

LESSON PLAN (SUMMER-2026)

VENUS GROUP OF EDUCATIONAL & RESEARCH INSTITUTE,BAHANAGA,BALASORE-756042

Discipline: Civil Engg.	Semester: 6th	Name of the Teaching Faculty: Er.Mousumi Pandia
Subject: Land Survey II	No. of days per week class allotted: 5 nos	Semester From date :22/12/2025 To 18/04/2026
Week No.	Class Day	Theory/Practical Topic
1st	1st	Principles, stadia constants determination.
	2nd	Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems.
	3rd	Elevations and distances of staff stations – numerical problems.
	4th	Compound, reverse and transition curve, Purpose & use of different types of curves in field.
	5th	Elements of circular curves, numerical problems.
2nd	1st	Preparation of curve table for setting out.
	2nd	Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord.
	3rd	Successive bisection of arc.
	4th	offsets from tangents.
	5th	Offsets from chord produced.
3rd	1st	Rankine's method of tangent angles.
	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.
4th	1st	How Maps Convey characteristics of features.
	2nd	How Maps Convey Spatial Relationship.
	3rd	Classification of Maps Physical Map.
	4th	Topographic Map.
	5th	Road Map.
5th	1st	Political Map.
	2nd	Economic & Resources Map.
	3rd	Thematic Map.
	4th	Climate Map.
	5th	Open Series map.
6th	1st	Defense Series Map.
	2nd	Map Nomenclature.
	3rd	Quadrangle Name.
	4th	Latitude, Longitude, UTM's.
	5th	Contour Lines.
7th	1st	Magnetic Declination.

7th	2nd	Public Land Survey System.
	3rd	Field Notes.
	4th	Aerial Photography: Film, Focal Length, Scale & Types of Aerial Photographs.
	5th	Photogrammetry: Classification of Photogrammetry , Aerial Photogrammetry , Terrestrial Photogrammetry.
8th	1st	Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform , Control Survey.
	2nd	Geometric Distortion in Imagery Application of Imagery and its support data Orientation and Triangulation Stereoscopic Measurement.
	3rd	DTM/DEM Generation & Ortho Image Generation.
	4th	Principles, features and use of (i) Micro-optic theodolite, digital theodolite ,Working principles of a Total Station.
	5th	Total Station of surveyed points relative to Total Station position using trigonometry and triangulation.
9th	1st	Global Positioning ,Working Principle of GPS,GPS Signals, Errors of GPS, Positioning Methods.
	2nd	DGPS: - Differential Global Positioning Syste.
	3rd	Base Station Setup & Rover GPS Set up.
	4th	Download, Post-Process and Export GPS data , Sequence to download GPS data from flashcards.
	5th	Sequence to Post-Process GPS data.
10th	1st	Sequence to export post process GPS data.
	2nd	Sequence to export GPS Time tags to file.
	3rd	ETS: - Electronic Total Station, Distance Measurement.
	4th	Angle Measurement & Leveling.
	5th	Determining position & Reference networks.
11th	1st	Errors and Accuracy & Components of GIS, Integration of Spatial and Attribute Information.
	2nd	Three Views of Information System , Database or Table View, Map View and Model View.
	3rd	Spatial Data Model.
	4th	Attribute Data Management and Metadata Concept.
	5th	Prepare data and adding to Arc Map.
12th	1st	Organizing data as layers.
	2nd	Editing the layers.
	3rd	Switching to Layout View.
	4th	Change page orientation.
	5th	Removing Borders.
13th	1st	Adding and editing map information.
	2nd	Finalize the map.
	3rd	Revision.
	4th	Revision.
	5th	Revision.