

Infinite Series - Class XI

Related Questions with Solutions

Questions

Question: 01

The tenth term in the expansion of $(1 + x)^{-3}$ is-

- A. $-55x^9$
- B. $55x^9$
- C. $-66x^{10}$
- D. $66x^{10}$

Solutions

Solution: 01

$$\begin{aligned}(1+x)^{-3} &= 1 + (-3)x + \frac{(-3)(-3-1)x^2}{2!} + \dots \\ T_{10} &= \frac{(-3)(-3-1)(-3-2)\dots(-3-8)x^9}{9!} \\ &= \frac{(-1)^9 3 \cdot 4 \cdot 5 \dots 11}{9!} x^9 = -55x^9\end{aligned}$$

Correct Options

Answer:01

Correct Options: A