ECAT Mathematics Online Test

Sr	Questions	Answers Choice
1	If A and B are two matrices such that AB = B and BA =A, then $A^2 + B^2 =$	A. 2 AB B. 2 BA C. A + B D. AB
2	Question Image	
3	Question Image	A. 3, -3, 11 B. 3, 3, 11 C. -3, 3, -11 D. -3, -3, 11
4	Question Image	
5	Question Image	A. a²b²c² B. 4a²b²c² C. 4abc D. None
6	Question Image	
7	Question Image	A. 1 B. -1 C. 0 D. I
8	Let A be a square matrix. Then, 1/2 (A-A') is	A. Skew-symmetric B. Symmetric C. Null D. None of the above
9	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
10	(ABC)' =	A. CBA' B. CBA C. C' B' A' D. None of these
11	Question Image	A. 1 B. 0 C. -1 D. 2
12	Question Image	A. 1 B. 0 C. 3 D. -1
13	Question Image	A. -3 B. -7 C. 1 D. 0
14	Question Image	A. A²- 5A + 7I = 1 B. 2A²- 3A + 7I = 0 C. A²- 5A + I = 0 D. A²- 5A + 7I = 0
15	Question Image	
16	Question Image	
17	Question Image	A. a = 2, b = 3 B. a = 3, b = 2 C. a = 2, b = 1, 2 D. a = 3, b = 3
		A. Forms a group

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