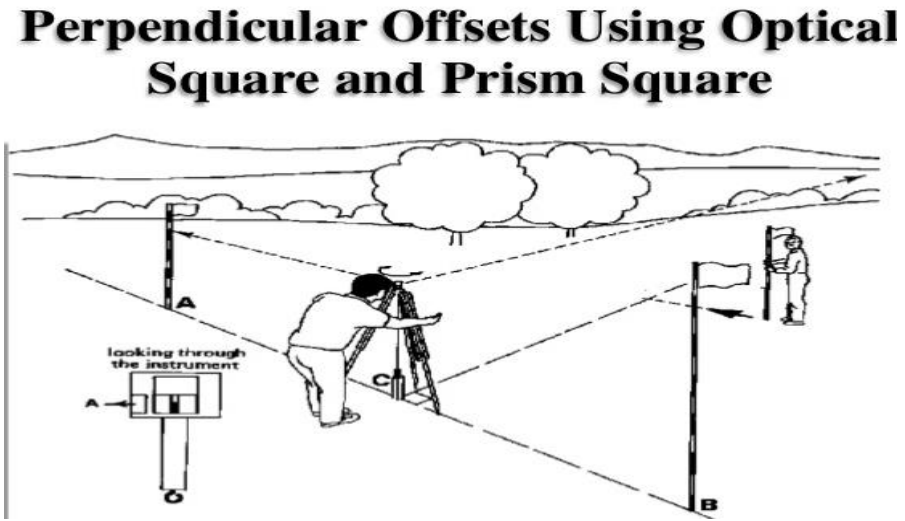
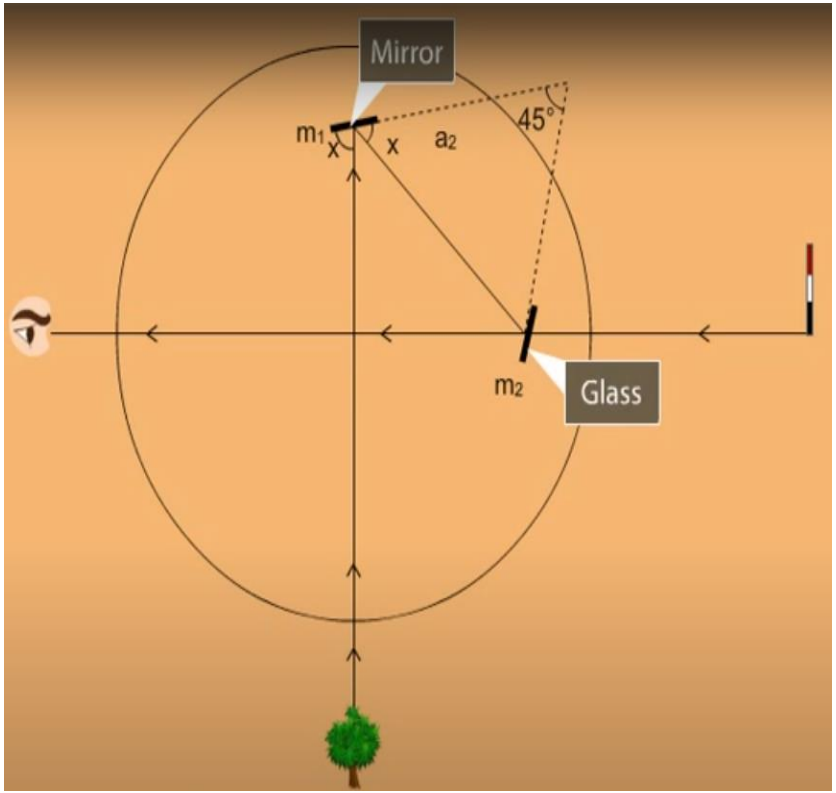
