
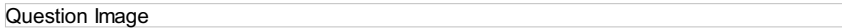



## ECAT Mathematics Chapter 10 Mathematical Induction

Sr	Questions	Answers Choice
1		A. Imaginary B. Rational C. Irrational D. Real numbers
2	$(1 - x)^3 = \underline{\hspace{2cm}}$	A. $1 + 3x + 3x^2 + x^3$ B. $1 + x + x^2 + x^3$ C. $1 - x + x^2 - x^3$ D. $1 - 3x + 3x^2 - x^3$
3	For each even natural number $n$ $(n^2 - 1)$ is divisible by	A. 6 B. 3 C. 4 D. 8
4	If $x + y + z + \dots + 2n = 2n + 1 - 1 \forall n \in W$ , 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. $15/16 x^{12}$ B. $2/13 x^{12}$ C. $17/7 x^{12}$ D. $16/15 x^{12}$
11		A. $C_n^r$ B. $C_{n+1}^{r+1}$ C. $C_n^{r+1}$ D. None
12	If $n$ is any positive integer then $3 + 6 + 9 + \dots + 3n = \underline{\hspace{2cm}}$	
13	The sum of first $n$ even number is	A. $n^2$ B. $n(n+1)$ C. $n+1$ D. $n+2$
14		
15	The fifth term of $(a + 2x^3)^{17}$ is	A. $4013 x^3 a^{13}$ B. $2208 a^{13} x^{12}$ C. $223 x^7 a^{18}$ D. $38080 a^{13} x^{12}$
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	$1+3x+6x^2+10x^3+\dots=$	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. $25x^4y^4$ B. $70x^4y^4$ C. $120x^4y^4$ D. $97x^4y^4$