SUBJECT NO-ME60407, SUBJECT NAME- FINITE ELEMENT METHODS IN ENGINEERING

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Basic concepts: The standard discrete system, Finite elements of an elastic continuum-displacement approach, Generalization of the finite element concepts-weighted residual and variational approaches. Element types: triangular, rectangular, quadrilateral, sector, curved, isoparametric elements and numerical integration. Automatic mesh generation schemes. Application to structural mechanics problems: plane stress and plane strains, Axisymmetric stress analysis, three dimensional stress analysis, bending of plates. Introduction to the use of FEM in steady state field problems-heat conduction, fluid flow and non-linear material problems, plasticity, creep etc. Computer procedures for Finite element analysis.