

LESSON PLAN OF 6th SEMESTER(2018-21) CIVIL ENGINEERING

Discipline :- CIVIL ENGG	Semester:- 6th	Name of the Teaching Faculty:- NISHANT BHANJADEO
Subject:- LAND SURVEY (TH-1)	No of Days per Week Class Allotted :- 5	Semester From:- 19th April 2021 To:- 13th August 2021
Week	Class Day	No of Weeks:- Theory
1st	1st	1.0 TACHEOMETRY: 1.1 Principles, stadia constants determination
	2nd	1.2 Stadia tachometry with staff held vertical and with line of collimation horizontal or inclined,
	3rd	Numerical on Tachometry
	4th	Numerical on Tachometry
	5th	1.3 Elevations and distances of staff stations
2nd	1st	numerical problem on elevation and distances
	2nd	2.0 CURVES : 2.1 compound, reverse and transition curve, Purpose & use of different types of curves in field
	3rd	2.2 Elements of circular curves,
	4th	numerical problems
	5th	2.3 Preparation of curve table for setting out
3rd	1st	2.4 Setting out of circular curve by chain and tape and by instrument angular methods
	2nd	(i) offsets from long chord (ii) successive bisection of arc,
	3rd	(iii) offsets from tangents, (iv) offsets from chord produced
	4th	(v) Rankin's method of tangent angles
	5th	Numerical on Rankin's Method
4th	1st	2.5 Obstacles in curve ranging – point of intersection inaccessible
	2nd	Numerical on curve ranging
	3rd	REVISION
	4th	Curve REVISION
	5th	Numerical on curve ranging
5th	1st	BASICS ON SCALE AND BASICS OF MAP: 3.1 Fractional or Ratio Scale, Linear Scale, Graphical Scale
	2nd	3.2 What is Map, Map Scale and Map Projections
	3rd	3.3 How Maps Convey Location and Extent
	4th	3.4 How Maps Convey characteristics of features
	5th	3.5 How Maps Convey Spatial Relationship
6th	1st	3.5.1 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
	2nd	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 BASICS OF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGE GENERATION:
	3rd	5.1 Aerial Photography: 5.1.1 Film, Focal Length, Scale
	4th	5.1.2 Types of Aerial Photographs (Oblique, Straight)
	5th	5.2 Photogrammetric: 5.2.1 Classification of Photogrammetry
	5th	5.2.2 Aerial Photogrammetry 5.2.3 Terrestrial Photogrammetry
7th	1st	5.3 Photogrammetry Process: 5.3.1 Acquisition of Imagery using aerial and satellite platform
	2nd	5.3.2 Control Survey

	3 rd	5.3.3 Geometric Distortion in Imagery Application of Imagery and its support data Orientation and Triangulation .
	4 th	Stereoscopic Measurement 19.9.1 X-parallax 19.2.2 Y-parallax
	5 th	5.4 DTM/DEM Generation
8 th	1 st	5.5 Ortho Image Generation
	2 nd	MODERN SURVEYING METHODS : 6.1 Principles, features and use of (i) Micro-optic theodolite, digital theodolite
	3 rd	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.
	4 th	6.2 Working principles of a Total
	5 th	BASICS ON GPS & DGPS AND ETS: 7.1 GPS: - Global Positioning 7.1.1 Working Principle of GPS,GPS Signals,
9 th	1 st	7.1.2 Errors of GPS,Positioning Methods
	2 nd	7.2 DGPS: - Differential Global Positioning System 7.2.1 Base Station Setup 7.2.2 Rover GPS Set up 7.2.3 Download, Post-Process and Export GPS data
	3 rd	7.2.4 Sequence to download GPS data from flashcards 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
	4 th	7.3 ETS: - Electronic Total Station 7.3.1 Distance Measurement 7.3.2 Angle Measurement
	5 th	7.3.3 Leveling 7.3.4 Determining position
10 th	1 st	7.3.5 Reference networks 7.3.6 Errors and Accuracy
	2 nd	BASICS OF GIS AND MAP PREPARATION USING GIS 8.1 Components of GIS, Integration of Spatial and Attribute Information,
	3 rd	8.2 Three Views of Information System 8.2.1 Database or Table View, Map View and Model View 8.3 Spatial Data Model
	4 th	8.4 Attribute Data Management and Metadata Concept 8.5 Prepare data and adding to Arc Map
	5 th	8.6 Organizing data as layers 8.7 Editing the layers.
11 th	1 st	8.8 Switching to Layout View. 8.9 Change page orientation.
	2 nd	8.10 Removing Borders. 8.11 Adding and editing map information. 8.12 Finalize the map
	3 rd	SURVEY OF INDIA MAP SERIES: 4.1 Open Series map 4.2 Defence Series Map
	4 th	4.3 Map Nomenclature 4.3.1 Quadrangle Name
	5 th	4.3.2 Latitude, Longitude, UTM's

12 th	1 st	4.3.4 Contour Lines 4.3.5 Magnetic Declination 4.3.6 Public Land Survey System 4.3.7 Field Notes	
	2 nd	Numerical on Tachometry	
	3 rd	Numerical on Tachometry	
	4 th	Doubt clearing class	
	5 th	Doubt clearing class	
13 th	1 st	REVISION CLASSES	
	2 nd		
	3 rd		
	4 th		
	5 th		
14 th	1 st		
	2 nd		
	3 rd		
	4 th		
	5 th		
15 th	1 st		
	2 nd		
	3 rd		
	4 th		
16 th	1 st		Revision Class
	2 nd		
	3 rd		
	4 th		
	5 th		
17 th	1 st		Revision class
	2 nd		
	3 rd		
	4 th		
	5 th		