I	Course Code	**MA224004**
II	Course Title	**Linear Algebra and Applications**
III	Credit Structure	L T P C 3 0 0 3
IV	Prerequisite (If any)	NIL
V	Course Content	Review of basic linear algebra; Linear transformations, Eigen values and eigen vectors of a linear transformation, Diagonalization; Inner product spaces, The Gram-Schmidt process; Symmetric matrix and quadratic forms, singular value decomposition, applications to image processing; Orthogonality and least squares, Applications to linear models; The geometry of vector spaces, Optimization: matrix games, linear programming, duality; Finite state markov chains.
VI	Text/References	• Linear Algebra: Kenneth Hoffman, Ray Kunze. • Linear Algebra and its Applications: Peter D. Lax. • Linear Algebra and its Applications: David C. Lay. • Applied Linear Algebra: Peter J. Oliver, Chehrzad Shakiban