

DISCIPLINE- CIVIL ENGG.	NAME OF THE TEACHING FACULTY- KAPILENDRA KUMAR SETHY	
SUBJECT- LAND SURVEY-II	SEMESTER FROM DATE-10/03/22 TO DATE-10/06/22 NO. OF WEEKS-16	
WEEK		THEORY TOPICS
1	1 st	TACHEOMETRY: (Only concepts; applications without derivation) 1.1 Principles, stadia constants determination
	2 nd	1.2 Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems
	3 rd	1.2 Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems
2	1 st	1.2 Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems
	2 nd	1.2 Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems
	3 rd	1.3 Elevations and distances of staff stations – numerical problems
3	1 st	1.3 Elevations and distances of staff stations – numerical problems
	2 nd	CURVES : 2.1 compound, reverse and transition curve, Purpose & use of different types of curves in field
	3 rd	2.1 compound, reverse and transition curve, Purpose & use of different types of curves in field
4	1 st	2.2 Elements of circular curves, numerical problems

	2 nd	2.3 Preparation of curve table for setting out
	3 rd	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,
5	1 st	2.4 (iv) offsets from chord produced, (v) Rankine's method of tangent angles (No derivation)
	2 nd	2.5 Obstacles in curve ranging – point of intersection inaccessible
	3 rd	3 BASICS ON SCALE AND BASICS OF MAP: 3.1 Fractional or Ratio Scale, Linear Scale, Graphical Scale
6	1 st	3.2 What is Map, Map Scale and Map Projections
	2 nd	3.3 How Maps Convey Location and Extent
	3 rd	3.4 How Maps Convey characteristics of features
7	1 st	3.5 How Maps Convey Spatial Relationship
	2 nd	3.5.1 Classification of Maps 3.5.1 Physical Map 3.5.2 Topographic Map 3.5.3 Road Map

	3 rd	3.5.4 Political Map 3.5.5 Economic & Resources Map 3.5.6 Thematic Map 3.5.7 Climate Map
8	1 st	4.1 Open Series map 4.2 Defense Series Map 4.3 Map Nomenclature 4.3.1 Quadrangle Name
	2 nd	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
	3 rd	5 BASICS OF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGE GENERATION: 5.1 Aerial Photography: 5.1.1 Film, Focal Length, Scale 5.2 Photogrammetry
9	1 st	5.3 Photogrammetry Process 5.4 DTM/DEM Generation
	2 nd	5.5 Ortho Image Generation
	3 rd	6.1 Principles, features and use of (i) Micro-optic theodolite, digital theodolite
10	1 st	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.
	2 nd	7 BASICS ON GPS & DGPS AND ETS: 7.1 GPS: - Global Positioning 7.1.1 Working Principle of GPS, GPS Signals, 7.1.2 Errors of GPS, Positioning Methods 7.2 DGPS: - Differential Global Positioning System
	3 rd	7.2 DGPS: - Differential Global Positioning System

11	1 st	7.2 DGPS: Differential Global Positioning System
	2 nd	7.3 ETS: - Electronic Total Station 7.3.1 Distance Measurement 7.3.2 Angle Measurement 7.3.3 Leveling
	3 rd	7.3.4 Determining position 7.3.5 Reference networks 7.3.6 Errors and Accuracy
12	1 st	8 BASICS OF GIS AND MAP PREPARATION USING GIS 8.1 Components of GIS, Integration of Spatial and Attribute Information
	2 nd	8.2 Three Views of Information System 8.2.1 Database or Table View, Map View and Model View
	3 rd	8.3 Spatial Data Model
13	1 st	8.4 Attribute Data Management and Metadata Concept
	2 nd	8.5 Prepare data and adding to Arc Map.
	3 rd	8.6 Organizing data as layers.
14	1 st	8.7 Editing the layers. 8.9 Change page orientation 8.10 Removing Borders

	2 nd	8.11 Adding and editing map information
	3 rd	8.12 Finalize the map
15	1 st	8.12 Finalize the map
	2 nd	Numerical
	3 rd	Numerical

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