

Assignment 6

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and latex-tikz codes from

https://github.com/kavya309/ASSIGNMNT_6/main.tex

1 QUESTION No.2.48

If the matrix A is both symmetric and skew symmetric ,then

- A) A is diagonal matrix
- B) A is zero matrix
- C) A is square matrix
- D) None of these

2 SOLUTION

If a matrix A is symmetric ,then

$$\mathbf{A}^T = \mathbf{A} \quad (2.0.1)$$

If matrix A is skew symmetric ,then

$$\mathbf{A}^T = -\mathbf{A} \quad (2.0.2)$$

From equations (2.0.1) and (2.0.2)

$$\mathbf{A} = -\mathbf{A} \quad (2.0.3)$$

$$2\mathbf{A} = 0 \quad (2.0.4)$$

$$\mathbf{A} = 0 \quad (2.0.5)$$

$\therefore A$ is zero matrix