



If  $A$  &  $B$  are square matrices of order  $n$ , such that  $|A| = 3$ ,  $|B| = 5$ , then the value of  $||2A|B|$  is:

Solution:

$$||2A|B| = |2A|^n |B| \quad \text{Since } |kA| = k^n |A|$$

$$= (2^n |A|)^n |B|$$

$$= 2^{n^2} |A|^n \cdot |B|$$

$$= 2^{n^2} \cdot 3^n \cdot 5$$

A

$$5 \cdot 6^n$$

B

$$2^{n^2} \cdot 15^n$$

C

$$15 \cdot 2^n$$

D

$$5 \cdot 2^{n^2} \cdot 3^n$$