

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. Semester II
Civil Engineering (Structural Engineering)

Subject: - Finite Element Method

Sr. No	Course Content
1	Introduction, concept and solution procedure for finite element method.
2	Computation of element properties like using generalized co-ordinates for one and two dimensional elements. Beam bending, plate bending and axisymmetry problems.
3	Isoparametric elements. Lagrangian and Hermitian interpolation functions.
4	Application of finite element method in structural mechanics. Dynamic Programming Organization of FEM problem.
5	Pre and Post processing introduction to FEM packages like NISA, ANSYS etc.

REFERENCE BOOKS:

- 1 Zienkiewicz O C., "The Finite Element Method", McGraw Hill, 14/e/1999.
- 2 Desai C. S. & Abel J. F., "Introduction to the Finite Element Method", First Indian Edn. 1987
- 3 Krishnamoorthy C.S.. "Finite Element Analysis", Tata McGraw Hill.
- 4 Bathe & Wilson, "Numerical Methods in Finite Element Analysis", Prentice Hall of India.
- 5 Chandrupatla R.R & Belegundu A.D., "Introduction to Finite Elements in Engineering", Prentice Hall of India, 2/e/2000.