College of Engineering & Technology

Department: Mechanical Engineering Marks: 15
Lecturer: Dr. Rola Afify Time: 1:15 – 2:00
Course Code: ME276 Date: 29/10/2014

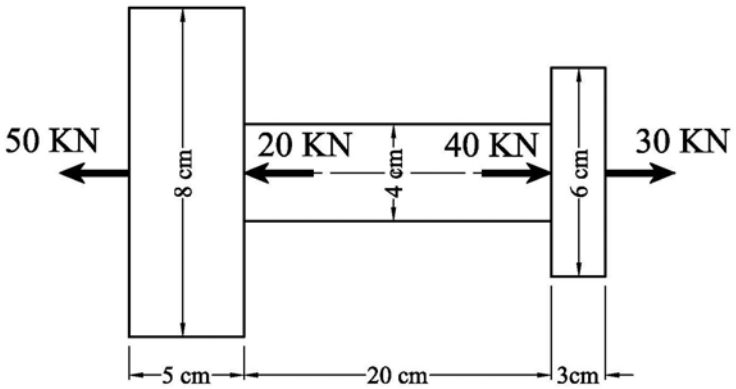
Answer the following questions:

Question one (6 marks)

A solid shaft of length 15 cm and diameter 2 cm has a modulus of elasticity 210 GPa is subjected to an axial tensile load of 60 kN. Calculate the tensile stress and strain.

Question two (9 marks)

A circular steel rod of length 28 cm loaded as shown in the figure. Calculate the extension in the 20 cm length part, if the modulus of elasticity 200 GPa. Draw the Normal Force Diagram (N.F.D).



Good Luck

Dr. Rola Afify