

Mathematics ECAT Pre Engineering Chapter 10 Mathematical Inductions Online Test

Sr	Questions	Answers Choice
1	The last term of $(1+2x)^{-2}$	A. $(-1)^{-2} (2x)^{-2}$ B. $(-1)^{-4} (-2x)^{-2}$ C. $(-1)^{-3} (2x)^{-3}$ D. Does not exist
2	For every positive integers n $1+5+9+\dots+(4n-3)$ is	A. $n(2n-1)$ B. $(2n-1)$ C. $n-1$ D. n
3	The number of terms in the expansion of $(a+x)^{12}$ is	A. 13 B. 12 C. 11 D. 10
4	If n is positive integers, then $2^n > 2n+1$, only when	A. $n \leq 3$ B. $n \geq 3$ C. $n \leq 2$ D. $n \leq 1$
5	Question Image	A. 8 B. 9 C. 10 D. 11
6	The coefficient of x^{10} in the expansion $(x^3+3/x^2)^{10}$ is	A. 1700 B. 17023 C. 17027 D. 17010
7	Question Image	A. $n \leq 8/5$ B. $n \leq 5/8$ C. $ n \leq 8/5$ D. $ n \geq 8/5$
8	Question Image	A. 28 / 81 B. 28 / 243 C. 81 / 28 D. 243 / 82
9	$a+x$ is _____	A. A trinomial B. A binomial C. A monomial D. None of these
10	The fifth term of $(a+2x^3)^{17}$ is	A. $4013 x^3 a^{13}$ B. $2208 a^{13} x^{12}$ C. $223 x^7 a^{18}$ D. $38080 a^{13} x^{12}$
11	If the expansion of $(1+x)^{20}$, then co-efficient of rth and $(r+4)$ th term are equal, then r is	A. 7 B. 8 C. 9 D. 10
12	$7^{2n+3n-1} \cdot 2^{3n-3}$ is divisible by	A. 24 B. 25 C. 9 D. 13
13	The middle term of $[1/x-x]^{10}$ is	A. -152 B. -252 C. 371 D. -421
14	The sum of co-efficient in $(1+x-3x^2)^{4163}$ is	A. 0 B. 1 C. -1 D. None
15	$n^2 - 1$ divisible by 8 when n is	A. an odd integer B. an even integer C. Irrational D. Prime Number

16	For ≥ -2 , $1+3+5+\dots+(2n+5)$	A. $(n+2)^2$ B. $(n-2)^2$ C. $2n+1$ D. $(n+3)^2$
17	The middle term(s) of $(a+x)^{11}$ is	A. 6th term B. 6th or 7th C. 7th term D. 6th and 7th
18	If a statement $S(n)$ is true for $n = i$ where i is some natural number and the truth of $S(n)$ for $n = k > i$ implies the truth of $S(n)$ for $n = k + 1$ then $S(n)$ is true for all positive integers	
19	The sum of the coefficient in the expansion of $(a + x)^5$ is	A. 32 B. 16 C. 8 D. 5
20	The 7th term of $(3^8 + 6^4x)^{11/4}$ is	A. $-19217/3 x^6$ B. $189/2 6^4 x^4$ C. $2227/12 x^3$ D. $-19712/3 x^6$