ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	The expansion of $(1 - 3x)^{-1}$ is valid if	A. | x | < 1 B. | x | < 3 C. | x | < 1/3 D. None of these
2	For≥ -2 , 1+3+5+.....+(2n+5)	A. (n+2)² B. (n-2)² C. 2n+1 D. (n+3)²
3	The middle term of $(x-y)^{8}$ is	A. 25 x⁴y⁴ B. 70 x⁴y⁴ C. 120 x⁴y⁴ D. 97x⁴y⁴
4	The sum of co-efficient in $(1+x-3x^{2})^{4163}$ is	A. 0 B. 1 C. -1 D. None
5	The term involving x4 the expansion (3-2x)7 is	A. 217 x4 B. 15120x4 C. 313x4 D. -25x4
6	Question Image	A. ab=-1 B. ab = 1 C. ab = 2 D. None
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 fifth term of (a+2x3)17 is	A. 4013 x3a13 B. 2208a13 x12 C. 223x7a18 D. 38080a13 x12
9	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
10	The coefficient of x^{18} in $(ax^{4}-bx)^{9}$ after expansion is	A. 84a³ b⁶ B. 22a³b⁶ C. 27a⁴b⁵ D. 28a³b⁶
11	The last term of (1+2x)-2	A. (-1)-2 (2x)-2 B. (-1)-4(-2x)-2 C. (-1)-3(2x)-3 D. Does not exist
12	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
13	There is no integer n for which 3^{n} is	A. Odd B. even C. Natural

		D. Prime
14	Question Image	A. ⁿC_r B. ⁿ⁺¹C_{r+1} C. ⁿC_{r+1} D. None
15	Question Image	A. 3/8 B. 7/8 C. 1/8 D. None
16	$(51)^4$is equal to	A. 7065201 B. 8065201 C. 6765201 D. 6565201
17	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
18	If n∈Z+ then(a+x)n is a/an	A. Finite series B. Convergent series C. Infinite series D. Divergent series
19	(x3-1/x)12	A. 295 B. 495 C. 395 D. 722
20	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