ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	If the exponent in the binomial expansion is 6, then the middle term is	A. 2nd B. 3rd C. 4th D. 5th
2	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
3	The coefficient of x^{18} in $(ax^4-bx)^9$ after expansion is	A. 84a³ b⁶ B. 22a³b⁶ C. 27a⁴b⁵ D. 28a³b⁶
4	If n is any positive integer then $n^2 > n + 3$ for	
5	For each even natural number n (n^2-1) is divisible by	A. 6 B. 3 C. 4 D. 8
6	There are two middle terms in the expansion of (a+x)n if n is	A. Even +ve integer B. +ve integer C. Odd +ve integer D. All
7	When we expand $(a + 2b)^5$then	A. a⁵+ 10a⁴b + 40a³b²+ 80a²b³+ 80ab⁴+ 32b⁵ B. a⁵+ a⁴b + a³b²+ a²b³+ ab⁴+ b⁵ C. 5a⁵+ 4a⁴b + 3a³b²+ 2a²b³+ 1 ab⁴+ b⁵ D. None
8	The sum of even coefficient in the binomial expansion is	A. 2ⁿ⁺¹ B. 2ⁿ C. 2ⁿ⁻¹ D. 2n
9	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)
10	For≥ -2 , 1+3+5+.....+(2n+5)	A. (n+2)² B. (n-2)² C. 2n+1 D. (n+3)²
11	The greatest integer which divides the number 101^{100}- 1 is	A. 100 B. 1000 C. 10000 D. 100000
12	The coefficient of the second term of $(a+b)^4$ is	A. 1 B. 9 C. 3 D. 5
13	Question Image	A. 8 B. 9 C. 10 D. 11

14	The fifteenth term of $(3-a)^{15}$ is	A. -17a¹² B. -945a¹³ C. -941a¹³ D. -515a¹²
15	If n € N , then n(n+3) is always	A. Multiple of 3 B. Multiple of 6 C. odd D. even
16	The expansion of $(1 - 3x)^{-1}$is valid if	A. | x | < 1 B. | x | < 3 C. | x | < 1/3 D. None of these
17	The 5th term of $(3a-2b)^{-1}$ is	A. 77b²/a⁵ B. 16b²/243 a⁵ C. 17b⁴/43a⁵ D. 25b³/43a⁵
18	The sum of the odd coefficients in the expansion of $(a + x)^4$is	A. 14 B. 12 C. 8 D. 4
19	Question Image	A. Imaginary B. Rational C. Irrational D. Real numbers
20	1+3x+6x2 +10x3 +....=	A. (1+x)-3 B. (1-x)-2 C. (1-x)-3 D. (1+x)-2