ECAT Computer Science Entry Test

Sr	Questions	Answers Choice
1	If the elevation of the sun is 30°, then the length of the shadow cast by a tower of 150 ft height is	
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	The upper 3/4 the portion of a vertical pole subtends an angle $\tan^{-1}3/5$ 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
4	A tower subtends an angle α at a point on the same level as the root of the tower and at a second point, b meters above the first, the angle of depression of the foot of the tower is β. The height of the tower is	A. b cotαtanβ B. b tanαtanβ C. b tanαcotβ D. None of these
5	An observer on the top of a cliff 200 m above the sea level, observes the angles of depression of two ships on opposite sides of the cliff to be 45° and 30°, respectively. The distance between the ships if the line joining them points to the base of cliff is	
6	A chimney is such that on walking towards it 50 m in a horizontal line through its base the angular elevation of its top changes from 30° to 45°. The height of the chimney is	
7	A person standing on the bank of a river observes that the angle subtended by a tree of the opposite bank is 60°, when he retreats 40 m from the bank, he finds the angle to be 30°. The height of the tree and the breadth of the river are	
8	The angle of depression of a point situated at a distance of 70 meters from the base of a tower is 45°. The height of the tower is	A. 70 m B. 85 m C. 35 m D. None of these
9	A person standing on the bank of a river finds that the angle of elevation of the top of a tower on the opposite bank is 45°. then which of the following statements is correct?	A. Breadth of the river is twice the height of the tower B. Breadth of the river an the height of the tower are the same C. Breadth of the river is half of the height of the tower D. None of these
10	At a point 15 meters away from the base of a 15 meters high house, the angle of elevation of the top is	A. 90° B. 60° C. 30° D. 45°
11	A tower subtends an angle of 30° at a point distant d from the foot of the tower and on the same level as the foot of the tower. At a second point, h vertically above the firs, the angle of depression of the foot of the tower, is 60°. The height of the tower is	A. h/3 B. h/3d C. 3h D. 3h / d
12	Question Image	A. 30° B. 60° C. 45° D. None of these

13	AB is a vertical pole and C is its middle point. The end A is on the level ground and P is any point on the level ground other than A. the portion CB subtends and angle β at P. If AP : AB = 2 : 1 then β=	
14	The angles of elevation of the top of a tower at the top and the foot of a pole of height 10 m are 30° and 60° respectively. The height of the tower is	A. 10 m B. 15 m C. 20 m D. None of these
15	A man of height 6 ft observes the top of a tower and the foot of the tower at angles of 45° and 30° of elevation and depression respectively. The height of the tower is	
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	Sine is a periodic function and its period is _____	A. π B. s C. 2π D. 4 π
18	Tangent is a periodic function and its period is _____	A. 2π B. 3π C. π D. 4π
19	The period of tan [x/3] is _____	A. 2π B. 4 π C. 3 π D. 5π
20	The period of cosec 10x is _____	
		A. - sinθ B. - tanθ

21	tan (π-θ) = _____	rgb(255, 255, 224);">θ C. - cosθ D. - cotθ
22	The Domain of y = sin x is _____	A. Set of real numbers B. Rational C. Irrational no. D. None of above
23	The range of y = sin x is _____	A. [1, -1] B. [-1, 1] C. [0, -1] D. [-∞+∞]
24	Domain of y = cot x = _____	
25	The range of y = cot x = _____	A. -<i>∞</i>> y > +<i>∞</i> B. -<i>∞</i>> x > +<i>∞</i> C. -<i>∞ <</i>y < +<i>∞</i> D. None of above
26	Domain of tangent function is	
27	The function sine and Cosine have the closed internal as their range	A. [1, 0] B. [-1, 1] C. [0, 1] D. [-1, 2]
28	Period of Cotangent function is	A. π B. -π C. 0 D. -2π
29	Period of Tangent function is	A. 0° B. -π C. <span style="color: rgb(34, 34, 34); font-family: "Times New Roman"; font-size: 24px; text-

		align: center; background-color: rgb(255, 255, 248);">π D. 2π
30	Period of Sine and Cosine function is	A. π B. 2π C. -π D. -2π