

ECAT Computer Science Entry Test

Sr	Questions	Answers Choice
1	The number of values of x in the interval $[0, 5\pi]$ satisfying the equation $3 \sin^2 x - 7 \sin x + 2 = 0$ is	A. 0 B. 5 C. 6 D. 10
2	Question Image	
3	Question Image	
4	$\cot \theta = \sin 2\theta$ if $\theta =$	
5	$\cot \theta = \sin 2\theta$ if $\theta =$	
6	Question Image	
7	Question Image	
8	Question Image	A. No solution B. One real solution C. More than one real solution D. None of these
9	If $4 \sin^2 \theta = 1$, then values of θ are	
10	Question Image	A. 30° B. 45° C. 60° D. 75°
11	The general solution of $\tan 3x = 1$ is	
12	If $\sin A = \sin B$, $\cos A = \cos B$, then the value of A in terms of B is	
13	$\sec^{-1} x =$	A. $\cos^{-1} 1/x$ B. $\operatorname{cosec}^{-1} 1/x$ C. $\cos^{-1} (-x)$ D. $\tan^{-1} x$
14	$\sin^{-1}(-x) =$	A. $\cos^{-1} 1/x$ B. $-\sin^{-1} x$ C. $\cot^{-1} x$ D. None of these
15	$\tan^{-1} 1/x =$ _____	A. $\sin x$ B. $\sec^{-1} x$ C. $\cot^{-1} x$ D. None of these
16	$\sin^{-1}[-1/2] =$ _____	
17	The number of triplets (x, y, z) satisfying $\sin^{-1} x + \cos^{-1} y + \sin^{-1} z = 2\pi$ is	A. 0 B. 2 C. 1 D. Infinite
18	If $\tan^{-1} 3 + \tan^{-1} x = \tan^{-1} 8$, then $x =$	A. 5 B. $1/5$ C. $5/14$ D. $14/5$
19	Question Image	
20	Question Image	
21	Question Image	A. $\frac{\pi}{3}$ B. $\frac{\pi}{4}$ C. $\frac{\pi}{6}$

		D. 0
22	Question Image	A. π B. $\pi / 2$ C. $\pi / 3$ D. $\pi / 4$
23	$\sin[\cot^{-1}\{\cos(\tan^{-1}x)\}]=$	
24	$\tan(\cot^{-1}x)$ is equal to	A. $\cot(\tan^{-1}x)$ B. $\tan x$ C. $\sec x$ D. None of these
25	Question Image	A. $\pi / 4$ B. $\pi / 6$ C. $\pi / 3$ D. 0
26	Question Image	A. $\pi / 3$ B. $\pi / 4$ C. $\pi / 2$ D. π
27	Question Image	A. $16 / 7$ B. $6 / 17$ C. $7 / 16$ D. None of these
28	The solution set of the equation $\tan^{-1}x - \cot^{-1}x = \cos^{-1}(2 - x)$ is	A. $[0, 1]$ B. $[-1, 1]$ C. $[1, 3]$ D. None of these
29	Question Image	A. 2 B. 5 C. 7 D. None of these
30	Question Image	A. 20 B. 10 C. 0 D. None of these