

ID : 16242

Program : B.Tech Civil

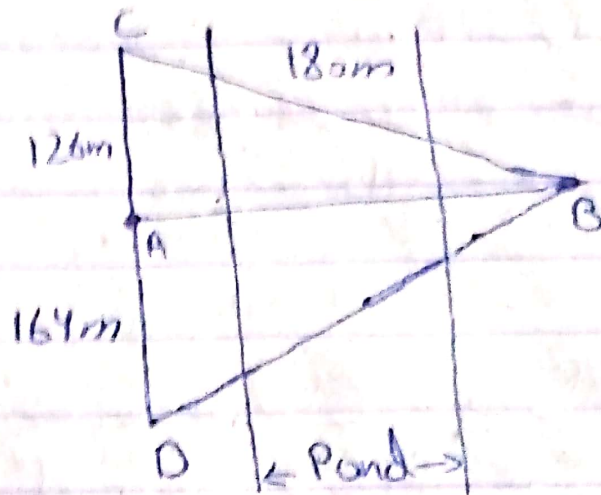
Semester : 2nd

Session : Mid term Spring

Instructor : Miss Humaira.

(Q1)

$$\begin{array}{l} BC = 180\text{m} \quad , \quad BD = 215\text{m} \\ CA = 126\text{m} \quad , \quad AD = 164\text{m} \end{array}$$



Find $\overline{AB} = ?$

Solution:-

Let consider (ABC) triangle
Which is a right angle triangle.
By applying Pythagoras Theorem.

$$(\overline{BC})^2 = (\overline{AB})^2 + (\overline{AC})^2$$

$$(\overline{AB})^2 = (\overline{BC})^2 - (\overline{AC})^2$$

$$(\overline{AB})^2 = (180)^2 - (126)^2$$

$$(\overline{AB})^2 = 32400 - 15876$$

$$\sqrt{(\overline{AB})^2} = \sqrt{16524}$$

$$\overline{AB} = 128.54 \text{ meter.}$$

Q2)

Ans)

Given Data

$$CD = 110 \text{ m}$$

$$DF = 60 \text{ degree}$$

$$DG = 45 \text{ degree}$$

Sol)

$$DG = CD \times \text{SEC } 60^\circ = 240 \text{ m}$$

$$DF = CD \times \text{SEC } 45^\circ = 189.63 \text{ m}$$

$$CF = CD \times \tan 60^\circ = 110 \text{ m Ans.}$$

Q3) Explain the following terms.

~~Ques~~ Answer:-

• Baseline:

A baseline survey is a study that is done at the beginning of a project to collect information on the status of a subject (anything from crop yields to birth weights) before any type of intervention can affect it. An endline survey, on the other hand, is the study conducted after the end of that intervention.

• Check line:

A check line also termed as a proof-line is a line joining the apex of a triangle to some fixed points on any two sides of a triangle. A check-line is measured to check the accuracy of the framework. The length of a checking line, as measured on the ground should agree with its length on the plan.

• Tie line:

A tie line joints two fixed points on the main survey lines. It helps to check the accuracy of surveying and to locate the

Interior details. The position of each tie line should be close to some features, such as paths, building etc.

• Tie station:

Any point selected on the main survey line where it is necessary to run the auxiliary lines to locate the interior details such as fences, hedges, building, etc. When they are at some distance from the main survey lines are known as subsidiary or Tie station.

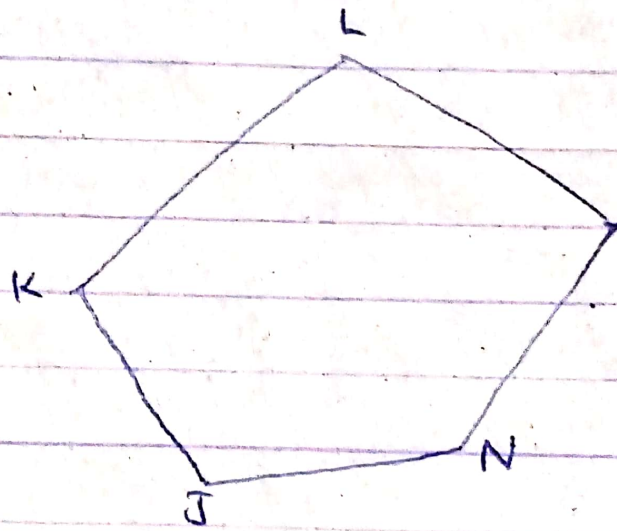
• Well-Conditioned triangle:

A well conditioned triangle is a triangle in which no angle is less than 30 degrees. One of the way to survey the area is to divide the entire area in smaller triangles and then take the measurement of sides of the triangles.

(Q4)

Traverse Surveying:

Traverse is a method in the field of surveying to establish control networks. It is also used in geodesy. Traverse networks involve placing survey stations along a line or path of travel, and then using the previously surveyed points as a base for observing the next point.



Traverse Surveying

Distinguish between a closed and open traverse.

They are closed traverses when the line forms a circuit which ends at the starting point, it is known as a closed traverse. Open traverse; when the line forms a circuit ends elsewhere except starting point, it is said to be an open traverse.