

UNIVERSITY OF ZAMBIA

SCHOOL OF ENGINEERING

EEE3112 ELECTRICAL ENGINEERING PRACTICE

ASSIGNMENT 1 DUE TUESDAY 31st MARCH, 2015

- (1) A shaft is made from a tube 25 mm outer diameter and 20mm inner diameter. The shear stress must not exceed 150MPa. Calculate the maximum power that should be transmitted at 1500rev/min

- (2) A steel shaft 5m long, having a diameter of 50mm, is to transmit power at a rotational speed of 600rev/min. If the maximum shear stress is limited to 60MN/m². Determine the following
 - (i) The maximum power that can be transmitted
 - (ii) The corresponding angle of twist

Assume the modulus of rigidity for steel is 80GN/m².

Prepared by: K.H. Moonga, March, 2015