INFLUENCE LINES (2)
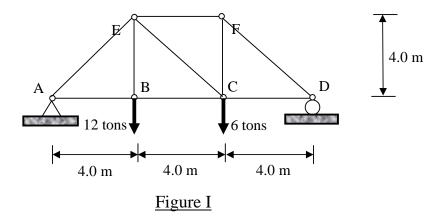
CIVE311 – STRUCTURES I

(Wednesday, March 5, 2008)

Exercise I/II: *(taken from Quiz 1, Spring 2005-06, partially)*

Figure I

1. Referring to the weightless plane truss shown in Figure I, compute the reactions and the forces in members EB and EC.
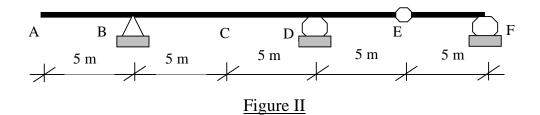
Calculations and/or Diagrams:

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2. Draw the influence lines of: Reactions at A, and member forces EB and EC, for a load moving vertically downward along ABCD.
From influence lines, compute the reactions and forces above for the loads shown in <u>Figure I</u> and compare with question 1.

<u>Calculations and Diagrams:</u>

Exercise II/II: *(taken from Quiz 1, Spring 2003-04, partially)*

Figure II

1. Referring to Figure II, draw the influence lines for R_B, and M_C.

Calculations and Diagrams:

2. Compute the maximum positive value for M_C for the following truck moving load, which can travel in one direction as shown, and compute the maximum positive moment that can ever occur between B and D. Compare and comment.

10   10 kN
4

2   2 m

Calculations and Diagrams: