SM5083
Assignment Number 01

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SM21MTECH12005

1. Chapter II Ex-2 Q.1 III

1.1. Find the distance between the following pair of points (66,25) and (99,69).

Solution:

let

$$\mathbf{A} = \begin{pmatrix} 66 \\ 25 \end{pmatrix}, \mathbf{B} = \begin{pmatrix} 99 \\ 69 \end{pmatrix} \tag{1.1.1}$$

$$\mathbf{B} - \mathbf{A} = \begin{pmatrix} 33 \\ 44 \end{pmatrix} \tag{1.1.2}$$

normalisation of vector A and vector B=

$$\|\mathbf{B} - \mathbf{A}\| = \mathbf{C}$$

$$(\|C\|)^2 = \mathbf{C}^\top * \mathbf{C} = \begin{pmatrix} 33 & 44 \end{pmatrix} \begin{pmatrix} 33 \\ 44 \end{pmatrix}$$

$$\mathbf{C} = \sqrt{(33^2 + 44^2)}$$

$$\mathbf{C} = 55$$