

ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	$3j \cdot k \times i$	A. 0 B. 1 C. 3 D. 9
2	The first three terms in the expansion of $(1 + x)^{-2}$ are _____	A. $1 - 2x + 3x^2$ B. $1 - 2x - 3x^2$ C. $1 + 2x + 3x^2$ D. $-2 - 2x + 3x^2$
3	If $ a \times b ^2 + (a, b)^2 =$ _____	A. $ a ^2 + b ^2$ B. $ a ^2 - b ^2$ C. $ a ^2 b ^2$ D. None
4	If $a = 5i + 2j$, then $ a =$	A. $\sqrt{13}$ B. $\sqrt{7}$ C. $1/\sqrt{13}$ D. $\sqrt{29}$
5	Question Image	A. $Y = -x \log x - x + c$ B. $Y = x \log x + x$ C. $Y = x \log x - x + c$ D. None of these
6	If $B \subseteq A$, then complement of B in A is = _____	A. A-B B. $A \cap B$ C. B-A D. AUB
7	If A is any matrix then its additive inverse is	A. A B. $A^{\sup>-1\sup>}$ C. $A^{\sup>t\sup>}$ D. -A
8	Question Image	A. Associative law of addition B. Commutative law of addition C. Additive identity D. Closure law of addition
9	For ≥ -2 , $1+3+5+\dots+(2n+5)$	A. $(n+2)^2$ B. $(n-2)^2$ C. $2n+1$ D. $(n+3)^2$
10	If α, β are non-real roots of $ax^2 + bx + c = 0$ ($a, b, c \in \mathbb{Q}$), then	A. $\alpha = \beta$ B. $\alpha\beta = 1$ C. $\alpha = \beta$ D. $\alpha = 1$
11	Question Image	A. Free vector B. Null vector C. Unit vector D. None of these
12	Question Image	
13	Question Image	
14	$\sin \alpha =$	A. $2 \sin \alpha \cos \alpha$ B. $2 \sin \alpha \cos \alpha$ C. $2 \sin \alpha \cos \alpha$ D. $2 \sin \alpha \cos \alpha$

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rgb(255, 255, 224);"></a></i>
</span><cos<span style="color:
rgb(34, 34, 34); font-family:
"Times New Roman"; font-
size: 24px; text-align: center;
background-color: rgb(255, 255,
224);"></i></span>
C. 2 sin<i style="text-align:
center;"></i>2 cos<i style="text-
align: center;"></i>2
D. 1 + tan<sup>2</sup><i style="text-
align: center;"></i>2
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15	Question Image	
16	The 31 term of the A.P 5,2,-1.....is	A. -82 B. 82 C. 85 D. -85
17	In the function $f: A \rightarrow B$, the elements of A are called	A. Images B. Pre-images C. ranges D. Parameters
18	If the expansion of $(1 + x)^{20}$, then co-efficient of r th and $(r + 4)$ th term are equal, then r is	A. 7 B. 8 C. 9 D. 10
19	The value of $\sin 28^\circ \cos 17^\circ + \cos 28^\circ \sin 17^\circ$ is	
20	Derivative of $\sin x$ w.r.t. $\sin x$ is	A. 0 B. 1 C. $\sin x$ D. $\cos x$