Discipline:CIVIL	Semester: 4th	Name of Teaching Faculty:-TAPAS KUMAR MALLICK
Subject:- Land Survey-I	No of Days/Week Class alloted:- 05	Semester from date: 04.02.2025 to 17.05.25 No of Weeks: 15
Week	Claas Day	Theory Topics
1st	1st	**1.Introduction to Surveying ,Linear measurements:-**Definitions,Aim and objectives.
	2nd	Principles of Survwey.
	3rd	Precisions and accuracy of measurements.
	4th	Types of tapes and chains.
	5th	Errors and mistakes in linear measurements.
2nd	1st	Corrections to measured due to incorrect length,sag,pull,temp.variation.
	2nd	Numerical problems.
	3rd	**2.Chaining and Chain Surveying:-** Equipment accessories for chaining.
	4th	Ranging- ,Line ranger,Errors due to incorrect ranging.
	5th	Methods of chaining,Clinometer
3rd	1st	Setting perpendicularswith chain &tape,Chaining across different obstacles.
	2nd	Purpose of chain surveying,Concept of field book.
	3rd	Offsets,Instruments for setting offsets.
	4th	Errors in chain surveying.
	5th	**3.Angular measurement and compass surveying:-** Measurement of angle with chain,tape and compass.
4th	1st	Compass-Types,features
	2nd	Compass-Merits,Demerits,Testing and adjustment of compass.
	3rd	Designation of angles,concept of bearing
	4th	Numerical problems on bearings
	5th	Use of compass,FB,BB,Numerical problems
5th	1st	Effects of earth magnetism,numericals problems on declination
	2nd	Errors in angle measurement with compass
	3rd	Principals of traversing
	4th	Local attractions-causes ,detections & corrections and numericals.
	5th	Errors in compass surveying
6th	1st	Plotting of traversing
	2nd	**4.Map reading cadastrin maps and nomenclature:-**study of direction,scale
	3rd	study of signs and symbols
	4th	Cadstral map preparartions
	5th	Unique identification of number of parcel
7th	1st	Control points and its types
	2nd	Adjecent boundaries and features
	3rd	Topology creations and veryfication
	4th	**5.plane table surveying:-**Objectives,principles and use
	5th	Instruments and accessories
8th	1st	Methods-Radations,intersection
	2nd	Traversing, resection method
	3rd	Two point problem

	4th	Three point problem
	5th	Errors in plane table surveying
9th	1st	**6:-Theodolite surveying and traversing:**-Purpose and definition
	2nd	Transit theodolite -Features, parts
	3rd	Fundamental axes of theodolite,temporary adjustment
	4th	Concept of transiting,measurement of horizontal and vertical angle
	5th	Measurement of magnetic bearings,deflection angles
10th	1st	Setting out angles
	2nd	Errors in theodolite
	3rd	Methods of theodolite traversing
	4th	Checks for open and closed travers
	5th	Travers computation
11th	1st	Numericals problems
	2nd	Closing errors
	3rd	Adjustment bearings and numerical problems
	4th	Balancing of traverse
	5th	Calculation of areas
12th	1st	**7. Levelling and contouring:**-Definition purpose and types
	2nd	Essential features and use of different leveling instruments ,concept of
	3rd	Leveling staff-types,features and use,temporary and perment adjustmment
	4th	Concept of BS,IS,FS,CP,HI,Principle of leveling
	5th	Field data entry,HI and Rise and fall method,numerical problems
13th	1st	Dfferent types of leveling,uses and methods,plotting of profiles
	2nd	Curvature and refraction,reciprocal leveling
	3rd	Diffculties in leveling,errors ,sensitiveness of bubble tube,setting grades
	4th	**CONTOURING**-Definations,concept and characteristics
	5th	Methods of contouring
14th	1st	Plotting contour maps
	2nd	Interpolation of contour maps
	3rd	Use of contour maps
	4th	Computation of volume from contour map
	5th	Interpet physical land form,problem solving and decision making
15th	1st	**8.Computation of area and volume:**-Area from plans
	2nd	Oridinate rule, trapizodial rule,numerical problems
	3rd	Simpson's rule and numericals
	4th	Calculation of volume by different methods
	5th	Numerical problems

29.01.25