ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	$(1 + 2x)^4$= _____	A. 1 + 4x + 6x²+ 4x³+ x⁴ B. 1 - 4x + 6x²- 4x³+ x⁴ C. 1 - 8x + 24x²- 32x³+ 16x⁴ D. 1 + 8x+ 24x²+ 32x³+ 16x⁴
2	The positive integer just greater than $(1+0.0001)^{10000}$is	A. 4 B. 5 C. 2 D. 3
3	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
4	For each natural number n, n (n+1) is	A. an even B. an odd C. multiple of 3 D. Irrational
5	The middle term of $(x-y)^8$is	A. 25 x⁴y⁴ B. 70 x⁴y⁴ C. 120 x⁴y⁴ D. 97x⁴y⁴
6	The greatest integer which divides the number 101^{100}- 1 is	A. 100 B. 1000 C. 10000 D. 100000
7	for n€ N, $3^{2n + 7}$ is divisible by	A. 7 B. 8 C. 9 D. 10
8	If n is any positive integer ,t hen 2+4+6+.....+2 n=	A. 2ⁿ-1 B. 2ⁿ+1 C. n²+1 D. n(n+1)
9	The sum of the even coefficients in the expansion $(1 + x)^n$is	A. n² B. 2ⁿ⁻² C. 2ⁿ⁻¹ D. 2ⁿ
10	In the expansion of $(a + x)^n$the general term $T_{r + 1}$is	
11	Question Image	A. ¹⁰C₆ B. ¹⁰C₅ C. ¹⁰C₄ D. None
12	The expansion of $(1 + 2x)^{-2}$is valed if	A. | x | < 1/2 B. | x | < 1 C. | x | < 2 D. | x | < 3
13	The term involving x^4 in the expansion (3-2x) is	A. 217x⁴ B. 15120x⁴ C. 313x⁴ D. -25x⁴
14	The sum of first n even number is	A. n2 B. n(n+1) C. n+1 D. n+2
15	The first three terms in the expansion of $(1 + x)^{-2}$are _____	A. 1 - 2x + 3x² B. 1 - 2x - 3x² C. 1 + 2x + 3x² D. 2 - 2x + 3x²

		D. -2 -2x + 3x²
16	The coefficient of xn in the expansion of (1-x)-1 is	A. (-1)n2n B. 1 C. (-1)n(n+1) D. (n+1)
17	Digit in the unit place of the number 183! + 3^{183}	A. 7 B. 6 C. 3 D. 0
18	The first three terms in the expansion of $(1 - x)^{-2}$are	A. 1 - 2x + 3x² B. 1 - 2x - 3x² C. 1 + 2x + 3x² D. -2 - 2x +3x²
19	The first three terms in the expansion of $(1 - x)^{-1}$are	A. 1 + x + x² B. 1 - x - x² C. -1 -x +x² D. 1 - x + x²
20	For≥ -2 , 1+3+5+.....+(2n+5)	A. (n+2)² B. (n-2)² C. 2n+1 D. (n+3)²