ECAT Pre Engineering Entry Test

Sr	Questions	Answers Choice
1	The number of values of x in the interval [0, 5π] satisfying the equation 3 $\sin^2 x$ - 7 sinx + 2 = 0 is	A. 0 B. 5 C. 6 D. 10
2	Question Image	
3	Question Image	
4	cotθ= sin 2θifθ=	
5	cotθ= sin 2θifθ=	
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$\theta$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⁻¹1/x B. cosec⁻¹1/x C. Cos⁻¹(-x) D. Tan⁻¹x
14	$Sin^{-1}(-x)$=	A. Cos⁻¹1/x B. - Sin⁻¹X C. Cot⁻¹X D. None of these
15	$Tan^{-1}1/x$ = _____	A. sin x B. sec⁻¹X C. cot⁻¹X 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. π / 3 B. π / 4 C. π / 6

		D. 0
22	Question Image	A. π B. π / 2 C. π / 3 D. π / 4
23	$\sin[\cot^{-1}\{\cos(\tan^{-1}x)\}]=$	
24	$\tan(\cot^{-1}x)$ is equal to	A. cot(tan⁻¹x) B. tan x C. secon x D. None of these
25	Question Image	A. π / 4 B. π / 6 C. π / 3 D. 0
26	Question Image	A. π / 3 B. π / 4 C. π / 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