University of Massachusetts - Amherst
Department of Civil & Environmental Engineering
CEE 331: Structural Analysis

Homework #10: Due December 2

Problem 1: Hibbeler 10-1, use $B_y$ as the redundant.

Problem 2: Hibbeler 10-9, use $B_y$ as the redundant.

Problem 3: Hibbeler 10-16, use $B_y$ and $C_y$ as the redundants.

Instructions for remaining problems: For each of the structures shown below:
(1) Predict, before doing an analysis, the deflected shape and moment diagram in sketches on the given blanks. The sketches should be neat and clear, but should not have any numbers on them. If graded, this part will not be graded for correctness, only on the basis of an honest effort.
(2) Perform an analysis using MASTAN, and sketch the deflected shape and moment diagram on the given blanks. Note the location and value of the maximum bending moment. Assume $E = 29000$ ksi for all members.

Note: Do not submit any additional sheets. Do not submit MASTAN printouts.
Problem 4:

Prediction

Deflected Shape

Moment

Master Solution

Deflected Shape

Moment
Problem 5:

\[ \text{Deflected Shape} \]

\[ \text{Moment} \]

\[ \text{Deflected Shape} \]

\[ \text{Moment} \]
Problem 6:

Prediction

Deflected Shape

Moment

Masten Solution

Deflected Shape

Moment
Problem 7:
Problem 8:

Problem

Load at midheight 6'

Prediction

Deflected shape

Masten Solution

Deflected shape

Moment
Problem 9:

Deflected Shape

Moment

Deflected Shape

Moment