Qs No 1.

Observed from the top of a 75 m high lighthouse (from sea level), the angles of depression of two ships are 30^0 and 45^0. If one ship is exactly behind the other on the same side of the lighthouse, find the distance between the ships. (4 Marks)

Qs No 2.

The angle of elevation of an aeroplane from a point on the ground is 60^0. After a flight of 15 seconds, the angle of elevation changes to 30^0. If the aeroplane is flying at a constant height of $1500\sqrt{3}$ m, find the speed of the plane in km/hr. (4Marks)

Q No 3.

The angle of elevation of a cloud from a point 60m above the surface of water of a lake is 30^0 and the angle of depression of its shadow in water

of lake is 60^0. Find the height of the cloud from the surface of water.

(4Marks)

Q No 4.

From a window (h metres high above ground) of a house in a street, the angles of elevation and depression of the top and the foot of another house on the opposite side of the street are θ and ϕ respectively. Show that the height of the opposite house ish$(1+\tan\theta \cot \phi)$ metres.

(4 Marks)

Qs No 5.

A straight highway leads to the foot of a tower. A man standing at top of the tower observes a car at an angle of depression of 30^0, which is approaching the foot of the tower with uniform speed. Six seconds later, the angle of depression of the car is found to be 60^0. Find the time taken by the car to reach the foot of the tower from this point.

(4 Marks)