

Assignment

Antalene (EE22BTECH11008)

Question 1.1.4

Find the parametric equation of AB, BC, CA .
solution:

The parametric equation for AB is given by

$$\mathbf{x} = \mathbf{A} + k\mathbf{m} \quad (1)$$

$$\text{where, } \mathbf{m} = \mathbf{B} - \mathbf{A} \quad (2)$$

$$= \begin{pmatrix} -4 \\ 6 \end{pmatrix} - \begin{pmatrix} 1 \\ -1 \end{pmatrix} \quad (3)$$

$$= \begin{pmatrix} -5 \\ 7 \end{pmatrix} \quad (4)$$

Hence we get,

$$AB : \mathbf{x} = \begin{pmatrix} 1 \\ -1 \end{pmatrix} + k \begin{pmatrix} -5 \\ 7 \end{pmatrix} \quad (5)$$

Similarly,

$$BC : \mathbf{x} = \begin{pmatrix} -4 \\ 6 \end{pmatrix} + k \begin{pmatrix} 1 \\ -11 \end{pmatrix} \quad (6)$$

$$CA : \mathbf{x} = \begin{pmatrix} -3 \\ -5 \end{pmatrix} + k \begin{pmatrix} 4 \\ 4 \end{pmatrix} \quad (7)$$