ECAT (Pre-Eng) Mathematics Chapter 10 Mathematical Inductions

Sr	Questions	Answers Choice
1	The proposition S(k+1) is true when _____ is true∀K∈N	A. S(n) B. S(k) C. S(1) D. S(k-1)
2	The middle term in the expansion of $(a +x)^{12}$is	A. 7th B. 8th C. 9th D. 6th
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	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)
5	Question Image	
6	The sum of co-efficient in $(1+x-3x^2)^{4163}$is	A. 0 B. 1 C. -1 D. None
7	The term involving x^4 in the expansion (3-2x) is	A. 217x⁴ B. 15120x⁴ C. 313x⁴ D. -25x⁴
8	The sum of the odd coefficients in the expansion of $(a + x)^4$is	A. 14 B. 12 C. 8 D. 4
9	If n∈Z+ then(a+x)n is a/an	A. Finite series B. Convergent series C. Infinite series D. Divergent series
10	The coefficient of the third term of $(8a-b)^{1/3}$, after simplification is	A. -228 B. 1/288 C. 1/220 D. -1/177
11	Question Image	A. ⁿC_r B. ⁿ⁺¹C_{r+1} C. ⁿC_{r+1} D. None
12	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
13	If | x | < 1, then the first two terms of $(1 - x)^{1/2}$are	
14	The expansion of $(1 + 2x)^{-2}$is valed if	A. | x | < 1/2 B. | x | < 1 C. | x | < 2 D. | x | < 3
15	The coefficient of x^{18} in $(ax^4-bx)^9$ after expansion is	A. 84a³ b⁶ B. 22a³b⁶ C. 27a⁴b⁵ D. 28a³b⁶
16	For all positive integral value of n,3^n< n! , when	A. n> 6 B. n< 6 C. n<11 D. n>11

17	(2.02)4 s equal to	A. 16 B. 16.6496 C. 17 D. 18
18	The expansion $(1 + x)^{-3}$holds when	A. |x| > 1 B. |x| < 1 C. x < 1 D. x > 1
19	The expansion of $(1 - 3x)^{-1}$is valid if	A. | x | < 1 B. | x | < 3 C. | x | < 1/3 D. None of these
20	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)