

Advanced Mathematical techniques in Chemical Engineering

Module VI : Eigenvalue Problem

Exercises

1. Solve $AX=b$, where, $A = \begin{bmatrix} 1 & 2 \\ -2 & 1 \end{bmatrix}$ and $b=[3 \ 4]^T$, using eigenvalue-eigenvector method.

2. Solve $AX=b$, where, $A = \begin{bmatrix} 1 & 1 \\ -2 & 3 \end{bmatrix}$ and $b=[1 \ 2]^T$, using eigenvalue-eigenvector method.

3. Solve $AX=b$, where, $A = \begin{bmatrix} 1 & 1 \\ 2 & 3 \end{bmatrix}$ and $b=[1 \ 2]^T$, using eigenvalue-eigenvector method.

4. Solve $AX=b$, where, $A = \begin{bmatrix} 1 & 1 \\ -2 & 3 \end{bmatrix}$ and $b=[2 \ 2]^T$, using eigenvalue-eigenvector method.

5. Solve $AX=b$, where, $A = \begin{bmatrix} 1 & 1 \\ -2 & 3 \end{bmatrix}$ and $b=[0 \ 2]^T$, using eigenvalue-eigenvector method.