ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	n! > 2^n-1 is true when	A. n≤ 3 B. n≤ 6 C. n≥ 4 D. n≤ 6
2	The sum of the odd coefficients in the expansion of $(a + x)^4$is	A. 14 B. 12 C. 8 D. 4
3	(x3-1/x)12	A. 295 B. 495 C. 395 D. 722
4	Question Image	
5	The number of terms in the expansion of $(a + b)^9$is	A. 10 B. 11 C. 9 D. 12
6	$(1 - x)^3$= _____	A. 1 + 3x + 3x²+ x³ B. 1 + x + x²+ x³ C. 1 - x + x²- x³ D. 1 - 3x + 3x²- x³
7	Question Image	A. 3/8 B. 7/8 C. 1/8 D. None
8	The expansion $(1 + x)^{-3}$holds when	A. |x| > 1 B. |x| < 1 C. x < 1 D. x > 1
9	n(n-1)(2n-1), for all natural numbers n, is divisible by	A. 12 B. 6 C. 2 D. 18
10	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
11	Number of terms in the expansion of $(a+x)^n$is	A. n - 1 B. n + 1 C. n + 2 D. n + 3
12	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)
13	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
14	The proposition S(n) is true∀n∈N,S(k+1) true when _____is true	A. S(1) B. Both a & c C. S(k) D. None
15	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
16	$(0.90)^{1/2}$ is equal to	A. 0.99 B. 0.90 C. 0.80 D. 0.88
17	The greatest integer which divides the number 101^{100} - 1 is	A. 100 B. 1000 C. 10000 D. 100000
18	The proposition S(n) for any $n \in N$ is only true if $k \in N$ and	A. S(k +1) is true B. S(1) is true and S(k+1) is true whenever S (k) is true C. S(k+1) is true whenever S (k) is true D. S(k) is true
19	The middle term of $(x-y)^8$ is	A. 25 x⁴y⁴ B. 70 x⁴y⁴ C. 120 x⁴y⁴ D. 97x⁴y⁴
20	If n is any positive integer then $n! > n^2$ for	