



College of Engineering & Technology

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

Marks: 15
Time: 1.00 - 2.00
Date: 25/11/2015

15

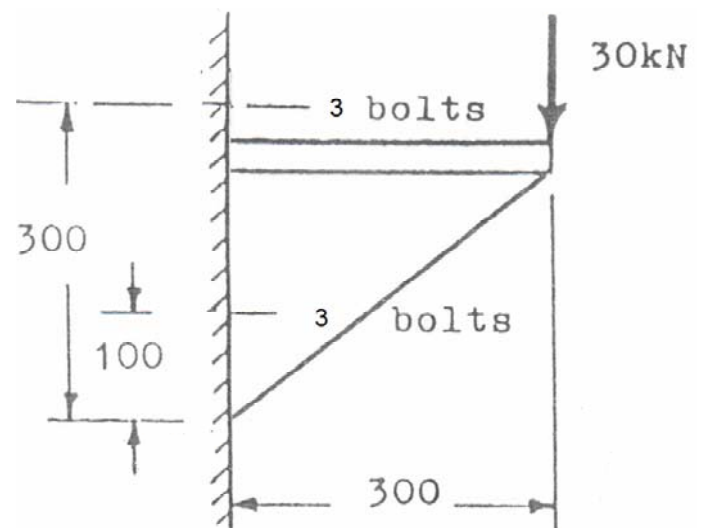
Name:

R.N.:

Answer the following questions: (one mark for good drawings)

Question one (7 marks)

Six bolts are used to secure the bracket, shown in figure, to the wall. If the bolts are made of steel having $S_y = 420$ MPa, determine their size using a factor of safety of 3.



Dim. in mm.

Question two (7 marks)

A bracket is riveted to a column by 6 rivets of equal size. It carries a load of 60 kN at a distance of 200 mm from the center of the column. If the maximum shear stress in the rivet is limited to 150 MPa, determine the diameter of the rivet.

