SEMESTER IV		
Paper Code	**THEORY**	**Credits:3**
MT401	**Title: Linear Algebra-II**	**45 L**
Unit 1	**Inner product space**	**15 L**
	Euclidean space, dot product, general inner product space, orthogonality, orthogonal basis, Gram-Schmidt orthogonalization process, orthogonal transformations.	
Unit 2	**Eigenvalues and Eigenvectors**	**15 L**
	Characteristic polynomial, Cayley-Hamilton Theorem, Eigenvalues and eigenvectors – definition and examples,	
Unit 3	**Quadratic forms**	**15 L**
	Diagonalization, orthogonal diagonalization, quadratic form.	

References:

1. S. Kumaresan, Linear Algebra: A Geometric Approach, Prentice Hall of India, New Delhi.
2. Linear Algebra, Kenneth Hoffman, Ray Kunze, Prentice-Hall.

Additional References:

1. S. Lang, Introduction to Linear Algebra, Springer-Verlag
2. A. Ramachandra Rao, P. Bhimashankaran, Linear Algebra, Tata McGraw Hill, New Delhi
3. H. Anton, C. Rorres, Elementary Linear Algebra with Applications, Wiley