup>	1 <sup>st</sup>	Orientation and Triangulation Stereoscopic Measurement 19.9.1 X-parallax 19.2.2 Y-parallax
	2 <sup>nd</sup>	DTM/DEM Generation Ortho Image Generation
12 <sup>th</sup>	1 <sup>st</sup>	Principles, features and use of digital theodolite
	2 <sup>nd</sup>	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)
13 <sup>th</sup>	1 <sup>st</sup>	GPS: - Global Positioning
	2 <sup>nd</sup>	7.1.1 Working Principle of GPS, GPS Signals, 7.1.2 Errors of GPS, Positioning Methods
		DGPS: - Differential Global Positioning System Base Station Setup Rover GPS Set up Download, Post-Process and Export GPS data Sequence to download GPS data from flashcards

		<p>Sequence to Post-Process GPS data</p> <p>Sequence to export post process GPS data</p> <p>Sequence to export GPS Time tags to file</p>
14 <sup>th</sup>	1 <sup>st</sup>	<p>ETS: - Electronic Total Station</p> <p>Distance Measurement</p> <p>Angle Measurement</p> <p>leveling</p> <p>Determining position</p> <p>Reference networks</p> <p>Errors and Accuracy</p>
	2 <sup>nd</sup>	<p>Components of GIS, Integration of Spatial and Attribute Information</p> <p>Three Views of Information System</p> <p>Database or Table View, Map View and Model View</p> <p>Spatial Data Model</p> <p>Attribute Data Management and Metadata Concept</p> <p>Prepare data and adding to Arc Map.</p> <p>Organizing data as layers.</p> <p>Editing the layers.</p> <p>Switching to Layout View.</p>
15 <sup>th</sup>	1 <sup>st</sup>	<p>Change page orientation.</p> <p>Removing Borders.</p> <p>Adding and editing map information.</p> <p>Finalize the map</p>
	2 <sup>nd</sup>	<p>Revision</p>