LAQ
UNIT- I

1	Find the values of λ for which the system of equations $3x - y + 4z = 3, x + 2y - 3z = -2,\ 6x + 5y + \lambda z = -3$, will have infinite number of solution and solve them with that λ value.	CO2	BTL 4
2	Solve the system of equations $4x+2y+z+3w = 0$; $6x+3y+4z+7w = 0$; $2x+y+w = 0$.	CO2	BTL 4
3	Using Cayley-Hamilton Theorem find A^8 if $A = \begin{bmatrix} 1 & 2 \\ 2 & -1 \end{bmatrix}$	CO2	BTL5
4	Reduce the Quadratic form into sum of squares by an orthogonal transformation $x^2 + 2y^2 - 7z^2 - 4xy + 8xz$ and discuss the nature.	CO2	BTL5
5	Test for the consistency and hence solve the following system of equations $x_1 + 2x_2 + x_3 = 2; 3x_1 + x_2 - 2x_3 = 1; 4x_1 - 3x_2 - x_3 = 3; 2x_1 + 4x_2 + 2x_3 = 4$	CO2	BTL5
6	Reduce the matrix A= $\begin{bmatrix} 1 & 4 & 5 & 2 \\ 2 & 8 & 6 & 7 \\ 3 & 5 & 2 & 1 \\ -1 & 2 & 3 & 0 \end{bmatrix}$ to Echelon form and hence find its rank.	CO2	BTL 4
7	Find the characteristic equation of $A = \begin{bmatrix} 4 & 3 & 1 \\ 2 & 1 & -2 \\ 1 & 2 & 1 \end{bmatrix}$ And hence find A^{-1}.	CO2	BTL 4