18. The third term of G.P. is 4. The product of its first 5 terms is

(A) 4^3 (B) 4^4 (C) 4^5 (D) None of these

Solution:

(C) 4^5

Explanation:

Given the third term of G.P, $T_3 = 4$

To find the product of first five terms

We know that,

$T_n = a\,r^{n-1}$

It is given that, $T_3 = 4$

$\Rightarrow ar^{3-1} = 4$

$\Rightarrow ar^2 = 4$ ... (i)

Product of first 5 terms $= a \times ar \times ar^2 \times ar^3 \times ar^4$

$= a^5 r^{1+2+3+4}$

$= a^5 r^{10}$

$= (ar^2)^5$

$= (4)^5$ [from (i)]

Hence, the correct option is (C)