



College of Engineering & Technology

Department: Mechanical Engineering

Marks: 15

Lecturer: Dr. Rola Afify

Time: 9:15 – 10:00

Course Code: ME276

Date: 29/10/2014

Answer the following questions:

Question one (6 marks)

A circular bar of length 30 cm and diameter 4 cm has a modulus of elasticity 210 GPa is subjected to a pull of axial load of 70 kN. Calculate tensile stress and strain.

Question two (9 marks)

A circular steel rod of length 60 cm loaded as shown in the figure. If the modulus of elasticity of the rod material 200 GPa; calculate the extension in the 8 cm diameter part. Draw the Normal Force Diagram (N.F.D).

