

Binomial Theorem - Class XI

Related Questions with Solutions

Questions

Question: 01

The sum of the binomial coefficients of $\left[2x + \frac{1}{x}\right]^n$ is equal to 256. The constant term in the expansion is

- A. 1120
- B. 2110
- C. 1210
- D. None

Solutions

Solution: 01

Sum of binomial coeff. = ${}^n C_0 + {}^n C_1 + \dots + {}^n C_n = 2^n$

$$2^n = 256 \Rightarrow n = 8$$

$$\begin{aligned} \text{constant term} &= {}^8 C_4 (2x)^4 \left(\frac{1}{x}\right)^4 \\ &= 70 \times 16 = 1120 \end{aligned}$$

Correct Options

Answer:01

Correct Options: A