

ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	There are 25 tickets bearing number from 1 to 25. One ticket is drawn at random. The probability that the number on it is a multiple of 5 or 6 is	A. 7 / 25 B. 9 / 25 C. 11 / 25 D. None of these
2	The multiplicative inverse of -1 in the set $\{1, -1\}$ is	A. 1 B. -1 C. ± 1 D. 0 E. Does not exist
3	Second derivative of $y = x^9 + 10x^2 + 2x - 1$ at $x = 0$ is	A. 10 B. 20 C. 12 D. 1
4	$a_n - a_{n-1}$ will be common difference in an A.P if	A. $n = 1 \forall n \in \mathbb{N}$ B. $n \geq 1 \wedge n \in \mathbb{N}$ C. $n \in \mathbb{Z}$ D. None of the above
5	The angles of elevation of the top of a tower at the top and the foot of a pole of height 10 m are 30° and 60° respectively. The height of the tower is	A. 10 m B. 15 m C. 20 m D. None of these
6	There is no integer n for which 3^n is	A. Odd B. even C. Natural D. Prime
7	Question Image	
8	A function $F(x)$ is called even if	A. $F(x) = F(-x)$ B. $F(x) = F(-x)$ C. $F(x) = -F(x)$ D. $2F(x) = 0$
9	Out of 40 consecutive natural numbers, two are chosen at random. Probability that the sum of the numbers is odd, is	A. 14 / 29 B. 20 / 39 C. 1 / 2 D. n
10	Question Image	A. Identity matrix B. Diagonal matrix C. Null matrix D. Hermitian matrix
11	In a triangle ABC, if angle $A = 72^\circ$, angle $B = 48^\circ$ and $c = 9$ cm then $\hat{C}$ is	A. $\text{69^\circ}$ B. $\text{66^\circ}$ C. 60° D. $\text{63^\circ}$
12	A combination lock on a suitcase has 3 wheels each labeled with nine digits from 1 to 9. If an opening combination is a particular sequence of three digits with no repeats, the probability of a person guessing the right combination is	A. 1 / 500 B. 1 / 504 C. 1 / 252 D. 1 / 250
13	Question Image	A. 0 B. 90° C. 180° D. 360°
14	The angle between the vectors $\underline{u} = [-3, 5]$ and $\underline{v} = [6, -2]$ is:	A. $\pi/2$ B. $-3\pi/2$ C. π D. None of these
15	Question Image	A. Principle of equality of fractions B. Rule for product of fractions C. Golden rule for fractions D. Rule for division of fractions

16	The set of integer is	A. Finite group B. A group w.r.t addition C. A group w.r.t multiplication D. Not a group
17	The direction cosines of a line equally inclined with co-ordinate axes are	
18	The probability that a person A will be alive 15 years hence is $\frac{5}{7}$ and the probability that another person B will be alive 15 years hence is $\frac{7}{9}$. Find the probability that both will be alive 15 years hence	A. $\frac{4}{63}$ B. $\frac{5}{9}$ C. $\frac{45}{49}$ D. None of these
19	$3.5+5.4=5.4+3.5=8.9$ this property of addition is called	A. additive identity B. associative property C. commulative property D. closure property
20	Question Image	