If A is 3×3 non singular matrix such that $AA^T = A^T A$ and $B = A^{-1}A^T$, then BB^T equals :

Solution:

$$BB^t = A^{-1}A^T(A^{-1}A^T)^T$$

$$= A^{-1}A^T A(A^{-1})^T$$

$$= A^{-1}AA^T(A^{-1})^T$$

$$= IA^T(A^{-1})^T$$

$$= I$$

$$A^{-1}A = I = AA^{-1}$$

$$(A^{-1})^T = (A^T)^{-1}$$

A B^{-1}

B $(B^{-1})^T$

C $I + B$

D I

Return To Top