

20SO8451-ADVANCED SURVEYING LAB USING TOTAL STATION

Offering Branches	CE		
Course Category:	Skill Oriented Course	Credits:	2
Course Type:	Laboratory	Lecture-Tutorial-Practical:	1-0-2
Prerequisites:	Nil	Continuous Evaluation:	0
		Semester End Evaluation:	50
		Total Marks:	50

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Use the Total Station for field surveying and determine the distances, directions, elevations, height of the objects.	K3
CO2	Interpret the data and calculate the area of a given field.	K3
CO3	Apply the Knowledge of Tacheometry and find distances.	K3
CO4	Set out and develop the simple curves.	K6
CO5	Develop the plan and execute plan in field for building or any structures.	K6
CO6	Apply the knowledge of Total station in preparing map/plans and profiling practically.	K3

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		3		3			2	2				3	2
CO2	3		3		3			2	2				3	2
CO3	3		3		3			2	2				3	2
CO4	3		3		3			3	3				3	3
CO5	3		3	3	3			3	3				3	3
CO6	3		3	3	3			2	2				3	2
Avg.	3		3	3	3			2	2				3	2

1- Low

2-Medium

3-High

Course Content

Experiment No.1	Creating file in Total Station and measurement of distances, Horizontal and vertical angles.	CO1
Experiment No.2	Determination of Heights of objects using Total station	
Experiment No.3	Determination of Boundaries of a Field and computation of area using Total station	CO2
Experiment No.4	Determine the horizontal distance between two points on plane ground using Tacheometry	CO3
Experiment No.5	Lay out a simple circular curve by Rankine's method using Theodolite	CO4
Experiment No.6	Setting out of Simple curve using Total Station	
Experiment No.7	Setting out for Building using Total station	CO5
Experiment No.8	Survey Camp using Total station(minimum 5 days) <ul style="list-style-type: none"> • Preparation of a contour Plan/ Map • Marking of sewer line or profiling of road • Setting out of Plans Areas of irregular fields	CO6

Learning Resources

Text Books	<ol style="list-style-type: none"> 1. B.C. Punmia, A.K. Jain, Arun Jain, Surveying II, 16/e, Laxmi Publications,2017. 2. R. Subramanian, Surveying and Levelling, 2/e, Oxford University Press,2014.
-------------------	--

Reference Books	<ol style="list-style-type: none">1. S.K. Roy, Fundamentals of Surveying, 2/e, Prentice Hall of India, 2011.2. T.P. Kanetkar, Surveying and Levelling, Part I and II, 4/e, New Central Book Agency 2012.
e-Resources & other digital material	<ol style="list-style-type: none">1. https://nptel.ac.in/courses/105/101/105101201/2. http://jntuk-coeerd.in/