ECAT (Pre-Eng) Mathematics Chapter 10 Mathematical Inductions

Sr	Questions	Answers Choice
1	If n is not natural number, then the expansion $(1 + x)^n$ is valid for	
2	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
3	The 5th term of $(3a-2b)^{-1}$ is	A. 77b²/a⁵ B. 16b²/243 a⁵ C. 17b⁴/43a⁵ D. 25b³/43a⁵
4	Question Image	A. 2 B. 7 C. 8 D. 12
5	$(1 - x)^3$= _____	A. 1 + 3x + 3x²+ x³ B. 1 + x + x²+ x³ C. 1 - x + x²- x³ D. 1 - 3x + 3x²- x³
6	If n is any positive integer then 3 + 6 + 9 + ...+ 3n = _____	
7	for n€ N, $3^{2n + 7}$ is divisible by	A. 7 B. 8 C. 9 D. 10
8	For each even natural number n (n^2-1) is divisible by	A. 6 B. 3 C. 4 D. 8
9	The proposition S(k+1) is true when _____ is true $\forall K \in N$	A. S(n) B. S(k) C. S(1) D. S(k-1)
10	If $(1+x)^n=C_0+ C_1x +C_2x^2+ .....+C_nx^1$ then $C_0C_2+ C_1C_3+ C_2C_4+ .....+C_{n-2}C_n$=	
11	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd B. 3rd C. 4th D. 5th
12	Digit in the unit place of the number 183! + 3^{183}	A. 7 B. 6 C. 3 D. 0
13	If n € N , then n(n+3) is always	A. Multiple of 3 B. Multiple of 6 C. odd D. even
14	1+3x+6x2 +10x3 +....=	A. (1+x)-3 B. (1-x)-2 C. (1-x)-3 D. (1+x)-2
15	$(0.90)^{1/2}$ is equal to	A. 0.99 B. 0.90 C. 0.80 D. 0.88
16	If n is any positive integer then $4^n > 3^n + 4$ is true for all	

17	Question Image	
18	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
19	Number of terms in the expansion of $(a+x)^{n}$ is	A. n - 1 B. n + 1 C. n + 2 D. n + 3
20	The seventh term of (x3+1/x)8is	A. 71 B. -22 C. 27 D. 28