SEMESTER III		
Paper Code	**THEORY**	**Credits:3**
MT301	**Title: Linear Algebra-I**	**45 L**
Unit 1	**Vector space**	**15 L**
	Vector space – definition and example, generating set, basis and dimension, subspaces of a vector space, row rank and column rank of a matrix	
Unit 2	**Linear Transformations**	**15 L**
	Linear transformation – definition and example including rotation and reflection, matrix form of a linear transformation, kernel and image of a linear transformation, rank-nullity theorem, linear isomorphism.	
Unit 3	**Quotient space**	**15 L**
	Quotient space – definition and example, basis and dimension of quotient space, fundamental theorem of isomorphism.	

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