

2nd Nov,
SUNDAY

PLANE TABLE SURVEYING

- It is most suitable for traverse surveying in which plotting and measurement can be done simultaneously.
- It can be used for areas which are affected by local attraction.

→ Accessories of Plane table Surveying

a) Drawing table

(i) Traverse table.

(ii) Johnson's table

(iii) Coast Survey table.

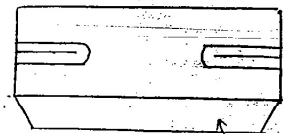
45 cm x 60 cm.

45 cm x 75 cm.

b) Alidade - used for sighting the objects.

(i) Plane

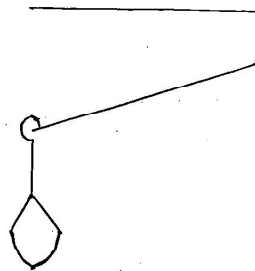
(ii) Telescopic. - long & inclined sights.



fiducial edge

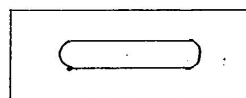
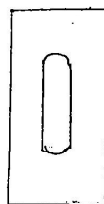
c) U-frame Plumbing Fork.

- used to transfer points from plan to ground and vice versa.



d) Spirit Level.

e) Sough Compass.



(21)

→ Temporary Adjustments:

- (i) Focusing
- (ii) Levelling
- (iii) Centering

(iv) Orientation - it is the process of putting the plane table in a fixed direction so that a line representing a certain direction on the plan is parallel to the direction of same line on the ground.

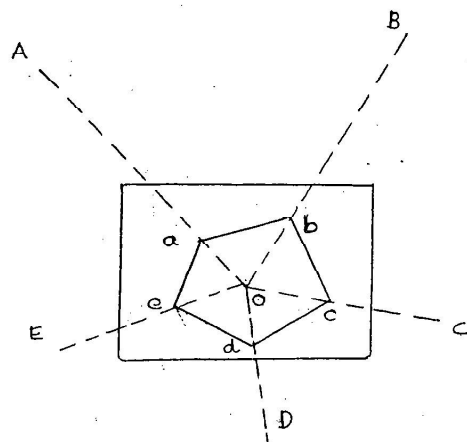
NOTE:

Orientation is more essential when more than one instrument station is to be set up.

→ Methods of Plane Tableing

1. Radiation method.

It is used for locating the points from a single instrument station. It can also be used for calculation of area of field bounded by the points.



It is most suitable when the points are accessible and visible.

2. Intersection Method.

It is suitable when the points are inaccessible but visible. It is particularly used for calculating the distance b/w two inaccessible points.

3. Traversing

Any surface to which elevations

It is most suitable for taking the details of objects as there is a check from each traversing stations

4 Resection.

It is the process of determining the plotted position of the station occupied by the plane table by means of sights taken towards known points, locations of which have been plotted already

(i) 3-point problem

a) Mechanical method / Tracing paper method.

b) Bessel's graphical.

c) Lehmann's method (or) Trial & Error method.

(ii) 2-point problem.

→ Advantages of Plane table surveying:

(i) It is quite suitable for plotting small scale maps directly on the field.

(ii) Plotted map can be compared with the actual features on the ground.

(iii) Contour maps and topographical maps can be prepared and can be checked with ground features

(iv) Errors in measurement and plotting can easily be detected in the field by running check lines

(v) It is best suited for traversing.

→ Disadvantages

- (i) It is not accurate. (accurate upto 85%)
- (ii) not possible to replot to some other scale.
- (iii) It is used only for short sights.