

College of Engineering & Technology

Department: Mechanical Engineering Marks: 15

Lecturer: Dr. Rola Afify
Course Code: ME276

Time: 2:00 – 2:30
Date: 24/12/2014

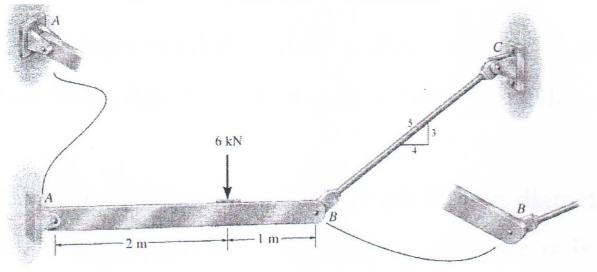
Name: R.N.:

Answer the following questions: Question one (5 marks)

Calculate the force needed to punch a hole 30 mm diameter in a sheet of metal 3 mm thick given that the ultimate shear stress is 60 MPa.

Question two (10 marks)

The two members, shown in Figure 2, are pinned together at B. If the pins have an allowable shear stress of $\tau_{\rm allow} = 90$ MPa, and allowable tensile stress of rod CB is $(\sigma_t)_{\rm allow} = 115$ MPa. Determine to nearest mm the smallest diameter of pins A, B and C and the diameter of rod CB necessary to support the load.



Good Luck Page(1/1)

Dr. Rola Afify