ONE TWO ACADEMY

STD 10 MATHEMATICS

TRIGONOMETRY I (Ex 6.2- 6.4)

Total:- 25 marks **Time:- 45 minutes**

Answer the following questions: **4 x 1 = 4**

1. The angle of elevation and depression are usually measured by a device called _____.
2. When the line of sight is below the horizontal level, the angle formed is _____.
3. Draw a diagram for the following situation. “An observer of 1.8 m tall is 25.2 m away from a chimney. The angle of elevation of the top of the chimney from her eyes is 45°.”
4. If the ratio of the height of a tower and the length of its shadow is 3:1 , then the angle of elevation of the sun has measure ?

Answer any three of the following questions:- **3 x 2 = 6**

5.A tower stands vertically on the ground. From a point on the ground, which is 48 m away from the foot of the tower, the angle of elevation of the top of the tower is 30°. Find the height of the tower.

6. A player sitting on the top of a tower of height 20 m observes the angle of depression of a ball lying on the ground as 60°. Find the distance between the foot of the tower and the ball.

7. The angle of depression of the top and bottom of 20 m tall building from the top of a multi-storied building are 30° and 60° respectively. Find the height of the multistoried building and the distance between two buildings (in metres) .

8. Draw a diagram for the following situation. The horizontal distance between two buildings is 140 m. The angle of depression of the top of the first building when seen from the top of the second building is 30°. If the height of the first building is 60 m.

Answer any three of the following questions:- **3 x 5 = 15**

9. From a point on the ground, the angles of elevation of the bottom and top of a tower fixed at the top of a 30 m high building are 45° and 60° respectively. Find the height of the tower.

10. To a man standing outside his house, the angles of elevation of the top and bottom of a window are 60° and 45° respectively. If the height of the man is 180 cm and if he is 5 m away from the wall, what is the height of the window?

11. A pole 5 m high is fixed on the top of a tower. The angle of elevation of the top of the pole observed from a point 'A' on the ground is 60° and the angle of depression to the point 'A' from the top of the tower is 45°. Find the height of the tower.

12. The angles of elevation and depression of the top and bottom of a lamp post from the top of a 66 m high apartment are 60° and 30° respectively. Find

(i) The height of the lamp post.

(ii) The difference between the height of the lamp post and the apartment.

(iii) The distance between the lamp post and the apartment.