

ECAT Mathematics Chapter 10 Mathematical Inductions

Sr	Questions	Answers Choice
1	If $n \in N$, then $n(n+3)$ is always	A. Multiple of 3 B. Multiple of 6 C. odd D. even
2	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd term B. 3rd term C. 4th term D. 5th term
3	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	
4	The coefficient of xn in the expansion of (1-2x)-1 is	A. (-1)n2n B. 2n C. (-1)(n+1)xr D. (n+1)2n
5	The first three terms in the expansion of $(1 - x)^{-2}$ are	A. 1 - 2x + 3x ² B. 1 - 2x - 3x ² C. 1 + 2x + 3x ² D2 - 2x +3x ²
6	The first three terms in the expansion of $(1 - x)^{-1}$ are	A. 1 + x + x ² B. 1 - x - x ² C1 -x +x ² D. 1 - x + x ²
7	(x3-1/x)12	A. 295 B. 495 C. 395 D. 722
8	(0.90) ^{1/2} is equal to	A. 0.99 B. 0.90 C. 0.80 D. 0.88
9	There are two middle terms in the expansion of (a+x)n if n is	A. Even +ve integer B. +ve integer C. Odd +ve integer D. All
		A. 28 / 81
10	Question Image	B. 28 / 243 C. 81 / 28
		D. 243 / 82
11	If in the expansion of $(1+x)^n$, co-efficients of 2nd, 3rd and 4th terms are in A.P., then $x=$	A. 4 B. 5 C. 6 D. 7
12	The positive integer just greater than (1+0.0001) ¹⁰⁰⁰⁰ is	A. 4 B. 5 C. 2 D. 3
13	The third term in the expansion of (1+2x) is	A2x2 B4x2 C. 2x2 D. 4x2
14	The exponent of x in 10th term in the expansion of (a+x)n	A. 10 B. 12 C. 11
15	The number of terms in the expansion of $(a + b)^9$ is	A. 10 B. 11 C. 9 D. 12
16	If n is any positive integer then 4 ⁿ >3 ⁿ + 4 is true for all	

17	(1 + 2x) ⁴ =	A. 1 + 4x + 6x ² + 4x ³ + x ⁴ B. 1 - 4x + 6x ² - 4x ³ + x ⁴ C. 1 - 8x + 24x ² - 32x ³ + 16x ⁴ D. 1 + 8x + 24x ² + 32x ³ + 32x ³ +
18	Question Image	A. 405 / 256 B. 504 / 259 C. 450 / 263 D. None
19	If the expansion of $(1 + x)^{20}$, then co-efficient of rth ad $(r + 4)$ th term are equal, then r is	A. 7 B. 8 C. 9 D. 10
20	The sum of first n even number is	A. n2 B. n(n+1) C. n+1 D. n+2