

Mathematics ECAT Pre Engineering Chapter 14 Application of Trigonometry Online Test

Sr	Questions	Answers Choice
1	The upper $\frac{3}{4}$ the portion of a vertical pole subtends an angle $\tan^{-1}\frac{3}{5}$ at a point in the horizontal plane through its foot and at a distance 40 m from the foot. A possible height of the vertical pole is	A. 20 m B. 40 m C. 60 m D. 80 m
2	A person standing on the bank of a river observes that the angle of elevation of the top of a tree on the opposite bank of the river is 60° and when he retires 40 meters away from the tree the angle of elevation becomes 30° . The breadth of the river is	A. 40 m B. 30 m C. 20 m D. 60 m
3	Question Image	A. The law of cosines B. The law of sines C. The law of tangents D. None of these
4	A kite flying at a height of 67.2 m is attached to a fully stretched string inclined at an angle of 53° to the horizontal, the length of the string	A. 62m B. 82m C. 73m D. 57m
5	$x = r^2, y = 1$ are the parametric equation of	A. Circle B. Hyperbola C. Ellipse D. Parabola
6	A triangle which is not right is called an _____ triangle	A. Acute B. Obtuse C. Oblique D. None of these
7	The process of finding the unknown elements in triangle is called the	A. solution of the triangle B. Mean difference C. Engineering distance D. angle of depression
8	e-radii are denoted by	A. η B. r_2 C. r_3 D. All of these
9	Question Image	
10	The angle of elevation of the top of a tree from a point 17 meters from its foot is 42° . The height of the tree is	A. 12m B. 21m C. 17m D. 15m
11	A circle passing through the vertices of any triangle is called	A. Circumcircle B. Incircle C. Escribed circle D. Unit circle
12	Question Image	A. R B. 2R C. r D. 2r
13	Area of inscribed circle is	A. πR^2 B. $\pi \eta^2$ C. πr^2 D. πr^2
14	Question Image	

A. $\sin^{-1}\frac{3}{5}$
B. $\tan^{-1}\frac{3}{5}$
C. $\cos^{-1}\frac{3}{5}$
D. $\cot^{-1}\frac{3}{5}$

15 If $\theta = 60^\circ$ then

$\cot \theta = \frac{1}{\tan \theta} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$
C. $\cot 30^\circ = \sqrt{3}$
D. $\sec \theta = \frac{1}{\cos \theta} = \frac{1}{\frac{1}{2}} = 2$

16 An airplane flying at height of 300 meters above the ground passes vertically above another plane at an instant when the angle of elevation of the two planes from the same point on the ground are 60° and 45° respectively. Then the height of the lower plane from the ground is (in meters).

17 Question Image

- A. The law of sines
- B. The law of cosines
- C. The law of tangents
- D. None of these

18 Question Image

19 E-radius corresponding to $\angle B$ is

20 A circle drawn inside a triangle and touching its sides is called

- A. In-circle
- B. Circum circle
- C. Escribed circle
- D. None of these