	Discuss the following; (i) Skew Hermitian matrix (ii) Periodic Matrix (iii) Orthogonal matrix (iv) Echelon and reduce echelon matrices (ii) Determine the value of K so that the set S is linearly dependent in R^3 $S = \{(1,2,1), (k,3,1), (2,k,0)\}$
b)	Verify that the matrix $A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$ is Nilpotent of index 3.
c)	Discuss the consistency of the following system of the equation: $3x_1 - 0.1x_2 - 0.2x_3 = 7.85$ $0.1x_1 + 7x_2 - 0.3x_3 = -19.3$ $0.3x_1 - 0.2x_2 + 10x_3 = 71.4$ If found consistent, solve it by Gauss elimination method.
d)	Examine the non-trival solutions for $x - y + 2z + w = 0$ $3x + 2y + w = 0$ $4x + y + 2z + 2w = 0$ Also find the solution of the system.
e)	What is the rank of the matrix, find the rank and Nullity of the matrix? $A = \begin{bmatrix} 0 & 1 & 2 & -2 \\ 4 & 0 & 2 & 6 \\ 2 & 1 & 3 & 1 \\ 3 & 2 & 1 & 4 \end{bmatrix}$
	Determine whether the following set of vectors in R^3 is linear dependent or independent. i. $S = \{V_1, V_2, V_3\} = \{(1,2,3), (0,1,2), (-2,0,1)\}$. ii. $S = \{V_1, V_2, V_3\} = \{1 + x - 2x^2, 2 + 5x - x^2, x + x^2\}$.