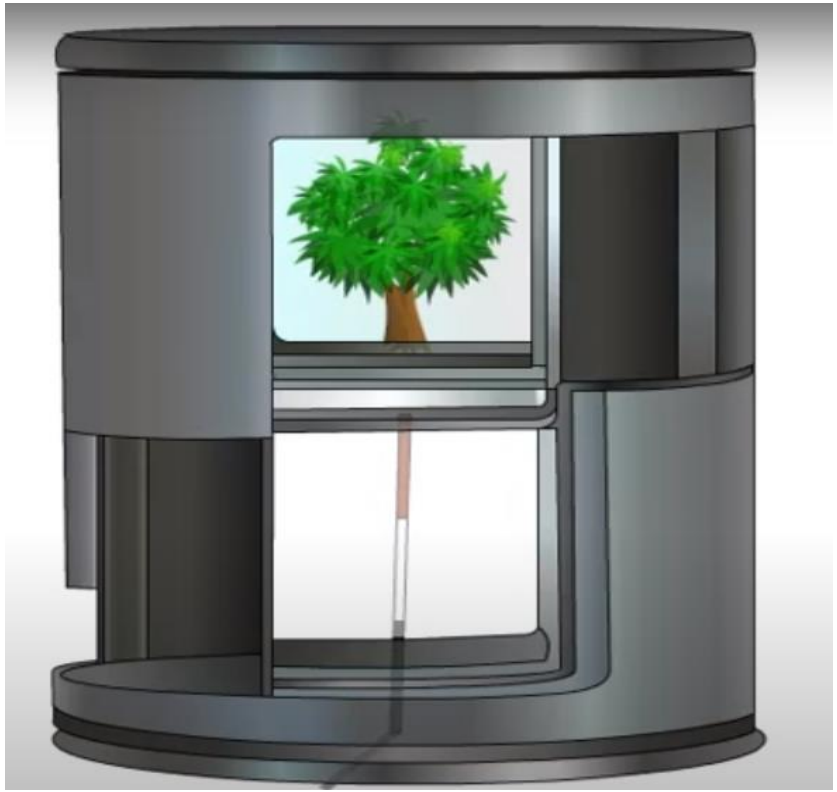
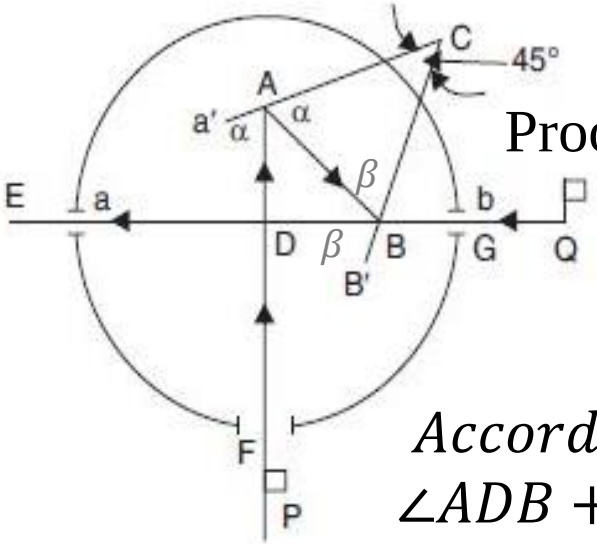
Optical Square

