

ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1	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
2	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. $2n$
3	The middle term of $[1/x-x]^{10}$ is	A. -152 B. -252 C. 371 D. -421
4	The sum of the even coefficients in the expansion $(1 + x)^n$ is	A. $n^{2/2}$ B. 2^{n-2} C. 2^{n-1} D. 2^n
5	If $ x < 1$, then the first two terms of $(1 - x)^{1/2}$ are	
6	Question Image <input style="width: 100%; height: 20px;" type="text"/>	A. $^{10}C_6$ B. $^{10}C_5$ C. $^{10}C_4$ D. None
7	If n is any positive integer then $2^n > 2(n + 1)$ is true for all	
8	$(x^3-1/x)^{12}$	A. 295 B. 495 C. 395 D. 722
9	If n is not natural number, then the expansion $(1 + x)^n$ is valid for	
10	The first three terms in the expansion of $(1 - x)^{-2}$ are	A. $1 - 2x + 3x^2$ B. $1 - 2x - 3x^2$ C. $1 + 2x + 3x^2$ D. $-2 - 2x + 3x^2$
11	Question Image <input style="width: 100%; height: 20px;" type="text"/>	A. $ab = -1$ B. $ab = 1$ C. $ab = 2$ D. None
12	There is no integer n for which 3^n is	A. Odd B. even C. Natural D. Prime
13	The first three terms in the expansion of $(1 + x)^{-2}$ are _____	A. $1 - 2x + 3x^2$ B. $1 - 2x - 3x^2$ C. $1 + 2x + 3x^2$ D. $-2 - 2x + 3x^2$
14	The middle term of $(x-y)^8$ is	A. $25 x^4 y^4$ B. $70 x^4 y^4$ C. $120 x^4 y^4$ D. $97 x^4 y^4$
15	If $n \in \mathbb{Z}^+$ then $(a+x)^n$ is a/an	A. Finite series B. Convergent series C. Infinite series D. Divergent series
16	Question Image <input style="width: 100%; height: 20px;" type="text"/>	
17	$(x^3-1/2x)^6$ is	A. $15/16 x^2$ B. $2/13 x^2$ C. $17/7 x^2$ D. $16/15 x^2$
		A. $n \< 8/5$

18	Question Image	B. $n < 5/8$ C. $ n < 8/5$ D. $ n > 8/5$
19	The expansion of $(1 + 2x)^{-2}$ is valid if	A. $ x < 1/2$ B. $ x < 1$ C. $ x < 2$ D. $ x < 3$
20	$a + x$ is _____	A. A trinomial B. A binomial C. A monomial D. None of these