Homework # 3

CIVE311 – STRUCTURES I

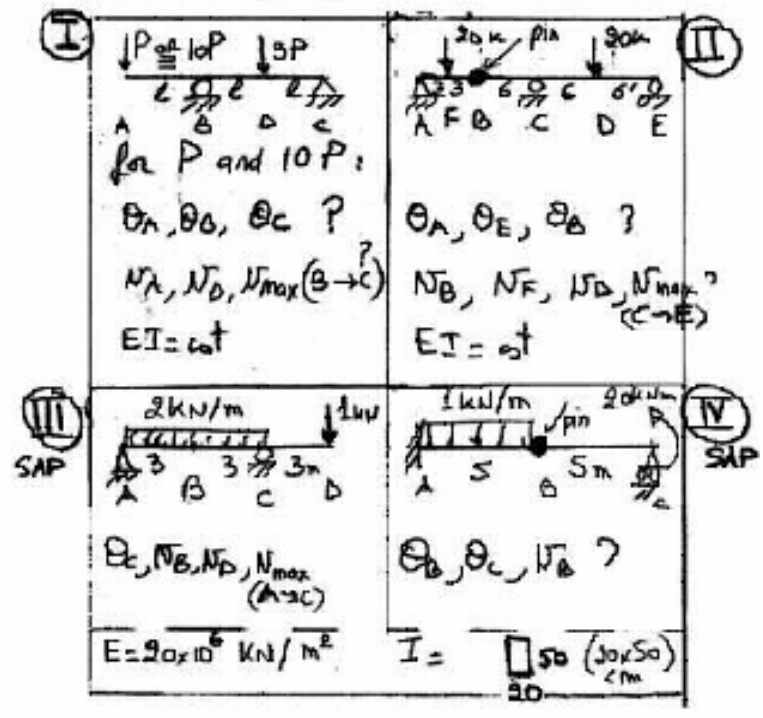
Spring 2007-08

Topics: Deflection of Beams
Double Integration, Moment-Area Theorems, and Conjugate-Beam
Moment Diagram by Parts
Application on SAP2000

Textbook: Structural Analysis, by R.C. Hibbeler
Prentice-Hall, 6th Edition

Problems:

- Chapter 8:
  - INTEGRATION: 5, 7, 2[(1)]
    [(1)] Problem 2: Use a=3L/4 & b=L/4; and add θ_{max}, v under P, v at L/2, & v_{max}
    (Use EIv''=M for 5 & 2 and use EIv''''=w for 7)
  - MOMENT-AREA: 11, 25, 12[(2)], 24, I, II, III, IV
    [(2)] Use E=29x10^3 ksi & I=800 in^4
    (Use moment by parts when necessary)
  - CONJUGATE-BEAM: 11, 12[(2)], III, IV
  - [(2)] Use E=29x10^3 ksi & I=800 in^4
  - (Use moment by parts when necessary)



- Solve for Problems 12, III, and IV using SAP2000. Refer to and follow steps outlined in SAP_Hints.

Given: Wednesday, March 26, 2008

Due: Monday, April 21, 2008

IMPORTANT NOTES

- Homework should be submitted on time.
- Use FE paper, staple, and submit in FEA folder.
- Homework should be clean, organized, and professional.
- Think of yourself as a professional engineer who is submitting a project (your homework) to a client (your teacher), who, if not satisfied, will not give you another job.

If you do not satisfy the above, your homework may be returned to you without grading.