HIGHER TECHNICAL INSTITUTE

CIVIL ENGINEERING
DEPARTMENT

DIPLOMA PROJECT

A STRUCTURAL ANALYSIS PROGRAM
FOR PLANE TRUSSES

C / 751

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SUMMARY

- The purpose of this project is to develope a computer program to analyze PLANE TRUSSES. The end result is a computer program that generate the displacements and force response of plane trusses.

- The method that is used is the stiffness method apply on plane - Truss problems. FORTRAN language is used for development of the program. Matrix Algebra is applied for the development and solution of the stiffness equations.

At chapter 1 the theory of STIFFNESS method is explained by the use of an example. The idea was the clarity in mind; not efficiency.

At chapter 2 FORTRAN language is introduced. The most important statements used in the program are explained here.

Chapter 3 goes through plane trusses and gives a general idea of these. Also some types of trusses are shown.

Chapter 4 explain the program. From the layoutof the program, it can be seen the whole picture of the program. The Gauss Elimination is introduced and the Computer program is given.

At chapter 5 the input file is explained, something very important for the user.

At chapter 6, plane truss problems verify the program.

At chapter 7, there is the MANUAL OF THE USER.

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