

# शासकीय पॉलीटेक्निक गरियाबंद



Subject : SURVEYING - II  
Semester : 4<sup>TH</sup> SEM. CIVIL  
Session : JAN. - JUNE - 2025  
Faculty : RAHUL SAHU

Phone - 07706-299303

Email- [gpolyg@rediffmail.com](mailto:gpolyg@rediffmail.com)

Website - [www.polygariyaband.ac.in](http://www.polygariyaband.ac.in)

# GOVERNMENT POLYTECHNIC GARIYABAND

## DEPARTMENT OF CIVIL ENGINEERING

### LESSON PLAN

Session:- Jan-June 2025

Session start date as per University Calendar: 20/01/2025

Subject Name:- SURVEYING - II

Name of Subject teacher:- Rahul sahu

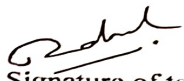
Course Code:- 2020471(020)

Lecture plus Tutorial/Week:- 02

Lecture No.	No. & Name of chapter	Topic/Subtopics to be covered under this unit	No. of period planned	Actual no. of period taken	Date of class conduction	Remarks
01	<b>UNIT-01</b> <b>Theodolite Survey</b>	Introduction to theodolite, Uses of theodolite, Sketch the parts of Transit Vernier theodolite, Reading of main and vernier scale on horizontal and vertical plate	01	01	3/2/25	
02		Temporary adjustment of a theodolite Fundamental axis of theodolite and their relationship	01	01	5/2/25	
03		Definitions and various technical terms	01	01	6/2/25	
04-05		Methods of measuring horizontal angles and vertical angles	02	02	13/2/25 24/2/25	
06		Measuring direct and deflection angles, Errors in theodolite survey	01	01	3/3/25	
07		Theodolite Traversing, Traverse computations, Closing errors, Balancing the traverse	01	02	3/3/25 5/3/25	
08		<b>UNIT-02</b> <b>Tacheometry</b>	Introduction Purpose and Principles of tacheometric surveying Instruments used in Tacheometry Methods of Tacheometry (Stadia & Tangential )	01	02	10/3/25
09-10	Principle of Stadia Tacheometry Methods of determining constants of a Tacheometer Anallatic Lens, advantages & disadvantages. Numerical examples on tacheometer constants		02	03	17/3/25 19/3/25	

11		Method of Fixed Hair : - When line of sight is horizontal and staff held vertically	01	01	02/4/25	
12		Advantages and disadvantages of Tangential method	01	01	2/4/25	
13-14		Stadia field work – General arrangement of fieldwork, Triangulation, Traversing, Operations in tacheometric observations, Errors in Stadia Tacheometry	02	02	09/4/25	
15	<b>Unit-03</b> <b>Curves</b>	Introduction Types of circular curves, Definitions and notations, Designation of curve	01	01	16/4/25	
16		Relation between Radius and degree of curve, Elements of simple circular curve	01	01	21/4/25	
17		Setting out simple circular curve- Linear Method and Angular Method of location of tangent, tangent point, peg interval.	01	01	23/4/25	
18		Linear Methods – By ordinates from long chord, by successive bisection of arcs, by offsets from tangents, by offsets from chord produced	01	02	24/4/25	
19		Angular Method – Rankine's method of tangential angle	01	01	28/4/25	
20		Introduction to Transition curves, Vertical curves and their purpose,	01	01	28/4/25	
21		<b>Unit-04</b> <b>Modern Surveying Techniques</b>	Introduction Basics of Digital Theodolite Introduction and Principles of E.D.M.	01	01	30/4/25
22	Introduction and Basics of Total station - Parts of Total station - uses of Total Station, Automatic Target Recognition ATR		01	01	30/4/25	
23	Surveying using Total Station, Fundamental Parameters of Total Station Precautions to be taken while using Total Station		01	01	01/05/25	
24	Set up of Total Station Centering, Levelling, Orientation.		01	01	02/5/25	
25	Field Procedure for Total Station, Initial Data Entry, Survey Station Descriptors, Survey Station entries, Sighted Point Entries, Occupied Point Entries,		01	01	03/5/25	

26		Procedure Electronic data recording- Data loggers : Data recorders, Field computers, Memory cards, Internal Memory	01	01	14/5/25	
27	Unit-05 GIS and GPS	Introduction Definition of GIS Objectives of GIS Subsystems of GIS	01	01	14/5/25	
28		Tools of representation of features Point Data, Line Data, Areal Data. Data Structure for GIS : Vector and Raster datastructure	01	01	19/5/25	
29		GIS SOFTWARE PACKAGES Application areas of GIS, Remote sensing and GIS, Arc GIS	01	01	19/5/25	
30		GPS Overview : Introduction and principle, Components of GPS	01	01	21/5/25	
31		Introduction to GPS surveying techniques: Static and Dynamic.	01	01	21/5/25	
32		Uses and application of GPS.	01	01	23/7/25	
Total			32	36		



Signature of teacher

HOD