

Mathematics ECAT Pre Engineering Chapter 10 Mathematical Inductions Online Test

Sr	Questions	Answers Choice
1	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
2	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
3	The first three terms in the expansion of $(1 - x)^{-3}$ are	A. 1 + 3x + 6x ² B. 1 - 3x + 6x ² C3 - 3x - 6x ² D. 1 - 3x - 6x ²
4	The term independent of x is the expansion $(x^3+1/x)^{12}$	A. 295 B. 495 C. 395 D. 722
5	The expansion (1 + x) ⁻³ holds when	A. x > 1 B. x < 1 C. x < 1 D. x > 1
6	The sum even binomial coefficient of (3+2x)5 isterm	A. 16 B. 30 C. 8 D. 32
7	The coefficient of x^{10} in the expansion $(x^3+3/x^2)^{10}$ is	A. 1700 B. 17023 C. 17027 D. 17010
8	If $ x < 1$, then the first two terms of $(1 - x)^{1/2}$ are	
9	The middle term of the expansion (1 + 2x) ⁶ is	A. 1st term B. 4th term C. 2nd term D. 5th term
10	If nis positive integers, then 2 ⁿ >2n+1, only when	A. n≤ 3 B. n≥ 3 C. n≤ 2 D. n≤ 1
11	If $(1+x-2x^3)^6 = 1+a_1x + a_2x^2 + a_3x^3 + \dots$ the the value of $a_2 + a_4 + a_6 + \dots + a_{12}$ will be	A. 32 B. 31 C. 64 D. 1024
12	If n∈Z+ then(a+x)n is a/an	A. Finite series B. Convergent series C. Infinite series D. Divergent series
13	The sum of even coefficient in the binomial expansion is	A. 2 ⁿ⁺¹ B. 2 ⁿ C. 2 ⁿ⁻¹ D. 2n
14	If n is odd then the middle terms in the expansion of $(a + x)^n$ are	
15	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd B. 3rd C. 4th D. 5th
16	If n is any positive integer then 3 + 6 + 9 ++ 3n =	
17	If n is any positive integer then n ² > n + 3 for	
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8	for $n \in \mathbb{N}$, 3^{2n+7} is divisible by	B. 8 C. 9 D. 10
19	The greatest term in the expansion of $(3+2x)^9$, when x=1 is	A. 4th B. 4th and 5th C. 5th D. 6th
20	$(x^3-1/2x)^6$ is	A. 15/16 x ² B. 2/13 x ² C. 17/7 x ² D. 16/15 x ²