Mathematics ECAT Pre Engineering Chapter 10 Mathematical Inductions Online Test

Sr	Questions	Answers Choice
1	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd B. 3rd C. 4th D. 5th
2	If $(1+x-2x^3)^6 = 1+a_1x + a_2x^2 + a_3x^3 + \ldots$ the the value of $a_2 + a_4 + a_6 + \ldots + a_{12}$ will be	A. 32 B. 31 C. 64 D. 1024
3	There is no integer n for which 3n is	A. Even B. Prime C. Odd D. Real
4	If $x+y+z+\ldots+2n = 2n+1-1 \; \forall n \in W$, then cube root of xyz is equal to	A. 1 B. 4 C. 2 D. 8
5	Question Image	A. ab=-1 B. ab = 1 C. ab = 2 D. None
6	$7^{2n} + 3^{n-1} \cdot 2^{3n-3}$ is divisible by	A. 24 B. 25 C. 9 D. 13
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 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
9	The 5th term of $(3a-2b)^{-1}$ is	A. 77b²/a⁵ B. 16b²/243 a⁵ C. 17b⁴/43a⁵ D. 25b³/43a⁵
10	The positive integer just greater than $(1+0.0001)^{10000}$ is	A. 4 B. 5 C. 2 D. 3
11	Question Image	
12	For every positive integers n 1+5+9+....+ (4n - 3) is	A. n(2n - 1) B. (2n - 1) C. n - 1 D. n
13	Question Image	A. 2 and 9 B. 3 and 2 C. 2/3 and 9 D. 3/2 and 6
14	Question Image	A. Imaginary B. Rational C. Irrational D. Real numbers
15	If the 4th term in the expansion of $(px + x^{-1})^m$ is 2.5 for all $x \in R$, then	A. (-1)n2n B. 1

16	The coefficient of xn in the expansion of (1-x)-1 is	B. 1 C. (-1)n(n+1) D. (n+1)
17	When we expand $(a + 2b)^5$then	A. a⁵+ 10a⁴b + 40a³b²+ 80a²b³+ 80ab⁴+ 32b⁵ B. a⁵+ a⁴b + a³b²+ a²b³+ ab⁴+ b⁵ C. 5a⁵+ 4a⁴b + 3a³b²+ 2a²b³+ 1 ab⁴+ b⁵ D. None
18	If $(1+x)^n=C_0+ C_1x +C_2x^2+ .....+C_nx^1$then $C_0C_2+ C_1C_3+ C_2C_4+ .....+C_{n-2}C_n=$	
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	In the expansion of $(a + x)^n$the sum of exponents of a and x in each term of the expansion is	A. n + 1 B. n - 1 C. n D. 2n