ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	Question Image	A. Imaginary B. Rational C. Irrational D. Real numbers
2	$(1 - x)^3$= _____	A. 1 + 3x + 3x²+ x³ B. 1 + x + x²+ x³ C. 1 - x + x²- x³ D. 1 - 3x + 3x²- x³
3	For each even natural number n (n^2-1) is divisible by	A. 6 B. 3 C. 4 D. 8
4	If x+y+z+.....+2n = 2n+1-1 $\forall n \in W$,then cube root of xyz is equal to	A. 1 B. 4 C. 2 D. 8
5	The sum of the odd coefficients in the expansion of $(a + x)^4$is	A. 14 B. 12 C. 8 D. 4
6	The greatest term in the expansion of $(3+2x)^9$, when x=1 is	A. 4th B. 4th and 5th C. 5th D. 6th
7	Digit in the unit place of the number 183! + 3^{183}	A. 7 B. 6 C. 3 D. 0
8	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
9	If n is not natural number, then the expansion $(1 + x)^n$is valid for	
10	$(x^3-1/2x)^6$ is	A. 15/16 x² B. 2/13 x² C. 17/7 x² D. 16/15 x²
11	Question Image	A. ⁿC_r B. ⁿ⁺¹C_{r+1} C. ⁿC_{r+1} D. None
12	If n is any positive integer then 3 + 6 + 9 + ...+ 3n = _____	
13	The sum of first n even number is	A. n2 B. n(n+1) C. n+1 D. n+2
14	Question Image	
15	The fifth term of (a+2x3)17 is	A. 4013 x3a13 B. 2208a13 x12 C. 223x7a18 D. 38080a13 x12
16	In the expansion of (x+y)n the coefficient of 5th and 12th terms are equal then n=	A. 12 B. n=14 C. 17 D. n=15

17	1+3x+6x2 +10x3 +....=	A. (1+x)-3 B. (1-x)-2 C. (1-x)-3 D. (1+x)-2
18	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
19	If the 4th term in the expansion of $(px + x^{-1})^m$ is 2.5 for all $x \in R$, *then*	
20	The middle term of $(x-y)^8$ is	A. 25 x⁴y⁴ B. 70 x⁴y⁴ C. 120 x⁴y⁴ D. 97x⁴y⁴