



College of Engineering & Technology

Department: Mechanical Engineering
Lecturer: Dr. Rola Afify
Course Code: ME356

Marks: 20
Time: 11.00 - 12.00
Date: 30/12/2015

20

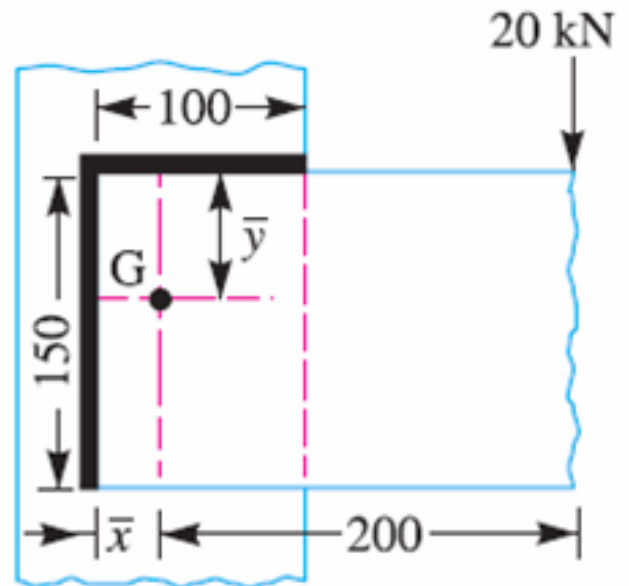
Name: _____

R.N.: _____

Answer the following questions:

Question one (10 marks)

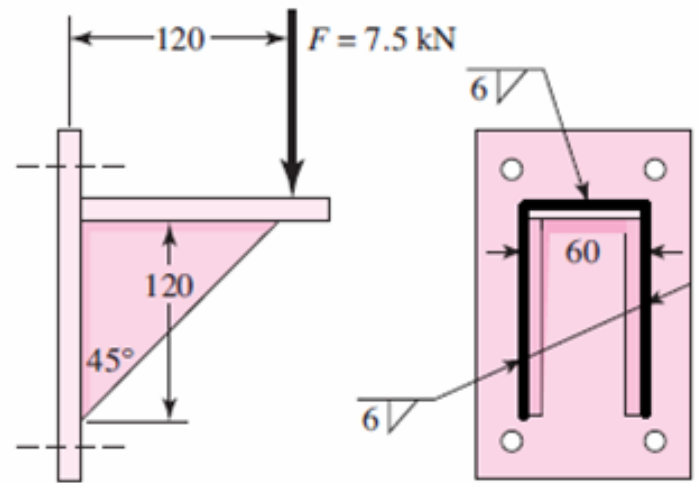
A welded joint subjected to an eccentric load of 20 kN, as shown in figure. The welding is only on one side. Determine the uniform size of the weld on the entire length of two legs (h). Take the allowable shear stress for the weld material is 80 MPa.



All dimensions in mm.

Question two (10 marks)

The figure shows a welded steel bracket loaded by a static force F . Estimate the factor of safety if the yield strength in the weld throat is 240 MPa.



Dimensions in millimeters