

In the polynomial  $(x - 1)(x - 2)(x - 3)\dots(x - 100)$ , the coefficient of  $x^{99}$  is

- A) 5050
- B) - 5050
- C) 100
- D) 99

Sol- (B)

$$(x - 1)(x - 2)(x - 3)\dots(x - 100) \text{ Number of terms} = 100; \text{ Coefficient of } x^{99} = (x - 1)(x - 2)(x - 3)\dots(x - 100) = (-1 - 2 - 3 - \dots - 100) = -(1 + 2 + \dots + 100) = -\frac{100 \times 101}{2} = -5050.$$