## **DEPARTMENT OF CIVIL ENGINEERING**





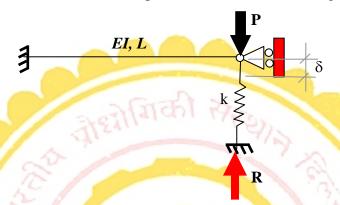
## **CEL331 STRUCTURAL ANALYSIS II (2010-11)**

## **Tutorial Sheet 3**

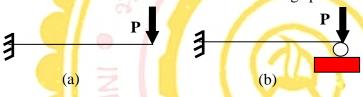
## Classical Slope Deflection Method

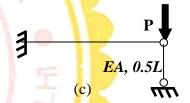
(Available online at: http://web.iitd.ac.in/~sbhalla//cel331.htm)

1. Determine the reaction R and the displacement  $\delta$  for the following structure.

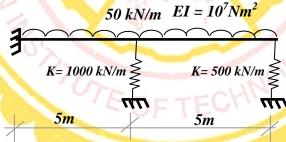


Use the above result to solve for the following special cases:





2. Deduce shear force and bending moment diagram of the beam and the spring forces for following structure.



3. Deduce shear force and bending moment diagram of the following beam, if support B undergoes a settlement of 5mm.

