

SM5083

Assignment Number 01

Jaydeep singh chouhan
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:

$$x_1 = 66, x_2 = 99, y_1 = 25, y_2 = 69$$

let

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

$$\mathbf{B} - \mathbf{A} = \begin{pmatrix} 33 \\ 44 \end{pmatrix} \quad (1.1.2)$$

normalisation of vector A and vector B =

$$\|\mathbf{B} - \mathbf{A}\| = d \quad (1.1.3)$$

$$d = \sqrt{((x_2 - x_1)^2 + (y_2 - y_1)^2)}$$

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

$$d = 55$$