**AMERICAN UNIVERSITY OF BEIRUT**

**QUIZ II IN MECH 320-SUMMER 2009 (1H15)**

**Formulas:**

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**Problem 1-20 pts (5 pts for part 1)**



Part II-solution



**Problem 2-20 pts** A single axial load of P=60 kN is attached at the end C of the brass rod ABC. Knowing that E=105 Gpa, determine the diameter d of the portion BC for which the deflection of point C will be 3 mm.



**Solution**

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**Problem 3-20 pts**



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**Problem 4-20 pts**

**Solution (replace in per cm and M=1kN/m)**

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**Problem 5-20 pts**

In this problem we need to find an expression relating the applied load, P, to the force in the rod CD. The shafts are fixed at A and E, there is a bearing at B, and the drive disk shown has a radius of a.

If:



Prove that:



Solution:

