DEPARTMENT OF CIVIL ENGINEERING
GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY, JAGATPUR, CUTTACK

LESSON PLAN OF 6TH SEMESTER(2024-25) CIVIL ENGINEERING

DISCIPLINE-CIVIL ENGG.	SEMESTER-6th	NAME OF THE TEACHING FACULTY-PRIYABRATA TRIPATHY
SUBJECT-LAND SURVEY-II (Th.I)	NO OF DAYS/PER WEEK CLASS ALLOTTED: 3	SEMESTER FROM DATE-04/02/25 TO 17/05/25 NO. OF WEEKS-15
WEEK	**Class Day**	**THEORY TOPICS**
1st	1st	**TACHEOMETRY:** **(Only concepts; applications without derivation)** 1.1 Principles, stadia constants determination
	2nd	Numerical Problems
	3rd	1.2 Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined,
2nd	1st	1.2 Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined,
	2nd	1.2 numerical problems
	3rd	1.3 Elevations and distances of staff stations – numerical problems
3rd	1st	1.3 Elevations and distances of staff stations – numerical problems
	2nd	**2-CURVES** 2.1 compound, reverse and transition curve,
	3rd	2.1 Purpose & use of different types of curves in field
4th	1st	2.2 Elements of circular curves, numerical problems
	2nd	2.3 Preparation of curve table for setting out
	3rd	2.4 Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord, (ii) successive bisection of arc, (iii) offsets from tangents,)
5th	1st	2.4 (iv) offsets from chord produced, (v) Rankine's method of tangent angles (No derivation
	2nd	2.5 Obstacles in curve ranging – point of intersection inaccessible
	3rd	**3-BASICS ON SCALE AND BASICS OF MAP** Fractional or Ratio Scale, Linear Scale, Graphical Scale
6th	1st	3.2 What is Map, Map Scale and Map Projections
	2nd	3.3 How Maps Convey Location and Extent
	3rd	3.4 How Maps Convey characteristics of features
7th	1st	3.5 How Maps Convey Spatial Relationship
	2nd	3.5 How Maps Convey Spatial Relationship
	3rd	3.5.1 Classification of Maps 3.5.1 Physical Map 3.5.2 Topographic Map 3.5.3 Road Map

8th	1st	3.5.4 Political Map 3.5.5 Economic & Resources Map 3.5.6 Thematic Map 3.5.7 Climate Map
	2nd	**4-SURVEY ON INDIA MAP SERIES** 4.1open series map 4.2 Defense Series Map 4.3 Map Nomenclature 4.3.Quadrangle Name
	3rd	4.3.2 Latitude, Longitude, UTM's 4.3.4 Contour Lines 4.3.5 Magnetic Declination 4.3.6 Public Land Survey System 4.3.7 Field Notes
9th	1st	**5-BASICS OF AERIAL PHOTOGRAPHY,PHOTOGRAMMETRY ORTHO IMAGE GENERATION** 5.1 Aerial Photography: 5.1.1 Film, Focal Length, Scale 5.1.2 Types of Aerial Photographs (Oblique, Straight) 5.2 Photogrammetry: 5.2.1 Classification of Photogrammetry 5.2.2 Aerial Photogrammetry 5.2.3 Terrestrial Photogrammetry
	2nd	5.3 Photogrammetry Process: 5.3.1 Acquisition of Imagery using aerial and satellite platform 5.3.2 Control Survey 5.3.3 Geometric Distortion in Imagery Application of Imagery and its support data Orientation and Triangulation Stereoscopic Measurement 19.9.1 X-parallax 19.2.2 Y-parallax
	3rd	**6-MODERN SURVEYING METHODS** 6.1 Principles, features and use of (i) Micro-optic theodolite, digital theodolite 6.2 Working principles of a Total Station (Set up and use of total station to measure angles,
10th	1st	6.2 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.
	2nd	**7-BASICS ON GPS& DGPS AND ETS** 7.1 GPS: - Global Positioning 7.1.1 Working Principle of GPS,GPS Signals,
	3rd	7.1.2 Errors of GPS,Positioning Methods
11th	1st	7.2.1 Base Station Setup 7.2.2 Rover GPS Set up 7.2.3 Download, Post-Process and Export GPS data 7.2.4 Sequence to download GPS data from flashcards

	2nd	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
	3rd	ETS: - Electronic Total Station 7.3.1 Distance Measurement 7.3.2 Angle Measurement 7.3.3 Leveling
12th	1st	7.3.4 Determining position 7.3.5 Reference networks 7.3.6 Errors and Accuracy
	2nd	**8-BASICS OF GIS AND MAP PREPARATION USING GIS** 8.1 Components of GIS, Integration of special and attribute information
	3rd	8.2 Three views of information system 8.2.1Database of table view map view and modal view
13th	1st	8.3Spital data method 8.4 Attribute data management and meta data concept
	2nd	8.4 Attribue data management and meta data concept 8.5Prepare data and and adding to arc map .
	3rd	8.6Organising data as layer
14th	1st	8.7 Editing the layers
	2nd	8.8 Switching to lay out view
	3rd	8.9 Change page orientation. 8.10 Removing Borders.
15th	1st	8.11 Adding and editing map information
	2nd	Extra question discuss
	3rd	8.12Finalize the map

Lecturer

31.01.25
Sr.Lecturer
Sr. Lecturer
Civil Engg. Dept.
G.I.E.T(Poly),Jagatpur,Ctc

31/1/25
Principal

Principal
GIET (Polytechnic)
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