

ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	Z is the set of integers ($\mathbb{Z}$) is a group with $a * b = a + b + 1$, $a, b \in \mathbb{Z}$. then inverse of a is	A. -a B. a + 1 C. -1-a D. None of these
2	The points A(+1,-1),B(3,0),C(3,7),D(1,8) are vertices of	A. Square B. Parallelogram C. Rectangle D. Trapezium
3	$x^2 + x - 6 = 0$ is a conditional equation and it is true for	A. 2, 3 B. 2, -3 C. -2, -3 D. -2, 3
4	Decimal part of irrational number is	A. Terminating B. Repeating only C. Neither repeating nor terminating D. Repeating and terminating
5	If α, β are the roots of the equation $x^2 - 8x + p = 0$ and $\alpha^2 + \beta^2 = 40$, then value of p is	A. 8 B. 12 C. 10 D. 14
6	In $\triangle ABC$ if $\gamma = 90^\circ$ then the Pythagoras theorem is	A. $b^2 + c^2 = a^2$ B. $a^2 + b^2 = c^2$ C. $a^2 + c^2 = b^2$ D. None of these
7	Question Image	A. Trichotomy property B. Additive property of inequality C. Transitive property D. Multiplicative property
8	$\sec h x =$ _____	
9	Question Image	A. 405 / 256 B. 504 / 259 C. 450 / 263 D. None
10	Which term of the A.P 5,8,11,14,..... is 320	A. 104th B. 106th C. 105th D. 64th
11	In set builder notation the set $\{0,1,2,\dots,100\}$ can be written as	A. $\{x / x \in \mathbb{N} \wedge x \leq 100\}$ B. $\{x / x \in \mathbb{W} \wedge x \leq 101\}$ C. $\{x / x \in \mathbb{Z} \wedge x \leq 101\}$ D. The set of first 100 whole numbers
12	Period of Sine and Cosine function is	A. <i>π</i> B. <i>2π</i> C. <i>π</i> D. <i>2π</i>

align: center; background-color: rgb(255, 255, 248);"><i>π</i>

13	The set $(\mathbb{Z}, +)$ forms a group	A. Forms a group w.r.t addition B. Non commutative group w.r.t multiplication C. Forms a group w.r.t multiplication D. Doesn't form a group
14	Question Image	
15	Question Image	C. $\ln f(x) + c$ D. $f(x) - c$
16	The law of cosines reduces to $a^2 + c^2 = b^2$ for	A. $\alpha = 90^\circ$ B. $\beta = 90^\circ$ C. $\gamma = 90^\circ$ D. $\alpha + \beta + \gamma = 180^\circ$
17	If 2 and 2 are x and y components of vector then its angle with x-axis is	A. 30° B. 45° C. 60° D. 90°
18	If $z_1 = 2 + 6i$ and $z_2 = 3 + 7i$ then which expression defines the product of z_1 and z_2	A. $36 + (-32)i$ B. $-36 + 32i$ C. $6 + (-11)i$ D. $0, +(-12)i$
19	If n is add the expansion $(a + x)^n$ has middle terms	A. 2 B. 3 C. 4 D. 5
20	The set of complex numbers forms a group under the binary operation of	A. Addition B. Multiplication C. Division D. Subtraction