SUBJECT NO-ME60131, SUBJECT NAME- FINITE AND BOUNDARY ELEMENT METHODS IN MANUFACTURING
LTP- 4-0-0,CRD- 4

SYLLABUS :-

Finite and Boundary Element Methods in ManufacturingIntroduction to finite element method; discrimination of domain, elastic analysis of 2D bodies using and rod elements and linear triangular elements; 3D tetrahedron element methodology of mesh generation, assembly an solution, formulation using variational analysis and method residue; heat conduction analysis for steady and unsteady case and extension of the method to the analysis of general potential problems; bending of beams and plates; non-linear, curves and isoparametric elements, area coordinates; numerical integration. Principle of boundary element method; conversion of basic weighted residue statement into boundary integral equation inverse statement, concept of fundamental solution; application to potential problem in two and three dimensions; type of boundary elements; brief introduction to formulation of problems in elastostatics. Practice on development of programs and use of software.