

Binomial Theorem - Class XI

Related Questions with Solutions

Questions

Question: 01

In questions below, If $C_0, C_1, C_2, \dots, C_n$ are the combinatorial coefficients in the expansion of $(1 + x)^n$, $n \in \mathbb{N}$, then

$$C_0 C_1 + C_1 C_2 + C_2 C_3 + \dots + C_{n-1} C_n =$$

A. ${}^{2n}C_n$

B. ${}^{2n}C_{n+2}$

C. $({}^{2n}C_n)^2$

D. None of these

Solutions

Solution: 01

$${}^nC_0 {}^nC_1 + {}^nC_1 {}^nC_2 + \dots + {}^nC_{n-1} {}^nC_n = \text{coefficient of } x^{n-1} \text{ in } [1 + x]^{2n} \\ = {}^{2n}C_{n-1}$$

Correct Options

Answer:01

Correct Options: D