

ECAT Pre Engineering Entry Test

Sr	Questions	Answers Choice
1	Range of $\operatorname{cosec} \theta$ is	A. $W - \{y \mid -1 \leq y \leq 1\}$ B. $R - \{y \mid -1 \leq y \leq 1\}$ C. $O - \{y \mid -1 \leq y \leq 1\}$ D. R
2	Range of $\sec \theta$ is	A. $Z - \{x \mid -1 \leq x \leq 1\}$ B. $W - \{x \mid -1 \leq x \leq 1\}$ C. $R - \{x \mid -1 \leq x \leq 1\}$ D. R
3	Domain of $\operatorname{cosec} \theta$ is	
4	Domain of $\sec \theta$ is	
5	Range of $\cot \theta$ is	A. $(-\infty, \infty)$ B. $(-1, +1)$ C. $(-5, +5)$ D. Set of even numbers only
6	Range of $\tan \theta$ is	A. Set of complex numbers B. Set of real numbers C. Set of odd numbers D. Set of positive integers only
7	Domain of $\cot \theta$ is	
8	Range of $\cos \theta$ is	
9	Range of $\sin \theta$ is	
10	Domain of $\cos \theta$ is	A. Set of odd numbers B. Set of integers C. Set of real numbers D. Set of complex numbers
11	Domain of $\sin \theta$ is	A. Set of real numbers B. Set of complex numbers C. Set of natural numbers D. Set of even numbers
12	Distance between A(3, 8), B(5, 6) is	
13	$\cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$ is true for all	A. $\alpha < \beta$ B. $\alpha > \beta$ C. $\alpha = \beta$ D. None of these
14	$\sin(2\pi - \theta)$	A. $\cos \theta$ B. $\sin \theta$ C. $\tan \theta$ D. $-\sin \theta$

15	Which one is a pair of allied angles	A. $(180^\circ - \theta)$ B. $(180^\circ + \theta)$ C. $(180^\circ + \theta)$ D. None of these
16	$2\pi + \theta$ will have terminal side in Quad	A. I B. II C. III D. IV
17	$\cos 315^\circ =$ _____	
18	$\sec (-360^\circ) =$ _____	A. 0 B. 1 C. 2 D. 3
19	$\tan (-135^\circ) =$ _____ θ	A. 0 B. 1 C. 2 D. 3
20	$\sin 540^\circ =$	A. 0 B. 1 C. 2 D. 3
21	$\cos (180^\circ - \theta) =$	A. $\sin \theta$ B. $-\cos \theta$ C. $-\sin \theta$ D. None of above
22	Express as a sum or difference: $2 \sin 5\theta \cos \theta$	A. $\cos 4\theta$ B. $\sin 4\theta$ C. $\cos 4\theta + \cos 2\theta$ D. $\sin 4\theta$

		34, 34); font-family: "Times New Roman"; font-size: 24px; text-align: center; background-color: rgb(255, 255, 224);"><i>0</i>- sin 2<i>0</i>
23	$\cos(\alpha + \beta) - \cos(\alpha - \beta) =$	A. $-2 \sin \alpha \sin \beta$ B. $2 \sin \alpha \sin \beta$ C. $-2 \sin \alpha \cos \beta$ D. $4 \sin \alpha \cos \beta$
24	$\cos(\alpha + \beta) + \cos(\alpha - \beta) =$	A. $4 \cos \alpha \cos \beta$ B. $2 \cos \alpha \cos \beta$ C. $2 \sin \alpha \sin \beta$ D. $2 \sin \alpha \cos \beta$
25	$\cos^4 \theta - \sin^4 \theta =$	A. $\cos 4\theta$ B. $\cos 2\theta$ C. $-\sin 2\theta$ D. $\sin 2\theta$
26	$\sin^2 \alpha \cos^2 \alpha =$	A. -1 B. 0 C. 1 D. None of these
27	If $\cos \alpha = 4/5$, then $\cos \alpha/2$	
28	$\tan \theta/2$	

29

 $\sin 2\alpha =$

30

 $\cos 2\alpha =$

- A. $1 - 2 \sin^2 \alpha$
- B. $\sin^2 \alpha + \cos^2 \alpha$
- C. $\sin^2 \alpha - \cos^2 \alpha$
- D. None of these