Civil Engineering Department

Guru Nanak Dev Engineering College, Ludhiana

M.Tech 1st year **MTST-602 Finite Element Methods**

Date: Tue 17 Nov 15 3rd House Test Time: 10:30 a.m. to 12:00 noon Max. Marks 30

Don't write anything on question paper except your Roll No. _____

1	Evaluate the matrices necessary to determine the stiffness matrix for the tetrahedral element formed by vertices given by (25, 25,50), (0, 0, 0), (0, 50, 0) and (50, 25, 0). Let E = 208.8 kN/mm^2 and v = 0.30.	10
2	Derive Plate Bending Element Stiffness Matrix.	10
3(a)	What do you understand by Iso-parametric formulation? What are the advantages of this approach?	4
3(b)	For bar element, derive stiffness matrix following iso-parametric approach.	6

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