MVSR Engineering College, Nadergul.

Department of Mechanical Engineering

COURSE OUTCOMES

Class: B.E.IV Year I Sem (Mech. Engg.)

Name of the Course: **FINITE ELEMENT ANALYSIS**

Course Code: ME 403

At the end of the course student is able to

CO no.	Course Outcome	POs
M403.1	Summarize basic equations of elasticity and formulate finite element modeling of one dimensional element using Potential energy approach.	PO1 , PO2, PSO-1
M403.2	Formulate finite element modeling of truss and frame elements along with the concepts of transformation from local to global matrices.	PO1 , PO2, PO3,PO4,PSO-1
M403.3	Interpolate Hermitian shape function of beam element in natural coordinate system.	PO1, PO2, PO12,PSO-1
M403.4	Develop stiffness matrix for a plane stress & plane strain conditions on a CST, Axisymmetric elements by interpolating shape functions in natural coordinate system.	PO1 , PO2, PO3,PO4, PSO-1
M403.5	Interpolate the shape functions of Isoparametric elements and to present the use of numerical integration to evaluate the element matrices in typical 2D problems. Formulate finite element model to steady state heat transfer analysis using one & two dimensional elements.	PO1 , PO2, PO3,PO4,PSO-1
M403.6	Formulate mass and stiffness matrices of 1D & beam elements to establish Eigen values &Eigen vectors using Lagarangian and Hamilton principles. Develop finite element model for 3D problems in stress analysis and explain the concepts of convergence criteria.	PO1 , PO2, PO3,PO4,PO5,PO12, PSO-1