

MT-502	Linear Algebra
	<p><u>Vector Space:</u> Euclidean n-space, General vector spaces, Subspaces, Linear independences, Basis and dimensions, Row and column spaces, Rank.</p> <p><u>Inner product Space:</u> Length and angle in Inner product spaces, Orthonormal bases, Gram-Schmidt process, Change of basis.</p> <p><u>Eigen values and Eigen vectors:</u> Eigen values and Eigen vectors, Diagonalisation, Orthogonal diagonalisation, Application to differential equations, Application to approximation problems, Application to conic section, Quadric forms, Application to quadric surfaces, Electrical networks, Geometric linear programming, Assignment problem, Graph theory, Computer graphics.</p> <p><u>Numerical methods in linear algebra:</u> Comparison of procedures for solving linear system, Gauss seidel and Jacobi methods, Partial pivoting, Reduction of round off error, Approximating eigen values by the power methods.</p> <p><u>Reference Books:</u></p> <ul style="list-style-type: none"> • Daniat S.A and Sober.E, <i>Advance Linear Algebra for Engineers with Matlab</i>, Taylor & Frances, 2009. • David C.L, <i>Linear Algebra & Its Applications</i>, 3rd Edition, Addison Wesley, 2002. • Cooperstsein B, <i>Advance Linear Algebra</i>, Taylor & Francis Group, 2010. • Lawrence, Johnson W, Riess R.D and Arnold J.T, <i>Introduction to Linear Algebra</i>, Addison-Wesley, 2001. • Steven R, <i>Advance Linear Algebra</i>, 3rd Edition, Springer, 2008.