

ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	$G = \{e, a, b, c\}$ is an Abelian group with e as identity element The order of the other elements are	A. 2,2,2 B. 3,3,3 C. 2,2,4 D. 2,3,4
2	Question Image	
3	The tangents drawn from the point P to a circle are imaginary if	A. P is on the circle B. P is inside the circle C. P is outside the circle D. none of these
4	Question Image	
5	Question Image	
6	Question Image	
7	The principal value of $\sin^{-1}(\sqrt{3}/2)$ is	A. $-\pi/3$ B. $\pi/3$ C. $2\pi/3$ D. $\pi/2$
8	$1, 1/3, 1/5, 1/7, 1/9, \dots$ is a	A. geometric sequence B. finite sequence C. infinite sequence D. arithmetic series
9	The radian measure of the central angle of an arc 50 m long on a circle of radius 25 m is	A. 3 B. 2 C. 1
10	The slope of the normal at the point $(at^2, 2at)$ of the parabola $y^2 = 4ax$ is	A. $1/t$ B. t C. $-t$ D. $-1/t$
11	In a school, there are 150 students. Out of these 80 students enrolled for mathematics class, 50 enrolled for English class, and 60 enrolled for Physics class. The students enrolled for English cannot any other class, but the students of mathematics and Physics can take two courses at a time. Find the number of students who have taken both physics and mathematics	A. 40 B. 30 C. 50 D. 20
12	If A and B are skew-symmetric then $(AB)^t$ is	A. $A^t B^t$ B. AB C. $-AB$ D. BA
13	The proposition $S(n)$ is true $\forall n \in \mathbb{N}, S(k+1)$ true when _____ is true	A. $S(1)$ B. Both a & c C. $S(k)$ D. None
14	A die is thrown, the probability that the dots on the top are prime numbers or odd numbers is	A. $1/2$ B. $2/3$ C. $1/3$ D. $2/5$
15	If $ab > 0$ and $a < 0$, which of the following is negative?	A. b B. $-b$ C. $-a$ D. $(a - b)^2$
16	Given X, Y are any two sets such that number of elements in $X = 18$, number of elements in set $Y = 24$, and number of elements in set $X \cup Y = 40$, then number of elements in set $X \cap Y =$	A. 3 B. 1 C. 2 D. 4
17	Question Image	D. none of these
18	Question Image	
19	Two cards are drawn at random without replacement. the probability that the first is a king	A. $48 / 663$ B. $24 / 663$

19

and second is not a king is

C. 12 / 663
D. None of these

20

The surface generated by lines, consists of two parts, called:

A. vertex
B. apex
C. nappes
D. axis