

Dicipline:	CIVIL	Semester: 4 <sup>th</sup>	Name of the Teaching Faculty:	
Subject:	Land Surveying -1	No of Days/Week Class Allotted: 5	Semester From date: 13.2.23 To date 23.5.23	No. of Weeks:
WEEK	Class Day	Theory Topics		
01	1st	Introduction to surveying, Linear measurement surveying		
	2nd	Objectives, principles of surveying		
	3rd	Plane & geodetic surveying - Instrumental surveying		
	4th	Precision and accuracy of measurement, instrument used for measurement		
	5th	Types of Tapes & chains, Error & mistakes		
02	1st	Classification, sources of error & remedies		
	2nd	Correction to measured lengths due to incorrect length, temp. variations		
	3rd	Pull, sag correction & numerical problems		
	4th	Chaining & chain surveying - Equipment & accessories		
	5th	Ranging - Purpose, signaling, direct & indirect ranging		
03	1st	Line ranger - Features & use. Error due to incorrect ranging.		
	2nd	Method of chaining stepping method		
	3rd	Clinometer - Features & use slope correction		
	4th	Setting perpendicular with chain & tape chaining across different types of obstacles		
	5th	Numerical problems on chaining across obstacles purpose of chain surveying		

WEEK	Class Day	Theory Topics
04	1st	Concept of field book, selection of survey station
	2nd	Offsets - necessity, types & instruments for setting offset.
	3rd	Error in chain surveying - types, causes & remedies & precautions
	4th	Angular measurement & compass surveying Measurement of angle with chain, tape
	5th	Designation of angles - concept of meridians & concept of bearings
05	1st	Numerical problems on bearing
	2nd	Use of compass - setting on field centering levelling, taking readings FB, BB
	3rd	Numerical problem on FB & BB and computation of interior or exterior angle
	4th	Effect of earth's magnetism, dip of needle, magnetic declination.
	5th	Error in angle measurement with compass, source & remedies
06	1st	Principles of traversing - open & closed traverse & its method.
	2nd	Local attraction - causes, detection errors, correction & numerical problem
	3rd	Error in compass surveying - source & remedies.
	4th	Plotting of traverse - check of closing error in closed and open traverse
	5th	Bowditch's connection, map study of direction, scale, hind reference



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	1st	Study of signal and Symbols, cadastral map preparation methodology.		
	2nd	Unique identification number of parcel		
	3rd	Position of existing control point and its type		
	4th	Adjacent Boundaries control point and features, Topology creation		
	5th	plane table surveying - objectives principles and uses		
	1st	Instrument & accessories used in plane table surveying		
	2nd	Method of plane table surveying - Radiation		
	3rd	Intersection, Traversing		
	4th	Resection, State two point problems		
	5th	Three point problem		
	1st	Error in plane table surveying & their correction, precaution.		
	2nd	Theodolite surveying & traversing Defn & purpose		
	3rd	Transit theodolite - Description of features component parts.		
	4th	Concept of vernier, reading a vernier, Temporary adjustment		
	5th	Concept of traverse		

WEEK	Class Day	Theory Topics
	1st	Measurement of magnetic bearing, deflection angle, direct angle, setting out angles
	2nd	Prolonging a straight line with theodolite errors on theodolite
	3rd	Method of theodolite traversing
	4th	Plotting the traverse by co-ordinate method. check for open & closed
	5th	Problem on traversing
	1st	Traverse computation - consecutive <sup>ve</sup> co-ordinates latitude, departures
	2nd	Gullit's traverse table, almenical problems on omitted measurement
	3rd	Closing error.
	4th	Numerical problem on bearing
	5th	Balancing of traverse - Bowditch's method transit method
	1st	Area method, calculation of area of closed traverse
	2nd	levelling & contouring - Def <sup>n</sup> & purpose, types datum, RL, IAN
	3rd	Instrument used for levelling & its concept
	4th	levelling staff - Temporary adjustment of level, facing, negative concept
	5th	Height of collimation method



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	1st	Rise fall method		
	2nd	numerical problems on reduction of level applying both method.		
	3rd			
	4th			
	5th	<div style="display: flex; justify-content: space-between;"> <span>9/10/23</span> <span>AD 10/2/23</span> </div>		
	1st			
	2nd			
	3rd			
	4th			
	5th			
	1st			
	2nd			
	3rd			
	4th			
	5th			