ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	The fifteenth term of $(3-a)^{15}$ is	A. -17a¹² B. -945a¹³ C. -941a¹³ D. -515a¹²
2	If $\|x\| < 1$, then the first two terms of $(1 - x)^{1/2}$ are	
3	If n is positive integers, then $2^n > 2n+1$, only when	A. n≤ 3 B. n≥ 3 C. n≤ 2 D. n≤ 1
4	Digit in the unit place of the number $183! + 3^{183}$	A. 7 B. 6 C. 3 D. 0
5	The 7th term of $(3^8 + 6^4x)^{11/4}$ is	A. -19217/3 x⁶ B. 189/2 6⁴x C. 2227/12 x³ D. -19712/3 x⁶
6	The sum even binomial coefficient of (3+2x)5 is _____term	A. 16 B. 30 C. 8 D. 32
7	Question Image	
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 middle term of $(x-y)^8$ is	A. 25 x⁴y⁴ B. 70 x⁴y⁴ C. 120 x⁴y⁴ D. 97x⁴y⁴
10	The sum of the odd coefficients in the expansion of $(a + x)^4$ is	A. 14 B. 12 C. 8 D. 4
11	The exponent of x in 10th term in the expansion of (a+x)n	A. 10 B. 12 C. 11 D. 9
12	The proposition S(n) is true $\forall n \in N$, S(k+1) true when _____is true	A. S(1) B. Both a & c C. S(k) D. None
13	If $(1+x-2x^3)^6 = 1+a_1x + a_2x^2 + a_3x^3 + ...$ the the value of $a_2 + a_4 + a_6 + ...+a_{12}$ will be	A. 32 B. 31 C. 64 D. 1024
14	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd B. 3rd C. 4th D. 5th
15	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
16	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

17	Question Image	A. 3/8 B. 7/8 C. 1/8 D. None
18	for n€ N, 3^{2n+7} is divisible by	A. 7 B. 8 C. 9 D. 10
19	n(n-1)(2n-1), for all natural numbers n, is divisible by	A. 12 B. 6 C. 2 D. 18
20	If n is any positive integer then n! > $n^2$for	