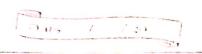
	UE18 MA25) Linear Algebra and its Applications
	Answer all.
	Find the equation of the parabola $y = A + Bx + Cx^2$ that passes through 3 points $(1, 1)$, $(2, -1)$ and $(3, 1)$. uning Graussian Elimination.
3 .	Find the LV alexamposition for the analysis. $A = \begin{bmatrix} 2 & 5 & 2 & -5 \\ 4 & 12 & 3 & -14 \\ -10 & -29 & -5 & 38 \\ 10 & 21 & 21 & -6 \end{bmatrix}$
3	Let $T: \mathbb{R}^3 \to \mathbb{R}^3$ defined by $T(x, y, 3) = (x + 3y - 3, y + 3, x + y - 23).$
	i) Find the matrix T relative to the standard bank of RS. (i) Find the ban's for 4 fundamental subspaces of T. (ii) Find the eigen values and eigen vectors of T. (iv) Decompose T= QR.
4	Fit a best straight line y=c+da for the following date uning least square principles.
	9 H 6 10 8 ·



- 5 Find the projection matrices P and Q onto the plane M+2+3×3+4×=0 and it orthogonal applement respectively.
- 6. For which range of number $1a^{i}$, the matrix A is positive definite? $A = \begin{bmatrix} a & a & a \\ a & a & a \\ a & a & a \end{bmatrix}$

$$A = \begin{pmatrix} a & 2 & 2 \\ 2 & a & 2 \\ 2 & 2 & a \end{pmatrix}$$

Which 3x3 matrix (Symmetric) B produces these function. $f = 2 \pi \pi \pi$

where f = 2(21+ x2+ 23- x1 x2- x2 x3).

7. Find the SVD of A, USVT where

$$A = \begin{bmatrix} 6 & -2 \\ 6 & -2 \end{bmatrix}$$

USHA