Homework 05 – Stiffness Method – Trusses

Required:

Using the direct stiffness method or trusses (derived from the comprehensive method) solve the following problems (Leet & Uang, “Fundamentals of Structural Analysis”, 2nd Edition, 2005); in all answer you must evaluate and display (i): reactions; (ii) shear force diagram; (iii) moment diagram and (iv) “estimated” (not calculated) deflection lines consistent with the previous diagrams.

Problem 17.1 (30 pts) – Force 80 kN, inclined 4:3 slope, Spans 5m and 3m, while height is 4m

Problem 17.5 (40 pts)
Problem 17.6 (30 pts)
Force 80 KN

Notes:

- Please organize the submittal in two columns: a) One column for all diagrams, sketches, drawings and b) Second column hand calculations, notes, etc.