

## ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	Question Image	
2	Question Image	A. 3, -3, 11 B. 3, 3, 11 C. -3, 3, -11 D. -3, -3, 11
3	Question Image	
4	Question Image	A. $a^2 + b^2 + c^2$ B. $4a^2 + b^2 + c^2$ C. $4abc$ D. None
5	Question Image	
6	Question Image	A. 1 B. -1 C. 0 D. I
7	Let A be a square matrix. Then, $\frac{1}{2} (A - A')$ is	A. Skew-symmetric B. Symmetric C. Null D. None of the above
8	If A is a skew-symmetric matrix of order n and P, any square matrix of order n, prove that $P'AP$ is	A. Skew-symmetric B. Symmetric C. Null D. Diagonal
9	$(ABC)' =$	A. $CBA'$ B. $CBA$ C. $C' B' A'$ D. None of these
10	Question Image	A. 1 B. 0 C. -1 D. 2
11	Question Image	A. 1 B. 0 C. 3 D. -1
12	Question Image	A. -3 B. -7 C. 1 D. 0
13	Question Image	A. $A^2 - 5A + 7I = 1$ B. $2A^2 - 3A + 7I = 0$ C. $A^2 - 5A + I = 0$ D. $A^2 - 5A + 7I = 0$
14	Question Image	
15	Question Image	
16	Question Image	A. $a = 2, b = 3$ B. $a = 3, b = 2$ C. $a = 2, b = 1, 2$ D. $a = 3, b = 3$
17	Power set of X i.e $P(X)$ _____ under the binary operation of union $\cup$	A. Forms a group B. Does not form a group C. Has no identity element D. Infinite set although X is infinite

A. True

18	The statement that a group can have more than one identity elements is	<p>B. False</p> <p>C. Ambiguous</p> <p>D. Some times true</p>
19	The set $\{Z \setminus \{0\}\}$ is group w.r.t	<p>A. Addition</p> <p>B. Multiplication</p> <p>C. Division</p> <p>D. Subtraction</p>
20	The set $R$ is _____ w.r.t subtraction	<p>A. Not a group</p> <p>B. A group</p> <p>C. No conclusion drawn</p> <p>D. Non commutative group</p>
21	The set $\{1, -1, i, -i\}$	<p>A. Form a group w.r.t addition</p> <p>B. Form a group w.r.t multiplication</p> <p>C. Does not form a group w.r.t multiplication</p> <p>D. Not closed under multiplication</p>
22	The set of complex numbers forms	<p>A. Commutative group w.r.t addition</p> <p>B. Commutative group w.r.t multiplication</p> <p>C. Commutative group w.r.t division</p> <p>D. Non commutative group w.r.t addition</p>
23	The multiplicative inverse of $-1$ in the set $\{1, -1\}$ is	<p>A. 1</p> <p>B. <math>-1</math></p> <p>C. <math>+ -1</math></p> <p>D. 0</p>
24	The set $\{-1, 1\}$ is	<p>A. Group under the multiplication</p> <p>B. Group under addition</p> <p>C. Does not form a group</p> <p>D. Contains no identity element</p>
25	Question Image	<p>A. Addition</p> <p>B. Multiplication</p> <p>C. Division</p> <p>D. Both addition and multiplication</p>
26	The set of integer is	<p>A. Finite group</p> <p>B. A group w.r.t addition</p> <p>C. A group w.r.t multiplication</p> <p>D. Not a group</p>
27	To each element of a group there corresponds _____ inverse element	<p>A. Two</p> <p>B. One</p> <p>C. No</p> <p>D. Three</p>
28	The function $f\{(x, y) \mid y = ax^2 + bx + c\}$ is	<p>A. One-one function</p> <p>B. Constant function</p> <p>C. Onto function</p> <p>D. Quadratic function</p>
29	The graph of a quadratic function is	<p>A. Circle</p> <p>B. Straight line</p> <p>C. Parabola</p> <p>D. Triangle</p>
30	A function whose range is just one elements is called	<p>A. One-one function</p> <p>B. Constant function</p> <p>C. Onto function</p> <p>D. Identity function</p>