

Mathematics ECAT Pre Engineering Chapter 10 Mathematical Inductions Online Test

Sr	Questions	Answers Choice
1	The sum of the even coefficients in the expansion $(1 + x)^n$ is	A. 2^{n-1} B. 2^{n-2} C. 2^{n-1} D. 2^n
2	If the sum of co-efficient in the expansion of $(a+b)^n$ is 4096, then the greatest co-efficient in the expansion is	A. 1594 B. 792 C. 924 D. 2924
3	Question Image	A. C_r B. C_{r+1} C. C_{r+1} D. None
4	The no of term is the expansion of $(a+x)^{n-1}$ is	A. $n+1$ B. $n-1$ C. n D. $n-2$
5	The 7th term of $(3^8 + 6^4 x)^{11/4}$ is	A. $-19217/3 x^6$ B. $189/2 6^4 x^4$ C. $2227/12 x^3$ D. $-19712/3 x^6$
6	In the expansion of $(a + x)^n$ the general term T_{r+1} is	
7	Number of terms in the expansion of $(a+x)^n$ is	A. $n - 1$ B. $n + 1$ C. $n + 2$ D. $n + 3$
8	Question Image	A. 2 B. 7 C. 8 D. 12
9	Question Image	A. $3/8$ B. $7/8$ C. $1/8$ D. None
10	The sum of even coefficient in the binomial expansion is	A. 2^{n+1} B. 2^n C. 2^{n-1} D. $2n$
11	The middle term of $(x-y)^8$ is	A. $25 x^4 y^4$ B. $70 x^4 y^4$ C. $120 x^4 y^4$ D. $97 x^4 y^4$
12	$n! > 2^{n-1}$ is true when	A. $n \leq 3$ B. $n \leq 6$ C. $n \geq 4$ D. $n \leq 6$
13	$(0.90)^{1/2}$ is equal to	A. 0.99 B. 0.90 C. 0.80 D. 0.88
14	$(1 - x)^3 =$ _____	A. $1 + 3x + 3x^2 + x^3$ B. $1 + x + x^2 + x^3$ C. $1 - x + x^2 - x^3$ D. $1 - 3x + 3x^2 - x^3$
15	_____	A. $77b^2/a^5$ B. $16b^2/243a^5$ C. _____

15	The 5th term of $(3a-2b)^{-1}$ is	C. $\frac{17b^4}{43a^5}$ D. $\frac{25b^3}{43a^5}$
16	$7^{2n+3} \cdot 3^{n-1} \cdot 2^{3n-3}$ is divisible by	A. 24 B. 25 C. 9 D. 13
17	If n is any positive integer then $4^n > 3^n + 4$ is true for all	
18	for $n \in \mathbb{N}$, $3^{2n} + 7$ is divisible by	A. 7 B. 8 C. 9 D. 10
19	There is no integer n for which $3n$ is	A. Even B. Prime C. Odd D. Real
20	The fifteenth term of $(3-a)^{15}$ is	A. $-17a^{12}$ B. $-945a^{13}$ C. $-941a^{13}$ D. $-515a^{12}$