

Mathematics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	$\cos 2\alpha =$	A. $1 - 2 \sin^2 \alpha$ B. $\sin^2 \alpha + \cos^2 \alpha$ C. $\sin^2 \alpha - \cos^2 \alpha$ D. None of these
2	$\sin(\alpha + \beta) - \sin(\alpha - \beta) =$	A. $4 \cos \alpha \sin \beta$ B. $2 \cos \alpha \sin \beta$ C. $4 \cos \alpha \cos \beta$ D. $4 \sin \alpha \sin \beta$
3	$\sin(\alpha + \beta) + \sin(\alpha - \beta)$	A. $2 \sin \alpha \cos \beta$ B. $\sin 2\alpha \cos \beta$ C. $\sin \alpha \cos \beta$ D. None of these

$$\sin (\alpha -\beta)=$$

$$\sin (\alpha + \beta) =$$

rgb(255, 255, 224);"><i>α</i>
<cos<i style="text-align: center;">β</i> cos<i style="text-align: center;">α</i><sin<i>β</i>
B. sin<i>α</i>
<cos<i style="text-align: center;">β</i>+ cos<i style="text-align: center;">α</i><sin<i>β</i>
C. sin<i>α</i>
<cos<i style="text-align: center;">α</i> cos<i style="text-align: center;">β</i><sin<i>β</i>
D. sin<i>α</i>
<cos<i style="text-align: center;">α</i> cos<i style="text-align: center;">β</i><sin<i>β</i>

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		C. $\sin$<i>α</i> $\cos$<i>α</i> $\sin$<i>β</i> D. $\sin$<i>β</i> $\cos$<i>α</i> $\cos$<i>β</i> $\sin$<i>β</i>
6	$\tan 2\theta =$	
7	$\cos \theta/2 =$	
8	$\sin \alpha =$	A. $2 \sin$<i>α</i> $\cos$<i>α</i> B. $2 \sin$<i>α</i> $\cos$<i>β</i> C. $2 \sin$<i>$\alpha/2$</i> $\cos$<i>$\alpha/2$</i> D. $1 + \tan^2$<i>$\alpha/2$</i>
9	$\sin(180^\circ - \theta) =$	A. $\cos$<i>θ</i> B. $-\cos$<i>θ</i> C. $\tan$<i>θ</i> D. $\sin$<i>θ</i>
		A. $\sin^2$<i>α</i> $+$ $\cos^2$<i>α</i>

10	$\cos 2\alpha =$	family: &quot;Times New Roman&quot;; font-size: 24px; text-align: center; background-color: rgb(255, 255, 224);"><i>α</i> B. $-\cos$<i>θ</i> C. $\tan$<i>θ</i> D. None of these
11	Question Image	A. $-\sin$<i>θ</i> B. $\cos$<i>θ</i> C. $\sin$<i>θ</i> D. $-\cos$<i>θ</i>
12	$\tan(\alpha - \beta) =$	
13	Fundamental law is	
14	Let P(x ₁ , y ₁) and Q(x ₂ , y ₂) be two points in the co-ordinate plane. Let d = distance between P and Q	
15	Question Image	A. G.P B. H.P. C. A.P. D. No particular sequence
16	$\tan 3x \tan 2x - \tan x$ is equal to	A. $\tan x \tan 2x \tan 3x$ B. $-\tan x \tan 2x \tan 3x$ C. $\tan x \tan 2x - \tan x \tan 3x - \tan 2x \tan 3x$ D. None of these
17	The value of the expression $3 \cos \theta + 4 \sin \theta$ lies between	A. -7 and 7 B. -25 and 25 C. -1 and 1 D. -5 and 5
18	The value of the expression $\sin \theta + \cos \theta$ lies between	
19	Question Image	
20	Question Image	
21	Question Image	
22	Question Image	A. 45° B. 30° C. 75° D. 60°
23	The value of $\sin 28^\circ \cos 17^\circ + \cos 28^\circ \sin 17^\circ$ is	
24	If $\sin A = \cos A$, $0^\circ < A < 90^\circ$ then A is equal to	A. 1 B. 1/2 C. 0 D. None of these
25	The value of $\sin^2 20^\circ + \sin^2 70^\circ$ is equal to	A. 1 B. 2 C. -1 D. 1/2
		A. 1 B. 0

26	Sin 50°-sin 70°+sin 10° is equal to	C. 1/2 D. 2
27	Question Image	A. Right angled B. Obtuse angled C. Isosceles D. Equilateral
28	The maximum value of sin x + cos x is	
29	The maximum value of $12 \sin \theta - 9 \sin^2 \theta$ is x	A. 3 B. 4 C. 5 D. None of these
30	The maximum value of $12 \sin \theta - 9 \sin^2 \theta$ is x	A. 3 B. 4 C. 5 D. None of these