College of Engineering & Technology

Department: Mechanical Engineering | Marks: 20
Lecturer: Dr. Rola Afify | Time: 2:00 – 2:30
Course Code: ME276 | Date: 24/12/2014

Name: R.N.:

Answer the following questions:

Question one (10 marks)

A solid shaft, shown in Figure, is subjected to the torques shown. The allowable shear stress $\tau_{allow} = 10$ MPa. Determine the required diameter of the shaft to the nearest mm and the angle of twist of the end E with respect to the end A. Draw the torque diagram. Take the distance between two gears 0.5 m and the modulus of Rigidity 80 GPa for the shaft material.
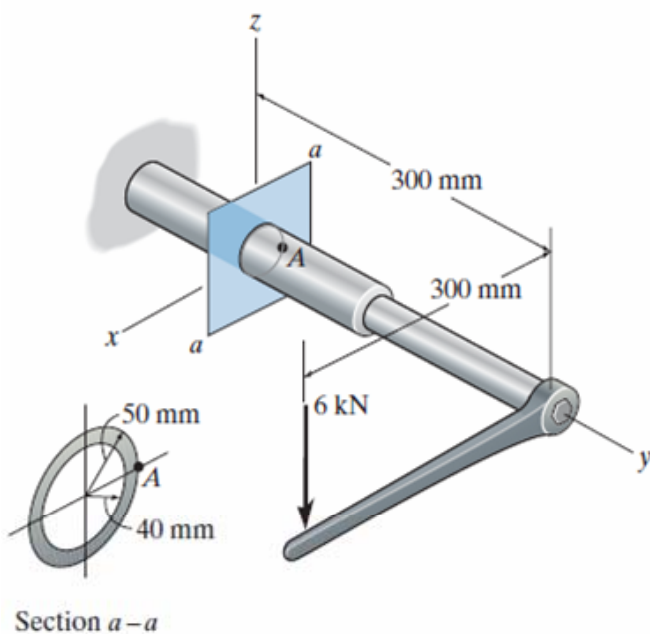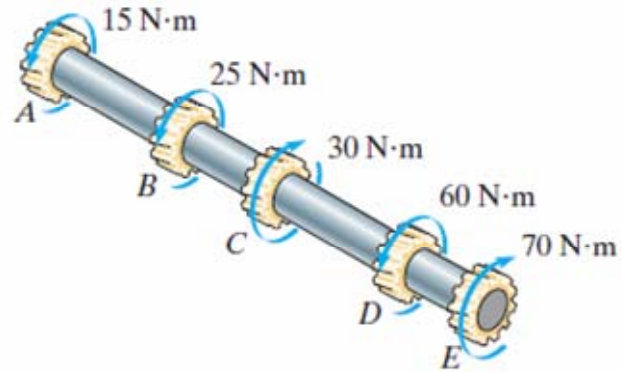
Question two (10 marks)

Determine the stress at point A on the cross section of the pipe at section a-a.

Good Luck Page(1/1)

Dr. Rola Afify