

FAQs

1. What is surveying?

- Surveying is the art of measuring distances, angles and positions on or near the surface of the earth.

2. Why is surveying scientific?

- Because the use of mathematical techniques to analyze field data, accuracy and reliability depends on understanding scientific principles underlying and affecting survey measurement.

3. What are the types of surveying?

There are two types of surveying:

- **Plane surveying:** Earth surface is considered a plan of x-y dimensions.
- Z-dimension (height) referenced to the mass spherical surface of the earth (MSL).
- Most engineering and property survey are plane survey correction to curvature is made for long strips (Higher).

Geodetic surveying

- Earth surface is considered spherical in resolution (actually ellipsoid) x-y.
- Z is referenced to MSL (surface of earth)
- Very precise surveys (boundaries and coastal networks).

4. What are the various classes in surveying?

- **Preliminary survey:** (data gathering) is the gathering of data (distances, position and angles) to locate physical features (rivers, roads, structures) so that data can be

plotted to scale (map or plan), also include diff. in elevation so that contour could be plotted.

- **Layout survey:** Marking on the ground using sticks iron bar or concrete monuments. The features shown on a design plan features:
 1. Property lines (subdivision survey)
 2. Engineering work (construction survey)
 3. Z-dimensions are given for x-y directions.
- **Control survey:** used to reference prelim and layout surveys.
 - Horizontal control: arbitrary line tied to prop line or HWY center or coordinated control stations.
 - Vertical control: Benchmarks: points whose elev. above sea level is carefully determined.
 - In Control survey more care to accuracy.
 - Control lines should be easy to re-establish.

5. What are the various classification if surveying based on instruments?

- **Chain survey:** Only linear measurements are made with chain or tape no angular measurements are taken
- **Compass survey:** Horizontal angles are measured with the help of magnetic compass
- **Plane table survey:** The map is prepared in the field itself by determining the directions of various lines making linear measurements, and plotting the details on paper using a plane table