

ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	$f(x) = ax + b$ will be a constant function if	A. $a = 1, b = 1$ B. $a = 1, b = 0$
2	$(2.02)^4$ is equal to	A. 16 B. 16.6496 C. 17 D. 18
3	The set X is	A. Proper Subset of X B. Not A subset of X C. Improper Subset of X D. None of these
4	$(x-1)$ is a factor of	A. $2x^3 - 3x^2 + 9$ B. $2x^3 - 5x - 8$ C. $48x^2 - 46x - 9$ D. $x^9 - 1$
5	Question Image	A. π B. 2π C. π/2 D. None of these
6	A and B be two square matrices and if their inverse exist the $(AB)^{-1} =$	A. $A^{-1} B^{-1}$ B. AB^{-1} C. $A^{-1} B$ D. $B^{-1} A^{-1}$
7	If A, G, H are the arithmetic, geometric and harmonic means between a and b respectively then A, G, H are in	A. A, P. B. G, P. C. H, P. D. None of these
8	The direction cosines of a line equally inclined with co-ordinate axes are	
9	Question Image	A. $A = C$ B. $A = B$ C. $B = C$ D. None of these
10	$\tan 30^\circ =$ _____	
11	The Domain of $y = \sin x$ is _____	A. Set of real numbers B. Rational C. Irrational no. D. None of above
12	$1 + 3x + 6x^2 + 10x^3 + \dots =$	A. $(1+x)^3$ B. $(1-x)^2$ C. $(1-x)^3$ D. $(1+x)^2$
13	If n is a positive integer then n! is	A. $(n-1)(n-2) \dots 3, 2, 1$ B. $n(n-1)(n-2) \dots 3, 2, 1$ C. $n(n-1)(n-2) \dots 3$ D. None of these
14	Question Image	
15	Question Image	A.
16	The equation $x^2 + y^2 - 8x + 6y + 25 = 0$ represents	A. A circle B. A pair of straight lines C. A point D. None of these
17	The first three terms in the expansion of $(1-x)^{-3}$ are	A. $1 + 3x + 6x^2$ B. $1 - 3x + 6x^2$ C. $-3 - 3x - 6x^2$

$C. \frac{b}{2} - 3x - 6x^2$
 $D. 1 - 3x - 6x^2$

18

A tower subtends an angle α at a point on the same level as the root of the tower and at a second point, b meters above the first, the angle of depression of the foot of the tower is β . The height of the tower is

- A. $b \cot \alpha \tan \beta$
 B. $b \tan \alpha \tan \beta$
 C. $b \tan \alpha \cot \beta$
 D. None of these

19

Question Image

20

Question Image