ECAT (Pre-Eng) Mathematics Chapter 10 Mathematical Inductions

Sr	Questions	Answers Choice
1	The first three terms in the expansion of $(1 + x)^3$are	A. 1 + 3x +6x² B. 1- 3x + 6x²\ C. -3 -3x -6x² D. 1- 3x -6x²
2	If n is add the expansion $(a + x)^n$has middle terms	A. 2 B. 3 C. 4 D. 5
3	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
4	$7^{2n}+ 3^{n-1}. 2^{3n-3}$is divisible by	A. 24 B. 25 C. 9 D. 13
5	The positive integer just greater than $(1+0.0001)^{10000}$is	A. 4 B. 5 C. 2 D. 3
6	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
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	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd B. 3rd C. 4th D. 5th
10	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
11	The general term in the expansion of (a+x)n is	A. (r-1)th term B. (r+1)th term C. rth term D. none
12	If n is any positive integer then 3 + 6 + 9 + ...+ 3n = _____	
13	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
14	$^nC_2$= exists when n is _____	

15	Question Image	A. 8 B. 9 C. 10 D. 11
16	If a statement S(n) is true for n = 1 and the truth of S(n) for n = k implies the truth of S(n) for = k + 1, then S(n) is true for all	A. Real numbers n B. Integers n C. Positive integers n D. None of these
17	The term involving x^4 in the expansion (3-2x) is	A. 217x⁴ B. 15120x⁴ C. 313x⁴ D. -25x⁴
18	Question Image	A. ab=-1 B. ab = 1 C. ab = 2 D. None
19	If the 4th term in the expansion of $(px + x^{-1})^m$ is 2.5 for all x $\in R$, *then*	
20	For≥ -2 , 1+3+5+.....+(2n+5)	A. (n+2)² B. (n-2)² C. 2n+1 D. (n+3)²