

Paper: Surveying Techniques

Principles of surveying: Plane and geodetic surveying; Principles of triangulation.

Principles of Surveying: Surveying is the process of finding the relative position of various points on the surface of the earth. There are mainly five principles of surveying.

- (i) Working from whole to part;
- (ii) Consistency of work
- (iii) Independent check on measurements
- (iv) Accuracy and precision
- (v) Horizontal distance measurement

Plane surveying: plane surveying is the process of surveying by assuming that the earth is flat. which mean the curvature or spherical shape of the earth is not considered in plane surveying calculations.

Geodetic surveying: Geodetic surveying is a process of surveying by considering the curvature or spherical shape of the earth.

Geodetic surveying is mainly conducted to determine the precise positions on the earth surface. It is also called as Trigonometrical surveying, in plane surveying, the curvature of the earth is ignored because surveying is conducted

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in small areas. The degree of accuracy is low as compared to geodetic surveying.

Triangulation: In surveying the tracing and measurement of a series or network of triangles in order to determine the distances and relative positions of points spread over an area, especially by measuring the length of one side of each triangle and deducing its angles and the length of the other two sides by observation from base line.

Triangulation is a method used to determine the location of a fixed point based on the laws of trigonometry. These laws state that if one side and two angles of a triangle are known, the other two sides and angle of that triangle can be calculated.