Discipline: **Civil Engg.**	Semester : **6th**	Name of the Teaching Faculty: **SHARMISTHA DAS (LECTURER)**
Subject: LS II	No. of days/per week class allotted: **05**	Semester From date : 16/01/2024 To Date: 26/04/2024 No. of Weeks: 15
Week	**Class Day**	**Theory**
1ST	1st	**TACHEOMETRY:** Principles, stadia constants determination
	2nd	Principles, stadia constants determination
	3rd	Stadia tacheometry with staff held vertical
	4th	Stadia tacheometry with staff held with line of collimation
	5th	Stadia tacheometry with staff held with inclined, numerical problems.
2ND	1st	Elevations and distances of staff stations
	2nd	Elevations and distances of staff stations – numerical problems
	3rd	Elevations and distances of staff stations – numerical problems
	4th	REVISSION CLASS
	5rd	**CURVES** : compound, reverse and transition curve
3RD	1st	Purpose & use of different types of curves in field
	2nd	Elements of circular curves, numerical problems
	3rd	Preparation of curve table for setting out
	4th	Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord
	5th	Successive bisection of arc, (iii) offsets from tangents.
4TH	1st	(iv) offsets from chord produced, (v) Rankine's method of tangent angles (No derivation)
	2nd	Obstacles in curve ranging – point of intersection inaccessible
	3rd	Fractional or Ratio Scale, Linear Scale, Graphical Scale
	4th	What is Map, Map Scale and Map Projections
	5th	How Maps Convey Location and Extent
5TH	1st	How Maps Convey characteristics of features
	2nd	How Maps Convey Spatial Relationship
	3rd	Classification of Maps:Physical Map , Topographic Map

	4th	Road Map, Political Map , Economic & Resources Map
	5th	Thematic Map, Climate Map
6TH	1st	**SURVEY OF INDIA MAP SERIES:** Open Series map
	2nd	Defense Series Map
	3rd	Map Nomenclature
	4th	Quadrangle Name
	5th	Latitude, Longitude, UTM's
7TH	1st	Contour Lines
	2nd	Magnetic Declination
	3rd	Public Land Survey System
	4th	Field Notes
	5th	CLASS TEST
8TH	1st	Basics Of Aerial Photography, Photogrammetry, Dem And Ortho Image Generation:
	2nd	Film, Focal Length, Scale
	3rd	Types of Aerial Photographs (Oblique, Straight)
	4th	Photogrammetry: Classification of Photogrammetry
	5th	Errestrial Photogrammetry ,Photogrammetry Process
9TH	1st	Acquisition of Imagery using aerial and satellite platform
	2nd	Control Survey
	3rd	Geometric Distortion in Imagery Application of Imagery and its support data
	4th	Orientation and Triangulation Stereoscopic Measurement
	5th	DTM/DEM Generation ,Ortho Image Generation
10TH	1st	**MODERN SURVEYING METHODS** : Principles,
	2nd	features and use
	3rd	Micro-optic theodolite, digital theodolite
	4th	Micro-optic theodolite, digital theodolite
	5th	Working principles of a Total Station
11TH	1st	Working principles of a Total Station
	2nd	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 coordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry and triangulation

	3rd	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 coordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry and triangulation
	4th	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 coordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry and triangulation
	5th	DISCUSSION
12TH	1st	**BASICS ON GPS & DGPS AND ETS:** GPS: - Global Positioning system
	2nd	Working Principle of GPS,GPS Signals
	3rd	Errors of GPS,Positioning Methods
	4th	DGPS: - Differential Global Positioning System,Base Station Setup
	5th	Post-Process and Export GPS data
13TH	1st	Sequence to download GPS data from flashcards ,Sequence to Post-Process GPS data
	2nd	Sequence to export post process GPS data ,Sequence to export GPS Time tags to file
	3rd	ETS: - Electronic Total Station ,Distance Measurement , Angle Measurement
	4th	Leveling ,Determining position
	5th	Reference networks ,Errors and Accuracy
14TH	1st	**BASICS OF GIS AND MAP PREPARATION USING GIS:** Components of GIS, Integration of Spatial and Attribute
	2nd	Three Views of Information System
	3rd	Database or Table View, Map View and Model View
	4th	Spatial Data Model ,Attribute Data Management and Metadata Concept
	5th	Prepare data and adding to Arc Map
15TH	1st	Organizing data as layers. Editing the layers
	2nd	Switching to Layout View
	3rd	Change page orientation
	4th	Removing Borders. Adding and editing map information
	5th	Finalize the map