An optical square is a hand instrument used by surveyor's. Used for placing points on a line, offset measurements, setting our curves or determining horizontal plans.




Mirror
m1
x
x
a2
45°
m2
Glass





Proof that optical square 2 mirror incline at 45° Angle.

$$from\ figure, \angle DAB = 180° - 2\alpha$$

$$and\ \angle DBA = 180° - 2\beta$$

$$According\ to\ Triangular\ law,$$

$$\angle ADB + \angle DBA + \angle DAB = 180°$$

$$\Rightarrow 90° + 180° - 2\beta + 180° - 2\alpha = 180° \quad \therefore \alpha + \beta = 135°$$

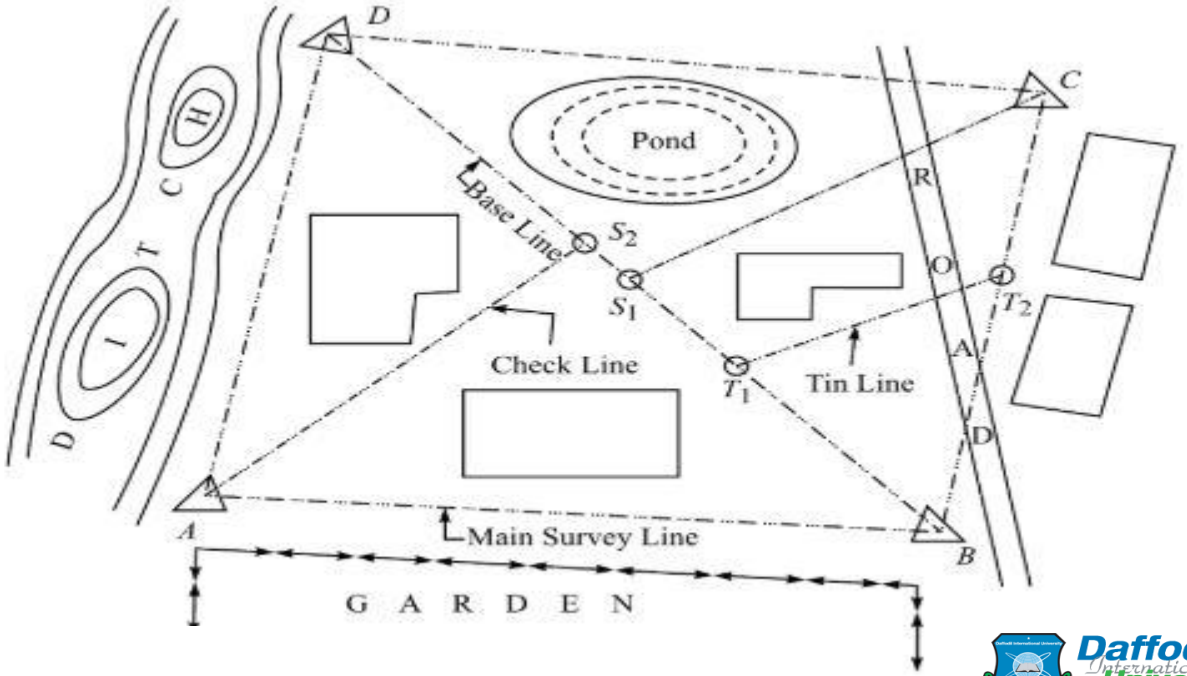
$$Now\ \Delta ACB, \alpha + \beta + \angle C = 180°$$

$$\Rightarrow 135° + \angle C = 180° \ \therefore \angle C = 45°$$

Daffodil International University

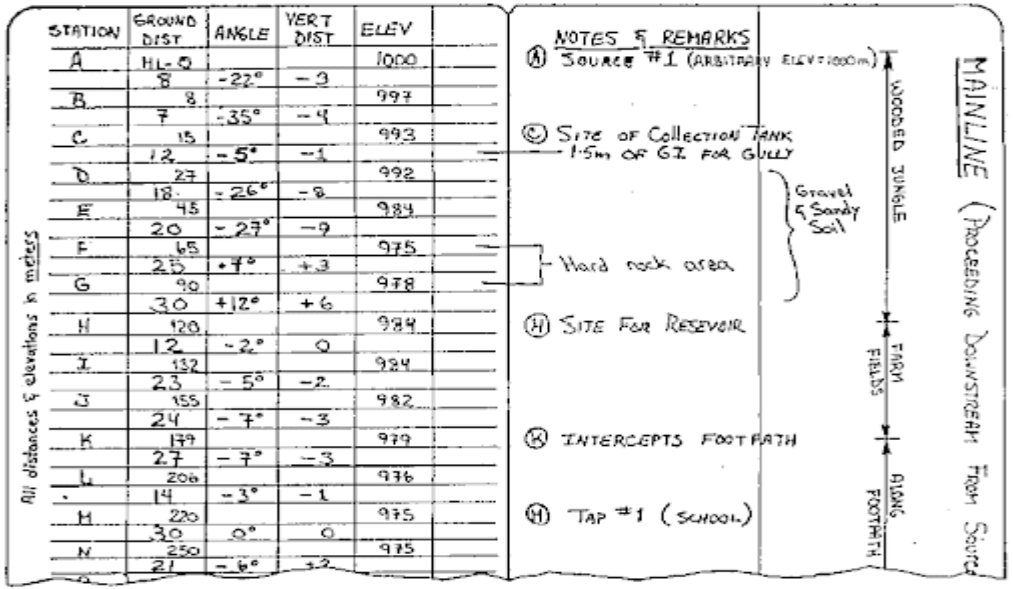
Reconnaissance Survey

It is the **preliminary survey**. It is used at commencement of any project work through suggesting possible alternative paths and routes. It needs to be done with greater efficiency and cost accuracy for **identifying these alternative paths and routes.**



Stations

These are points on the ground fixed by driving pegs. Every station should be located with respect to three permanent objects. The distances from these objects to the stations should be measured very accurately and recorded field book.



Thank You

Stay Safe
Stay Aware