

CE 3310: Advanced Structural Analysis

Tutorial - 2 : Slope-deflection Method

Take $P = 100 +$ last two digits of your Roll No.

- Analyse the continuous beam shown in Fig. 1, subject to the external loading and support settlements as indicated, by the Slope-deflection Method. Assume $EI = 80\,000 \text{ kNm}^2$. Draw the shear force and bending moment diagrams.

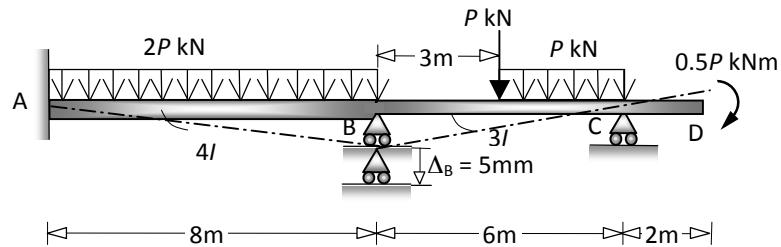


Fig. 1

- Analyse the symmetric frame shown in Fig. 2 by the Slope-deflection Method. Draw the bending moment diagram and sketch the probable deflected shape. [Hint: take advantage of symmetry!].

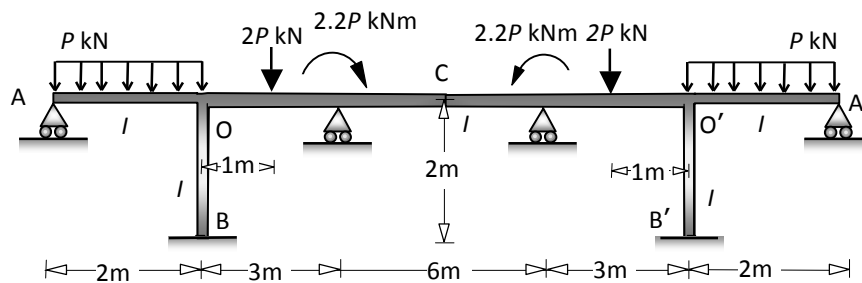


Fig. 2

- Analyse the laterally loaded single bay two-storeyed frame in Fig. 3 by the Slope-deflection method, taking advantage of anti-symmetry in the response. Draw the bending moment diagram. Also sketch the deflection profile.

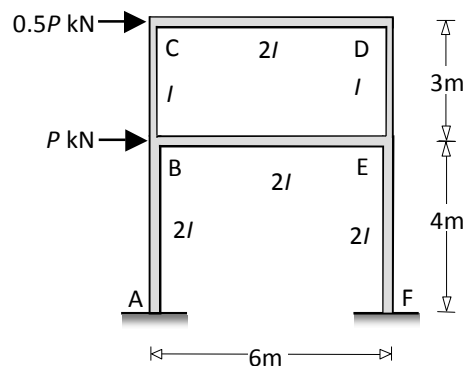


Fig. 3