108 DAYS ONLINE COACHING - DAY 55 - (09-11-2019~SATURDAY)

TRIGONOMETRY(SPECIAL APPLICATIONS)

NAME OF THE CANDIDATE *

M4

PLACE OF THE CANDIDATE *

PATHANAMTHITTA

WHAT'S APP NO[JOINED IN THE SAI EDUCATION COACHING PLATFORM] *

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https://youtu.be/KWTB-rYDq9c
https://youtu.be/QqKlNL9AwhE

1. From a point 20 m away from the foot of a tower, the angle of elevation of top of a tower is 30 degree. Find the height of the tower? * 1 point

- (●) 11.56 m
- ( ) 12.56 m
- ( ) 15.65 m
- ( ) 10.32 m

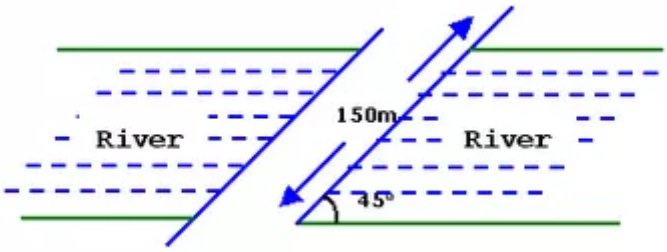
2. An Electric pole is 10 m high. A steel wire tied to the top of the pole is affixed at a point on the ground to keep the pole upright. If the wire makes an angle of 45 degree with the horizontal through the foot of the pole, find the length of the wire? * 1 point

- ( ) 11.14 m
- ( ) 12.14 m
- ( ) 13.14 m
- (●) 14.14 m

3. A balloon is connected to a meteorological ground station by a cable of length 215 m inclined at 60 degree to the horizontal.Determine the height of the balloon from the ground? * 1 point

- ( ) 165 m
- ( ) 181 m
- (●) 186 m
- ( ) 156 m

4. A bridge across a river makes an angle of 45 degree with the river bank(fig). If the length of the bridge across the river is 150 m, what is the width of the river ? * 1 point



- 103.08m
- (●) 106.05 m
- 102.04 m
- 105.06 m

5. The angle of elevation of top of a hill at the foot of a tower is 60 degree and the angle of elevation of top of the tower from the foot of the hill is 30 degree.If the tower is 50 m high what is the height of the hill? * 1 point

- 120 m
- 160 m
- 140 m
- (●) 150 m

6. There is a small island in the middle of a 100 m wide river and a tall tree stands on the island. P and Q are points directly opposite each other on the two banks, and in line with the tree. If the angles of elevation of the top of the tree from P and Q are respectively 30 degree and 45 degree, find the height of the tree? * 1 point

- ○ 27.73 m
- ○ 29 m
- ○ 30 m
- ◉ 36.63 m

7. A flag-staff stands at the top of a 5 m high tower. From a point on the ground , the angle of elevation of the top of the flag-staff is 60 degree and from the same point, the angle of elevation of the top of the tower is 45 degree. Find the height of the flag-staff? * 1 point

- ◉ 3.65 m
- ○ 3.82 m
- ○ 5.73 m
- ○ 5.52 m

8. A vertical tower stands on a horizontal plane and is surmounted by a flag-staff of height 7 m. From a point on the plane, the angle of elevation of the bottom of the flag-staff is 30 degree and that of the top of the flag-staff is 45 degree. Find the height of the tower? * 1 point

- ○ 8.63 m
- ◉ 9.56 m
- ○ 10.65 m
- ○ 8.36 m

9. A circus artist is climbing a 20 m long rope, which is tightly stretched and tied from the top of a vertical pole to the ground.Find the height of the pole, if the angle made by the rope with the ground level is 30 degree? * 1 point

- ○ 8 m
- ○ 12 m
- ○ 20 m
- ◉ 10 m

10. A tree breaks due to a storm and the broken part bends so that the top of the tree touches the ground making an angle of 30 degree with it. The distance between the foot of the tree to the point where the point touches the ground is 8 m. Find the height of the tree? * 1 point

- ◉ 13.85 m
- ○ 12.64 m
- ○ 18.54 m
- ○ 20.32 m

11. A contractor plans to install two slides for the children to play in a park. For the children below the age of 5 years, she prefers to have a slide whose top is at a height of 1 .5 m and is inclined at an angle of 30 degree to the ground, whereas for elder children, she wants to have a steep slide at a height of 3 m and inclined at an angle of 60 degree to the ground. What should be the length of the slide in each case? * 1 point

- ○ 3 m, 1 m
- ○ 1 m, 3 m
- ◉ 3 m,$2\sqrt{3}$ m
- ○ 4 m, $3\sqrt{2}$ m

12.The angle of elevation of top of a tower from a point on the ground, which is 30 m away from the foot of the tower is 30 degree. Find the height of the tower? * 1 point

