# Civil Engineering Department

## *Guru Nanak Dev Engineering College, Ludhiana*

### M.Tech 2$^{nd}$ year          CE-516 Finite Element Method (Elective III)

Date: Thu 30 Aug 12 1$^{st}$ House Test          Time: 10:30 a.m. to 12:00 noon          Max. Marks 24

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

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|---|---|---|
| 1(a) | Show general state of stress on a differential element, and write down equilibrium equatons. | 6 |
| 1(b) | Which are the methods used to find approximate solution to various complex Engineering problems? | 2 |
| 2(a) | How one can calculate value of $\pi$ from polygon inscribed and circumscribed in a circle? Show convergence of $\pi$ for n = 3, 4, 6; where n is number of sides of polygon. | 4 |
| 2(b) | Write down advantages and disadvantages of Finite Element Method. | 4 |
| 3 | Write down steps involved in Finite Element Method. | 8 |