Name:		Section		Roll No.	

INDIAN INSTITUTE OF TECHNOLOGY KANPUR

Quiz – 1

Date: 15.02.17 **Time:** 30 mins. **Full Marks:** 20 **No. of Students:** 169

Sub. No.: ESO202A/204 **Sub. Name:** Mechanics of Solids **2016-17, II Semester**

Instructions: i) Neatly draw the free body diagram, ii) Assume suitable data if not mentioned, iii) Show the calculations, iv) Use extra sheet(s) if required

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The rods each have the same 25 mm diameter and 600 mm length. If they are made of steel, determine the forces developed in each rod when the temperature increases to 50^0C. Given, $E_{steel} = 200 \times 10^6$ kN/m^2, $\alpha_{steel} = 12 \times 10^{-6}$ /^{0}C