

**COURSE TITLE** : SURVEY PRACTICAL – II  
**COURSE CODE** : 317  
**COURSE CATEGORY** : B  
**PERIODS/WEEK** : 3  
**PERIODS/SEMESTER** : 54  
**CREDITS** : 2

**TIME SCHEDULE**

<b><u>MODULE</u></b>	<b><u>TOPICS</u></b>	<b><u>PERIODS</u></b>
I.	Contour and contouring	12
II.	Theodolite practice	12
	Test – I	3
III.	Theodolite Traverse	12
IV.	Heights and distances	12
	Test – II	<u>3</u>
	<b>Total</b>	<b>54</b>

**Rationale**

Surveying and levelling is an important subject for all civil engineers engaged in the field work. They are either called to prepare plans and maps or to use them to prepare the civil engineering projects on to set out the works using the maps

In the field of topographic surveying, one notable contribution of electronics has been the total station. With the introduction of GIS, total station and GPS in advanced surveying the preparation of a map with contour lines has become very easy.

**OBJECTIVES**

Upon completion of the course the student should be able to:

**1.1 Perform contouring**

- 1.1.1 Take spot levels for preparing contour map
- 1.1.2 Prepare contour map

**2.1 Perform theodolite survey in the field**

- 2.1.1 Select of stations
- 2.1.2 Perform temporary adjustments
- 2.1.3 Measurements of horizontal angles- different methods-vertical angles.
- 2.1.4 Record the observation in the field book

**3.1 Perform theodolite traversing.**

- 3.1.1 Compute included angles/true bearing and latitude and departure from field book and prepare Gale’s traverse table
- 3.1.2 Plot the traverse after adjusting the closing error.

**4.1 Find the difference in elevations and distance between objects**

- 4.1.1 Establish a base line
- 4.1.2 Determine heights and distances of the objects by observations from a base line
- 4.1.3 Determine difference in level and horizontal distance between two points by observation from a single station; also from the ends of the base line.

## CONTENT OUT LINE

### MODULE 1

Take spot levels for preparing contour map  
Prepare contour map

### MODULE II

Perform temporary adjustments  
Measure horizontal angles- different methods-vertical angles.  
Record the observation in the field book

### MODULE III

Perform theodolite traverse, compute included angles, latitude and departure, prepare Gale's traverse table, and plot the traverse after adjusting the closing error.

### MODULE IV

Find the difference in elevation and distances between objects  
Determine heights and distances of the objects by observations from base line  
Determine difference in level and horizontal distance between two points by observation from a single station; also from the ends of the base line.