

ECAT Pre Engineering Entry Test

Sr	Questions	Answers Choice
1	The set of the first elements of the orders pairs forming a relations is called its	A. Relation in B B. Range C. Domain D. Relation in A
2	If $#n = (n-5)^2 + 5$, then find $#3 \times #4$.	A. 54 B. 12 C. 4 D. 9
3	Question Image	
4	The set $\{ \{a, b\} \}$ is	A. Infinite set B. Singleton set C. Two points set D. Empty set
5	Question Image	A. Singleton set B. A set with two points C. Empty set D. None of these
6	Φ set is the _____ of all sets?	A. Subset B. Union C. Universal D. Intersection
7	In a country, 55% of the male population has houses in cities while 30% have houses both in cities and in village. Find the percentage of the population that has house only in villages.	A. 45 B. 30 C. 25 D. 50
8	Decimal part of irrational number is	A. Terminating B. Repeating only C. Neither repeating nor terminating D. Repeating and terminating
9	Multiplicative inverse of 0 is	A. 0 B. 1 C. ± 1 D. Does not exist
10	The identity elements with respect to subtraction is	A. 0 B. 1 C. -1 D. Does not exist
11	Question Image	A. -x B. Infinite set C. $\{-4, 4\}$ D. None of these
12	Question Image	A. $1/x$ B. -x C. 2x D. 0.5 x
13	Additive inverse of -a -b is	A. a B. -a + b C. a - b D. a + b
14	If a set S contains "n" elements then P (S) has number of elements	A. 2^{n+1} B. 2^{n-1} C. $2 \cdot n$ D. n^2
15	Multiplicative inverse of "1" is	A. ± 1 B. 0 C. 1 D. None of these
16	The set $\{-1, 1\}$ is closed under the binary operation of	A. Addition B. Multiplication C. Subtraction

17	Question Image	
18	The total number of subsets that can be formed out of the set $\{a, b, c\}$ is	A. 1 B. 4 C. 8 D. 12
19	Question Image	A. $A = B$ B. $B = C$ C. $A = C$ D. None of these
20	Question Image	A. 1 B. 12 C. 5 D. 29
21	Question Image	A. 3 B. 1 C. 2 D. 4
22	In set builder notation the set $\{0, 1, 2, \dots, 100\}$ can be written as	
23	Question Image	A. A B. B C. A' D. None of these
24	For any set B, $B \cup B'$ is	A. Is set B B. Set B' C. Universal set D. None of these
25	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
26	The set $(\mathbb{Q}, \cdot)$	A. Forms a group B. Does not form a group C. Contains no additive identity D. Contains no additive inverse
27	The statement that a group can have more than one identity elements is	A. True B. False C. Fallacious D. Some times true
28	The set of all positive even integers is	A. Not a group B. A group w.r.t. subtraction C. A group w.r.t. division D. A group w.r.t. multiplication
29	The set $\{1, -1, 1, -1\}$, form a group under	A. Addition B. Multiplication C. Subtraction D. None
30	The multiplicative inverse of -1 in the set $\{1, -1\}$ is	A. 1 B. -1 C. 0 D. Does not exist