**Half mark and one-mark questions**

1. A person from the top of a building of height 25m has observed another building’s top and bottom at an angle of elevation 450 and at an angle of depression 600 respectively. Draw a diagram for this data?
2. A person observed the top of a tree at an angle of elevation of 600 when the observation point was 5m away from the foot of tree. Draw a diagram for this data?
3. “If the angle of elevation of sun increases from 00 to 900 then the length of the tower decreases”. Is this statement true? Justify your answer.
4. If a tower of height ‘h’ is observed from a point with a distance ‘d’ and angle ‘θ’. Then express the relation among h, d and θ?
5. A pole and its shadow have same length. Find the angle of ray made with the earth at that time?
6. The ratio of the length of a rod and its shadow is 1 : . Then find the angle of elevation of the sun?
7. Define angle of elevation with a diagram?
8. Which objected was used to measure of angle of elevation or angle of depression in the process of survey?

**Two marks questions**

1. A boat has to cross a river. It crosses the river by making an angle of 600 with the bank of the river due to stream of the river and travels a distance of 450m to reach the another side of the river. Draw the diagram for this data?
2. A person 25m away from a cell tower observes the top of the cell tower at an angle of elevation 300. Draw the suitable diagram for this situation?
3. A state highway a leads to foot of the tower. A man standing at the top of the tower observes a car at an angle of depression of θ, which approaching to the foot of tower with a uniform speed. 6 sec later, the angle of depression is Ø. Draw a diagram for this data and analyse?
4. From the top tower of height ‘h’, Anusha observes the angles of depression of two points X and Y on the same side of the tower on the ground to be α and β. Draw the suitable figure to the given information?
5. A kite is flying at a height of 60m above the ground. The string attached to the kite is temperately tied to a point on the ground. The inclination of the string with the ground is 600, find the length of the string assuming that there is no slack in the string?
6. A tower stands vertically on the ground. From a point on the ground, 20m away from the foot of the tower, the angle of elevation of the top of the tower is 600. What is the height of the tower?
7. The angle of elevation of a ladder learning against a wall is 600 and the foot of the ladder is 9.5m away from the wall. Find the length of the ladder?
8. The angle of elevation of the top of a temple is cot-1 from a point on the ground 40m away from the foot of the temple. Find the height of the temple?

**Four marks questions**

1. An observer flying in a latitude of 900m observes two ships in front of him, which are in the same direction at an angle of depression of 600 and 300 respectively. Find the distance between the two ships.
2. A person from the top of a building of length 15m observes the top and bottom of a cell tower with an angle of elevation as 600 and the angle of depression as 450 respectively. Then find the height of cell tower.
3. Two poles of equal heights are standing opposite to each other on either side of the road, which is 80m wide. From a point between them on the road, the angles of elevation of top of the polls are 600 and 300 respectively. Find the height of the polls.
4. A tree is broken without separating from the stem by the wind. The top touches the ground making an angle of 300 at a distance of 12m from the foot of tree. Find the height of the tree before breaking.
5. Two polls are standing opposite to each other on the either side of the road which is 90 feet wide. The angle of elevation from the bottom of first poll to the top of the second poll is 450.the angle of elevation from the bottom of second poll to the top of first poll is 300. Find heights of the polls (use = 1.732).
6. Two boys on either side of the school building of 20m height observes its top at the angles of elevation 300 and 600 respectively. Find the distance between two boys.
7. The angle of elevation of the top of a hill from the foot of a tower is 600 and the angle of elevation to the top of tower from the foot of hill is 300. If the tower is 50m height find the height of the hill.
8. A bird is sitting on the top of a 80m height tree. From a point on the ground, the angle of elevation of the bird is 450. The bird flies away horizontally in such a way that it remained at a constant height from the ground. After two seconds the angle of elevation of the bird from the same point is 300. Find the speed of flying of board.
9. The angle of elevation of a cloud from a point 60m above the surface of water of a lake is 300 and the angle of depression of its shadow in the water of lake is 600. Find the height of the cloud from the surface of water.
10. The angle of elevation of the top Q of a vertical tower PQ from a point X on the ground is 600. At a point Y 40m vertically above X, the angle of elevation is 450. Find the height of the tower and the distance XP.
11. The angles of elevation of a top of tower from foot of a building and first floor are 600 and 450 respectively. If the height of the first floor of the building is 5m then find height of the tower.