## College of Engineering \& Technology

Department: Mechanical Engineering
Marks: 10

Lecturer: Dr. Rola Afify
Course Code: ME356

Time: 9:30-10:10
Date: 30/10/2016

Name:
R.N.:

## Answer the following questions:

## Question one (5 marks)

For the shown beam, draw the bending moment diagram and calculate the maximum bending stress.


## Question two (5 marks)

A pull of 80 kN is exerted through a pin as shown in figure. If the maximum permissible tensile stress is $100 \mathrm{~N} / \mathrm{mm}^{2}$ and the permissible shear stress in the pin is $80 \mathrm{~N} / \mathrm{mm}^{2}$, find the diameter of the pin.


