ECAT Mathematics Online Test

Sr	Questions	Answers Choice
1	1+3x+6x2 +10x3 +....=	A. (1+x)-3 B. (1-x)-2 C. (1-x)-3 D. (1+x)-2
2	The general term in the expansion of (a+x)n is	A. (r-1)th term B. (r+1)th term C. rth term D. none
3	If the sum of even coefficients in the expansion of (1+x)n is 128 then	A. n=7 B. n=9 C. n=8 D. None
4	The sum of first n even number is	A. n2 B. n(n+1) C. n+1 D. n+2
5	The third term in the expansion of (1+2x) is	A. -2x2 B. -4x2 C. 2x2 D. 4x2
6	If n∈Z+ then(a+x)n is a/an	A. Finite series B. Convergent series C. Infinite series D. Divergent series
7	The proposition S(k+1) is true when _____ is true∀K∈N	A. S(n) B. S(k) C. S(1) D. S(k-1)
8	If x+y+z+.....+2n = 2n+1-1∀n∈W,then cube root of xyz is equal to	A. 1 B. 4 C. 2 D. 8
9	The exponent of x in 10th term in the expansion of (a+x)n	A. 10 B. 12 C. 11 D. 9
10	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
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 no of term is the expansion of (a+x)n-1 is	A. n+1 B. n-1 C. n D. n-2
13	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
14	The coefficient of xn in the expansion of (1-x)-1 is	A. (-1)n2n B. 1 C. (-1)n(n+1) D. (n+1)
15	The middle term(s) of (a+x)11 is	A. 6th term B. 6thor 7th C. 7th term D. 6thand7th

16	The proposition S(n) for any n∈ N is only true if k∈ N and	A. S(k +1) is true B. S(1) is true and S(k+1) is true whenever S (k) is true C. S(k+1) is true whenever S (k) is true D. S(k) is true
17	For any positive integer n	A. ABn = Bn A ⇔ AB = BA B. ABn = Bn A⇔ A,B are square matrices and AB = BA C. ABn = BnA⇔ A + B D. ABn = BnA ⇔ A and B are square matries
18	The coefficient of xn in the expansion of (1-2x)-1 is	A. (-1)n2n B. 2n C. (-1)(n+1)xr D. (n+1)2n
19	The proposition S(n) is true∀n∈N,S(k+1) true when _____is true	A. S(1) B. Both a & c C. S(k) D. None
20	There is no integer n for which 3n is	A. Even B. Prime C. Odd D. Real
21	The sum even binomial coefficient of (3+2x)5 is _____term	A. 16 B. 30 C. 8 D. 32
22	Which one is not defined∀n∈Z+	A. -n! B. n! C. (-n)! D. n!+0!=n!+1
23	Number of combination of zero or more things out of n different things	A. nPn B. nPr C. nCr D. 2n
24	How many comittees of 5 numbers can be chosen from a group of 8 players person when each committee must include 2 particular persons	A. 8! B. 5!3! C. 5! D. 20
25	How many 6-Digit number can be formed without repairing any digit from the digits 0,1,2,3,4,5	A. 720 B. 600 C. 120 D. 6-5!
26	Probability of an impossible event is	A. 0 B. -1 C. 1 D. ∞
27	A key ring is an example of	A. Permutation B. Circular permutation C. Combination D. None
28	The factorial of a positive integers is a (an)	A. Rational number B. Positive integer C. Real number D. None
29	How many different 5-digit even numbers are possible form digit 1,2,4,6,8	A. 4 : 4! B. 4! C. 5! D. 4!+4!
30	If for two events A and B , P(A∪B)=1,then events A and B are	A. Certain events B. Mutually exclusive C. Complementary events D. Independent