3. **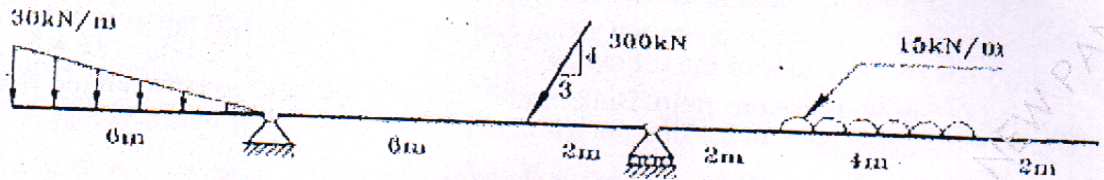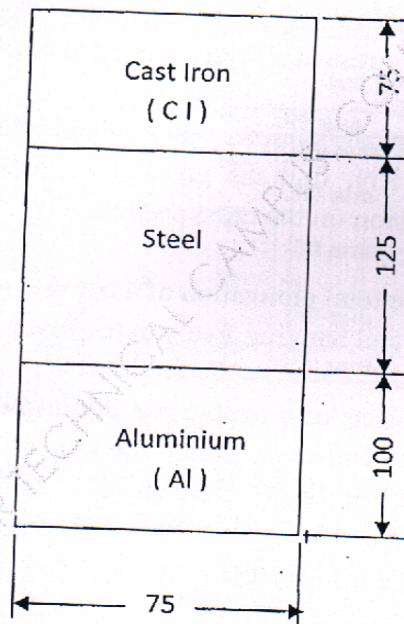(a)** Draw Axial Force, Shear Force and Bending Moment diagrams for the beam as shown in the Fig. Locate all important points.

(10)

(b) A composite beam having the cross sectional dimentions shown in figure is subjected to a bending moment of 400 KNm. Materials are fastened so that the beam acts as a single unit. Determine the maximum bending stresses in each material. Dimentions are in mm. Take $E_{steel} = 2 \times 10^5$ N/ mm^2 ; $E_{Al} = 0.67 \times 10^5$ N/ mm^2 ; $E_{CI} = 1 \times 10^5$ N/ mm^2

(10)

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