

# ASPIRE STUDY MCA Entrance Classes

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## Paper – 2 (Height and Distances)

- From the top of a light house 60 metres high with its base at the sea level, the angle of depression of a boat  $15^\circ$ . The distance of the boat from the foot of the light house (in mt.)  
(a)  $(2 + \sqrt{3})60$  (b)  $(2 - \sqrt{3})60$  (c)  $(2 + \sqrt{3})30$  (d)  $(2 - \sqrt{3})60$
- A flagstaff stands in the centre of a rectangular field whose diagonal is 1200 m, and subtends angles  $15^\circ$  and  $45^\circ$  at the mid points of the sides of the field. The height of the flagstaff is :  
(a) 200 m (b)  $300\sqrt{2 + \sqrt{3}}$  m (c)  $300\sqrt{2 - \sqrt{3}}$  m (d) 400 m
- In a cubical hall ABCDPQRS with each side 10 m, G is the centre of the wall BCRQ and T is the mid point of the side AB. The angle of elevation of G at the point T is :  
(a)  $\sin^{-1} \frac{1}{\sqrt{3}}$  (b)  $\cos^{-1} \frac{1}{\sqrt{3}}$  (c)  $\tan^{-1} \frac{1}{\sqrt{3}}$  (d)  $\cot^{-1} \frac{1}{\sqrt{3}}$
- The upper three-fourths of ship's mast subtends, at a point on the deck, an angle whose tangent is 0.75. If the whole mast subtends an angle  $\theta$  at the same point, then  $\tan\theta =$   
(a) 2 (b) 1/2 (c) 3/4 (d) 1
- One chimney is 30 m higher than another. A person standing at a distance of 100 m. From the lower chimney observes their tops to be in line and inclined at an angle of  $\tan^{-1}(0.6)$  to the horizon. The distance of the person from the higher chimney is :  
(a) 100 m (b) 150 m (c) 75 m (d) None of these
- An aeroplane flying horizontally 1 km above the ground is observed at an elevation of  $60^\circ$ . If after 10 sec, the elevation is observed to be  $30^\circ$ , then the uniform speed per hour of the aeroplane is :  
(a)  $24\sqrt{3}$  k/h (b)  $8\sqrt{3}$  k/h (c)  $16\sqrt{3}$  k/h (d) None of these
- The angle of elevation of a cliff at a point A on the ground and a point B, 100 m vertically at A are  $\alpha$  and  $\beta$  respectively. The height of the cliff is :  
(a)  $\frac{100 \tan \beta}{\cot \beta - \cot \alpha}$  (b)  $\frac{100 \cot \beta}{\tan \beta - \tan \alpha}$  (c)  $\frac{100 \cot \beta}{\cot \beta - \cot \alpha}$  (d) None of these
- The angle of elevation of the top of a tower at any point on the ground is  $30^\circ$  and moving 200 meters towards the tower it becomes  $45^\circ$ . The height of tower is :  
(a) 10 m. (b)  $100(\sqrt{3} + 1)m$  (c)  $10/\sqrt{3}m$  (d) None of these
- The angle of elevation of the top of two vertical towers as seen from the middle point of the line joining the foot of the towers are  $60^\circ$  and  $30^\circ$  respectively. The ratio of the heights of the towers is :  
(a) 2:1. (b) 3 :1 (c) 3:2 (d) 3 :1
- A person walking along a straight road observes that at two points 1 km. apart, the angles of elevation of a pole in front of him are  $30^\circ$  and  $75^\circ$ . The height of the pole is  
(a)  $200(\sqrt{3} + 1)m$  (b)  $200(\sqrt{3} - 1)m$  (c)  $500(\sqrt{2} + 1)m$  (d)  $500(\sqrt{2} - 1)m$

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Answer Key will be available in next paper.

MCA Entrance Coaching Classes in Kanpur

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# Answer Key Paper 1

01.D	02.B	03.C	04.D	05.B
06.A	07.A	08.A	09.A	10.D

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