

Module 1

Linear algebra: matrices, vectors, determinants and linear system of equations, matrices and linear system of equations, matrix eigen value problems, symmetric, skew symmetric and orthogonal matrices.

Module 2

Complex matrices: Hermitian, skew hermitian and unitary matrices, Similarity of matrices. Vector differential calculus: grad, div, curl, vector integral calculus

Module 3

Line integrals, Green theorem: Surface integrals, Gauss theorem, Stockes theorem

Module 4

Fourier series: Fourier series, Expansions functions of any period, even and odd functions, half range expansion. .

Course covered by: Advance Engineering mathematics by E. Kreyszig, 8th Edition

Chapter 6 (6.1 - 6.7)

Chapter 7 (7.1 - 7.5)

Chapter 8 (8.1 - 8.4,8.9 - 8.11)

Chapter 9 (9.1 - 9.9)

Chapter 10 (10.1 -10.4)