

SUBJECT TITLE : SURVEY PRACTICAL – I
(Common for CE, QS, AR, EV, WR)

SUBJECT CODE :

PERIODS/WEEK : 3

PERIODS/YEAR : 48

CREDITS : 2

TIME SCHEDULE

Module	Topic	Periods
I	Chain Surveying	9
II	Plain Table Surveying	9
III	Compass Surveying	9
		Test I 3
IV	Levelling	15
		Test II 3
Total		48

OBJECTIVES

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

1.1.0 Perform survey in the field using chain, tape and arrows, cross staff, and accessories for a small civil engineering work

- 1.1.1 Select convenient observation stations
- 1.1.2 Perform survey on the field using, chain, tape, cross staff, ranging rod and arrows.
- 1.1.3 Record the observation in the field according to current surveying practice and plot
- 1.1.4 Perform survey on the field to divide a given plot, and to calculate areas.

2.1.0 Perform plane table survey to fill in details on the field

- 2.1.1 Set up and orient the plane table using the trough compass
- 2.1.2 Perform survey on the field to plot the details
- 2.1.3 Orient the plane table with respect to two/three plotted points, without using linear measurements/ trough compass

3.1.0 Perform survey in the field using chain, tape and arrows, cross staff, compass and accessories for a small civil engineering work

- 3.1.1 Perform the survey work using compass and accessories, record in the field book
- 3.1.2 Compute included angles, bearings of lines as applicable from the field book
- 3.1.3 Plot the traverse, fill the details

4.1.0 Prepare Topographic Maps using levelling

- 4.1.1 Perform temporary adjustments for taking observations
- 4.1.2 Take fly levels for establishing reduced level for a bench mark

SURVEY PRACTICAL – I

CHAIN SURVEYING:-

1. Study of instruments used in chain surveying.
2. Plotting of a building plan using chain survey.
3. Measurement of area of a given plot by cross staff survey.
(9 periods)

PLANE TABLE SURVEYING:-

1. Plotting various objects in a given field using Radiation method.
2. Determination of horizontal distance between two inaccessible points by intersection method.
3. Orienting and fixing the instrument station by resection method.
(9 periods)

COMPASS SURVEYING:-

1. Plotting of a given traverse.
2. Determination of the horizontal distance between two inaccessible points (cosine rule).
3. Determination of the horizontal distance between two inaccessible points by base line method.
(9 periods)

LEVELLING :-

1. Study of leveling instrument and simple leveling.
2. Determination of RL of given stations with respect to a given BM (including inverted reading).
3. Determination of level difference between two given points by differential leveling (HC method).
4. Establishing bench mark by taking fly levels by rise and fall method.
5. Determination of gradient of a line joining two given stations.
(15 periods)