



College of Engineering & Technology

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

Marks: 10
Time: 11:30 - 12.10
Date: 23/10/2016

10

Name:

R.N.:

Answer the following questions:

Question one (6 marks)

A) Define:

i) Elasticity:

ii) Creep:

iii) Stress:

B) What are the general considerations in Machine Design?

Question two (4 marks)

A 9 mm length of 6 mm x 6 mm steel wire is to be used in a hanger. It is noted that the wire stretched 18 mm when a tensile force P is applied. Knowing that $E = 200$ GPa, determine:

a) the magnitude of the force P, b) the corresponding normal stress in the wire.