

## 23CE3351- SURVEYING LAB

<b>Course Code</b>	<b>23CE3351</b>	<b>Year</b>	II	<b>Semester</b>	I
<b>Course Category</b>	Profession al Core	<b>Branch</b>	CIVIL	<b>Course Type</b>	Practical
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	Basic Geometry
<b>Continuous Internal Evaluation</b>	30	<b>Semester End Evaluation</b>	70	<b>Total Marks</b>	100

### Course Objectives:

By the end of this course student will be able to

1	Know about various linear and angular measuring instruments
2	Take Measurements in the linear and angular view
3	Determine the area and volume by interpreting the data obtained from surveying activities
4	Know modern equipment such as total station
5	Draft field notes from survey data

### Course Outcomes:

Upon the successful completion of this course, the students will able to

<b>CO1</b>	Handle various linear and angular measuring instruments
<b>CO2</b>	Measure the linear and angular measurements
<b>CO3</b>	Calculate the area and volume by interpreting the data obtained from surveying activities
<b>CO4</b>	Handle modern equipment such as total station
<b>CO5</b>	Prepare field notes from survey data

### Course Articulation Matrix:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
<b>CO 1</b>	2	2	-	2	1	-	-	-	3	2	2	2	2	-
<b>CO 2</b>	2	2	-	2	1	-	-	-	3	3	3	2	2	-
<b>CO 3</b>	2	2	-	2	1	-	-	-	3	2	2	2	2	-
<b>CO 4</b>	1	2			3				3	2	2	1	1	
<b>CO5</b>	2	1			-				3	2	2	1	1	

<b>List of Field Works</b>	
<b>1</b>	Chain survey of road profile with offsets in case of road widening.
<b>2</b>	Determination of distance between two inaccessible points by using compass.
<b>3</b>	Plane table survey; finding the area of a given boundary by the method of radiation
<b>4</b>	Fly levelling: Height of the instrument method (differential leveling)
<b>5</b>	Fly levelling: rise and fall method.
<b>6</b>	Theodolite survey: determining the horizontal and vertical angles by the method of repetition method
<b>7</b>	Theodolite survey: finding the distance between two in accessible points.
<b>8</b>	Theodolite survey: finding the height of far object.
<b>9</b>	Determination of area perimeter using total station.
<b>10</b>	Determination of distance between two inaccessible point by using total station.
<b>11</b>	Setting out a curve
<b>12</b>	Determining the levels of contours

<b>Learning Resources</b>	
<b>Text Books</b>	<ul style="list-style-type: none"> <li>• B.C. Punmia, A.K. Jain, Arun Jain, Surveying I and II, 16/e, Laxmi Publications,2017.</li> <li>• R. Subramanian, Surveying and Levelling, 2/e, Oxford University Press,2014.</li> </ul>
<b>ReferenceBooks</b>	<ul style="list-style-type: none"> <li>• S.K. Roy, Fundamentals of Surveying, 2/e, Prentice Hall of India, 2011.</li> <li>• 2. T.P. Kanetkar, Surveying and Levelling, Part I and II, 4/e, New Central Book Agency2012.</li> </ul>
<b>E-Sources</b>	<ul style="list-style-type: none"> <li>• <a href="https://nptel.ac.in/courses/105/101/105101201/">https://nptel.ac.in/courses/105/101/105101201/</a></li> <li>• <a href="http://jntuk-coeerd.in/">http://jntuk-coeerd.in/</a></li> </ul>