

PROGRAMME : CIVIL ENGINEERING COURSE NAME : LAND SURVEY-II COURSE CODE : TH-1 SEMESTER : 6TH PERIODS/WEEK: 5 TOTAL PERIODS: 75	NAME OF THE FACULTY: AMIT KUMAR SAHU SESSION : 2020-2021 DATE : 05-04-2021 To 30-06-2021
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WEEK	CLASS	TOPICS
1	1	Tacheometry: Concepts Principles
	2	Stadia constants determination
	3	Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined
	4	Numerical problems
	5	Elevations and distances of staff stations
2	1	Numerical problems
	2	Curves : Definition, compound, reverse and transition curve
	3	Purpose & use of different types of curves in field
	4	Elements of circular curves,
	5	Numerical problems
3	1	Preparation of curve table for setting out
	2	Setting out of circular curve by chain & tape
	3	Setting out of circular curve by instrument angular methods
	4	Obstacles in curve ranging – point of intersection inaccessible
	5	Fractional or Ratio Scale, Linear Scale, Graphical Scale
4	1	Map, Map Scale and Map Projections
	2	How Maps Convey Location and Extent
	3	How Maps Convey characteristics of features
	4	How Maps Convey Spatial Relationship
	5	Physical Map, Topographic Map, Road Map, Political Map
5	1	Economic & Resources Map, Thematic Map, Climate Map
	2	Open Series map
	3	Defence Series Map
	4	Map Nomenclature: Quadrangle Name
	5	Map Nomenclature: Latitude, Longitude, UTM's
6	1	Map Nomenclature: Contour Lines
	2	Map Nomenclature: Magnetic Declination
	3	Map Nomenclature: Public Land Survey System
	4	Map Nomenclature: Field Notes
	5	Aerial Photography: Film, Focal Length, Scale
7	1	Types of Aerial Photographs (Oblique, Straight)
	2	Photogrammetry: Concept & Classification
	3	Aerial Photogrammetry
	4	Terrestrial Photogrammetry
	5	Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform
	1	Control Survey
	2	Geometric Distortion in Imagery

8	3	DTM/DEM Generation
	4	Ortho Image Generation
	5	Modern surveying methods: principles
9	1	Features and use of (i) Micro-optic theodolite, digital theodolite
	2	Working principles of a Total Station
	3	Set up of total station
	4	Uses of total station
	5	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
10	1	GPS: - Global Positioning 7.1.1 Working Principle of GPS,GPS Signals,
	2	Errors of GPS, Positioning Methods
	3	DGPS: - Differential Global Positioning System ,Base Station Setup
	4	Rover GPS Set up
	5	Download, Post-Process and Export GPS data
11	1	Sequence to download GPS data from flashcards
	2	Sequence to export post process GPS data
	3	Sequence to Post-Process GPS data
	4	Sequence to export GPS Time tags to file
	5	ETS: - Electronic Total Station: brief
12	1	ETS: Distance Measurement
	2	ETS : Angle Measurement
	3	ETS: Levelling
	4	ETS : Determining position
	5	ETS: Reference networks, Errors and Accuracy
13	1	Components of GIS, Integration of Spatial and Attribute Information
	2	Three Views of Information System 8.2.1 Database or Table View, Map View and Model View
	3	Spatial Data Model
	4	Attribute Data Management and Metadata Concept
	5	Prepare data and adding to Arc Map.
14	1	Organizing data as layers, Editing the layers
	2	Switching to Layout View, Change page orientation, Removing Borders, Adding and editing map information, Finalize the map
	3	Revision of chapter-1
	4	Revision of chapter-2
	5	Revision of chapter-3
15	1	Revision of chapter-4
	2	Revision of chapter-5
	3	Revision of chapter-6
	4	Revision of chapter-7
	5	Revision of chapter-8