- (●) $10\sqrt{3}$ m
- ( ) $20\sqrt{3}$ m
- ( ) $30\sqrt{3}$ m
- ( ) $40\sqrt{3}$ m

13. A kite is flying at a height of 60 m above the ground. The string attached to the kite is temporarily tied to a point on the ground. The inclination of the string with the ground is 60 degree. Find the length of the string? * 1 point

- ( ) $10\sqrt{3}$ m
- ( ) $20\sqrt{3}$ m
- ( ) $30\sqrt{3}$ m
- (●) $40\sqrt{3}$ m

14. A TV tower stands vertically on a bank of a canal. From a point on the other bank directly opposite the tower, the angle of elevation of top of a tower is 60 degree. From another point 20 m away from this point on the line joining this foot to the foot of the tower, the angle of elevation of the top of the tower is 30 degree. Find the height of the tower and width of the canal? * 1 point

- (●) $10\sqrt{3}$ m, 10 m
- ( ) $20\sqrt{3}$ m, 10 m
- ( ) $30\sqrt{3}$ m, 5 m
- ( ) $40\sqrt{3}$ m, 5 m

15. The angle of elevation of the top of a tower at a point on the level ground is 30 degree. After walking a distance of 100 m towards the foot of the tower along the horizontal line the angle of elevation to the top of the tower comes to 60 degree. Find the height of the tower? * 1 point

- ○ 60√3 m
- ◉ 50√3 m
- ○ 30√3 m
- ○ 25√3 m

16. An Aeroplane flying at a height of 3125 m from the ground passes vertically below another aeroplane at an instant when the angle of elevation of the two planes from the same point on the ground are 30 degree and 60 degree respectively. Find the distance between two aeroplanes at an instant? * 1 point

- ○ 2250 m
- ○ 3565 m
- ◉ 6250 m
- ○ 1250 m

17. The angle of elevation of a jet plane from a point on the ground is 60 degree. After a flight of 15 seconds the angle of elevation changes to 30 degree. If the jet plane is flying at a constant height of 1500√3 m , find the speed of the jet plane ? * 1 point

- ◉ 200 m/s
- ○ 150 m/s
- ○ 100 m/s
- ○ 300 m/s

18. A 1.5 m tall boy is standing at some distance from a 30 m tall building. The angle of elevation from his eyes to the top of the building increases from 30 degree to 60 degree as he walk towards the building. Find the distance he walked towards the building? * 1 point

- ○ 16√3 m
- ◉ 19√3 m
- ○ 22√3 m
- ○ 17√3 m

19. The angles of elevation of the top of a tower from two points at a distance of 4 m and 9 m from the base of a tower is and in the same straight line with it are complimentary. What is the height of the tower? * 1 point

- ○ 4 m
- ○ 12 m
- ○ 9 m
- ◉ 6 m

20. The angle of elevation of sun when the length of the shadow of a tree is √3 times the height of a tree is * 1 point

- ◉ 30 degree
- ○ 45 degree
- ○ 60 degree
- ○ 90 degree

21. From a point P on a level ground the angle of elevation of the top of a tower is 30 degree. If the tower is 100 m height the distance of point P from the foot of the tower is * 1 point

- (●) 173 m
- ( ) 178 m
- ( ) 172 m
- ( ) 176 m

22. The angle of elevation of a ladder leaning against a wall is 60 degree and the foot of the ladder is 46 m away from the wall. The length of the ladder is * 1 point

- ( ) 4.6 m
- ( ) 8.2 m
- (●) 9.2 m
- ( ) 6.4 m

23. An observer 1.6 m tall is $20\sqrt{3}$ m away from the tower. The angle of elevation of his eye to the top of the tower is 30 degree. The height of the tower is * 1 point

- ( ) 20 m
- (●) 21.6 m
- ( ) 12.3 m
- ( ) 14 m

24. Two ships are sailing in the sea on the two sides of a light house. The angles of elevation of the top of the lighthouse as observed from the two ships are 30 degree and 45 degree respectively. If the lighthouse is 100 m high, the distance between the two ships is * 1 point

- (●) 273 m
- ( ) 100 m
- ( ) 200 m
- ( ) 275 m

25. The angle of elevation of the top of a tower from a certain point is 30 degree. If the observer moves 20 m towards the tower, the angle of elevation of the top of the tower increases by 15 degree. The height of the tower is * 1 point

- (●) 10(√3 + 1) m
- ( ) 20 (√3 + 1) m
- ( ) 15 (√3 + 1) m
- ( ) 30(√3 + 1) m

THANK YOU!!!