PRISM WORLD

Std.: 10 (English) **Maths - II** **Marks: 20**

Date: **Time: 1 hrs**

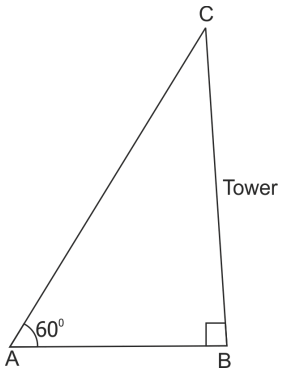
Chapter: 6

Q.1 Choose the carrect alternatives. **(3)**

1) When see at a higher level, from the horizontal line, angle formed is .....

a. angle of elevation b. angle of depression c. 0 d. straight angle

2)



In the given figure, if the of elevation is 60^0 and the distance AB = 10 $\sqrt{3}$ m, then the height of the tower is

a. 20 $\sqrt{3}$ cm b. 10 m c. 30 m d. 30 $\sqrt{3}$ m

3) The value of cos 65^0 sin 25^0 + sin 65^0 cos 25^0 is

a. 0 b. 1 c. 2 d. 4

Q.2 Solve the following question. (Any Two) **(4)**

1) elimate θ, if x = a sec θ , y = b tan θ

2) If $\tan\theta = \frac{3}{4}$ then find the value of $\sec\theta$.

3) If tan A + $\frac{1}{\tan A}$ = 2, show that $\tan^2 A + \frac{1}{\tan^2 A}$ = 2

Q.3 Solve the following question. (Any Two) **(6)**

1) Prove that $\frac{\sin\theta - 2\sin^3\theta}{2\cos^3\theta - \cos\theta} = \tan\theta$

2) Prove the following:

$$\frac{\sin\theta}{1+\cos\theta} = \frac{1-\sin\theta-\cos\theta}{\sin\theta-1-\cos\theta}$$

3) Prove the following

$\frac{\cos A}{\text{cosec } A+1} + \frac{\cos A}{\text{cos ec } A-1}$ =2 tan A

Q.4 Solve the following question. (Any One) **(4)**

1)

Prove that : $\frac{1}{\text{Cosec } A - \text{Cot } A} - \frac{1}{\text{Sin } A} = \frac{1}{\text{Sin } A} - \frac{1}{\text{Cosec } A + \text{Cot } A}$

2)

Show that: $\frac{\tan A}{(1+\tan^2 A)^2} + \frac{\cot A}{(1+\cot^2 A)^2}$ = sin A $\times$ cos A

Q.5 Solve the following question. (Any One) **(3)**

1) A boy is standing at a distance of 48m from a building, the angle of elevation of its top is 30°. Find the height of the building.

2)

If 5sinθ - 12cosθ = 0, find the values of secθ and cosecθ.