Related Questions with Solutions

Questions

Quetion: 01

Let $A_1, A_2, A_3, \ldots, A_7$ be skew-symmetric matrices of same order. Then $1\left(A_1\right)+3\left(A_2\right)^3+5\left(A_3\right)^5+\ldots+13\left(A_7\right)^{13}$ is

A. symmetric
B. skew-symmetric
C. neither symmetric nor skew-symmetric
D. none of these

Solutions

Solution: 01

Let $B=A_1+3\left(A_2\right)^3+\ldots+13\left(A_7\right)^{13}$, then
$B^T=-\left[A_1+3\left(A_2\right)^3+\ldots+13\left(A_7\right)^{13}\right]=-B \quad \left[\because\left(A^T\right)^n=\left(A^n\right)^T, n \in N\right]$
So, *B* is skew-symmetric.

Correct Options

Answer:01
Correct Options: B