

SYLLABUS :-

Prerequisites: AE31005

3 - 0 - 0: 3 Credits Variational principles in structural analysis, general finite element formulation using assumed displacement models, convergence requirements, finite element structural analysis using simple bar, beam, and two-dimensional plane stress elements. Shape functions, rectangular elements. Lagrange family and serendipity family, natural co-ordinates: interpolation fields for triangular elements. Isoparametric formulation; two-dimensional elements, Gauss quadrature, and elements for axial symmetry: plate elements, finite element free vibration analysis of bars and beams, weighted residual and Galerkin methods, finite element modeling and programming.