



GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLY) JAGATPUR, CUTTACK
LESSON PLAN OF 6TH SEMESTER(2025-26)

DISCIPLINE- CIVIL ENGG.	SEMESTER-6 th	NAME OF THE TEACHING FACULTY- PRIYABRATA TRIPATHY (LECTURER)
SUBJECT- LAND SURVEY-II (Th.I)	NO. OF DAYS/WEEK CLASS ALLOTTED: 5	SEMESTER FROM DATE-22/12/25 TO -18/04/26 NO. OF WEEKS-17
WEEK	CLASS DAY	THEORY/PRACTICAL TOPICS
1 st	1 st	TACHEOMETRY: (Only concepts; applications without derivation) Principles, stadia constants determination
	2 nd	Numerical Problems
	3 rd	Stadia tacheometry with staff held vertical and with line of collimation
	4 th	horizontal or inclined,
	5 th	Stadia tacheometry with staff held vertical and with line of collimation
2 nd	1 st	numerical problems
	2 nd	numerical problems
	3 rd	numerical problems
	4 th	Elevations and distances of staff stations – numerical problems
	5 th	Elevations and distances of staff stations – numerical problems CURVES2.1 compound, reverse and transition curve
3 rd	1 st	Purpose & use of different types of curves in field
	2 nd	Purpose & use of different types of curves in field
	3 rd	Elements of circular curves
	4 th	numerical problems
	5 th	numerical problems
4 th	1 st	Preparation of curve table for setting out
	2 nd	Setting out of circular curve by chain and tape and by instrument angular methods
	3 rd	(i) offsets from long chord
	4 th	(ii) successive bisection of arc
	5 th	(iii) offsets from tangents
5 th	1 st	(iv) offsets from chord produced (No derivation)
	2 nd	(v) Rankine's method of tangent angles
	3 rd	Obstacles in curve ranging – point of intersection inaccessible
	4 th	3-BASICS ON SCALE AND BASICS OF MAP Fractional or Ratio Scale, Linear Scale, Graphical Scale
	5 th	What is Map, Map Scale and Map Projections
6 th	1 st	How Maps Convey Location and Extent
	2 nd	How Maps Convey characteristics of features
	3 rd	How Maps Convey Spatial Relationship
	4 th	How Maps Convey Spatial Relationship
	5 th	Classification of Maps
7 th	1 st	Physical Map3.5.2 Topographic Map
	2 nd	Road Map3.5.4 Political Map
	3 rd	Economic & Resources Map
	4 th	Thematic Map3.5.7 Climate Map
	5 th	4-SURVEY ON INDIA MAP SERIES open series map
8 th	1 st	Defense Series Map4.3 Map Nomenclature
	2 nd	.Quadrangle Name4.3.2 Latitude, Longitude, UTM's
	3 rd	Contour Lines
	4 th	Magnetic Declination
	5 th	Public Land Survey System Field Notes
9 th	1 st	5-BASICS OF AERIAL PHOTOGRAPHY,PHOTOGRAMMETRY ORTHO IMAGE GENERATION Aerial Photography: 5.1.1 Film, Focal Length, Scale
	2 nd	Types of Aerial Photographs (Oblique, Straight)
	3 rd	Photogrammetry: Classification of Photogrammetry
	4 th	Aerial Photogrammetry
	5 th	Terrestrial Photogrammetry
10 th	1 st	Photogrammetry Process
	2 nd	Acquisition of Imagery using aerial and satellite platform
	3 rd	Control Survey

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	4 th	Geometric Distortion in Imagery
	5 th	Application of Imagery and its support data
		Orientation and Triangulation
11 th	1 st	Stereoscopic Measurement X-parallax Y-parallax
	2 nd	DTM/DEM Generation
	3 rd	Ortho Image Generation
	4 th	6-MODERN SURVEYING METHODS Principles, features and use of (i) Micro-optic theodolite
	5 th	Principles, features and use of digital theodolite
	1 st	Working principles of a Total Station (Set up and use of total station to measure angles)
	2 nd	Working principles of a Total Station (Set up and use of total station to measure angles)
	3 rd	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.
	4 th	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.
	5 th	7-BASICSON GPS & DGPS AND ETS GPS: - Global Positioning
12 th	1 st	Working Principle of GPS GPS Signals, 7.1.2 Errors of GPS, Positioning Methods
	2 nd	DGPS: - Differential Global Positioning System Base Station Setup
	3 rd	Rover GPS Set up
	4 th	Download, Post-Process and Export GPS data
	5 th	Sequence to download GPS data from flashcards
13 th	1 st	Sequence to Post-Process GPS data
	2 nd	Sequence to export post process GPS data
	3 rd	Sequence to export GPS Time tags to file
	4 th	ETS: - Electronic Total Station Distance Measurement
	5 th	Angle Measurement Leveling
14 th	1 st	Determining position
	2 nd	Reference networks
	3 rd	Errors and Accuracy
	4 th	8-BASICS OF GIS AND MAP PREPARATION USING GIS Components of GIS,
	5 th	Integration of special and attribute information
	1 st	8. Three views of information system
	2 nd	.1 Database of table view map view and modal view
	3 rd	Spital data method
	4 th	Attribute data management and meta data concept
	5 th	Attribue data management and meta data concept
16 th	1 st	Prepare data and adding to Arc Map. . Organizing data as layers
	2 nd	Editing the layers. Switching to lay out view
	3 rd	Change page orientation.
	4 th	Removing Borders.
	5 th	Adding and editing map information
17 th	1 st	Extra question discuss
	2 nd	Finalize the map

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23/12/25
LECTURER

[Signature]
23/12/25
PRINCIPAL
Principal
GIET (Polytechnic)
Jagatpur, Cuttack

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23.12.2025
SR.LECTURER
Sr. Lecturer
Civil Engg. Dept.
G.I.E.T(Poly), Jagatpur, C.