

# Surveying-I

<b>Course Code</b> CE 182	<b>Credit Hours</b> 2-1
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## Course Description

This course is designed to give the basic survey and levelling knowledge to the prospective civil engineers. This knowledge is of fundamental importance for planning, design and construction work of Civil Engineering Projects. It is also required for interpreting topographic maps for setting out works exercising dimensional control, monitoring levelling profiles and quality of finished output. In this course most of the field data is acquired manually using conventional methods.

## Text Book:

### Textbook (s)

1. Survey & Levelling by T.P.Kanetkar and S.V.Kulkarni (Vol -I&Vol -II)
2. Surveying Principles and Application by Barry Kavanagh

### Reference Book:

1. Streeter, Wylie, Bedford "Fluid Mechanics" Ninth Edition
2. Dr Andrew Sleigh "An Introduction to Fluid Mechanics" May 2001 (School of Civil Engineering, University of Leeds)
3. R E. Featherstone "Civil Engineering Hydraulics" Third Edition

### Prerequisites :

Nil

## ASSESSMENT SYSTEM FOR THEORY

	<b>Without Project (%)</b>	<b>With Project/Complex Engineering Problems (%)</b>
Quizzes	15	10-15
Assignments	10	5-10
Mid Terms	25	25
Project	-	5-10
End Semester Exam	50	45-50

## ASSESSMENT SYSTEM FOR LAB

Lab Work/ Psychomotor Assessment/ Lab Reports	70%
Lab Project/ Open Ended Lab Report/ Assignment/ Quiz	10%
Final Assesment/ Viva	20%

## Teaching Plan

<b>Week No</b>	<b>Topics/Learning Outcomes</b>
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1	Basic Concepts of Maps and Survey
2	Introduction to survey
3	How to make a scale line
4-5	Establishment of control points by Traverse
6	Traverse Computations and plotting
7	Plane Table Survey
8	<b>Mid Semester Exam</b>
9	Plane Table Survey
10-11	Leveling
12	Contouring
13-15	Road Alignment
16	Setting out of simple circular highway curves
17-18	<b>End Semester Exam</b>

### Practical

Experiment No	Description
1	Introduction to basic survey instruments and their use
2	Measurement of angles and distances with a total station.
3	<p>Performing the following operations with a Total Station.</p> <p>a. R.D.M(Remote Distance Measurement)</p> <p>b. R.E.M (Remote Elevation Measurement)</p> <p>c. Find the position of an unknown point concerning existing known control points.</p> <p>d. Area perimeters (for finding the Area and perimeter of plan and irregular surfaces).</p> <p>Stake out (for layout of buildings and other infrastructure like roads etc.).</p>
4	Establishment of survey control points by Traverse.
5	Making a Topographic Map by Plane Table Survey.
6	Leveling.
7	Contouring.
8	Road Alignment.
9	Setting out of simple circular highway curves.