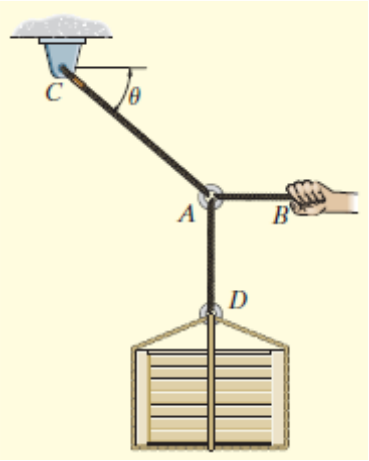
UNIVERSITY OF WOLLONGONG IN DUBAI

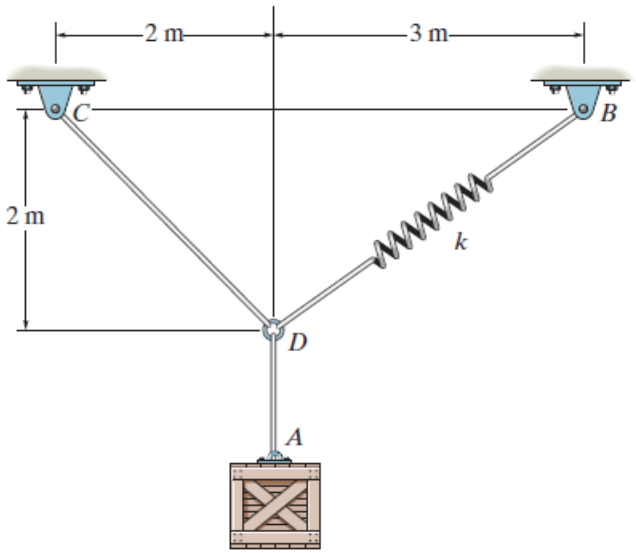
FACULTY OF ENGINEERING AND INFORMATION SCIENCES

Name: _____ Student No._____

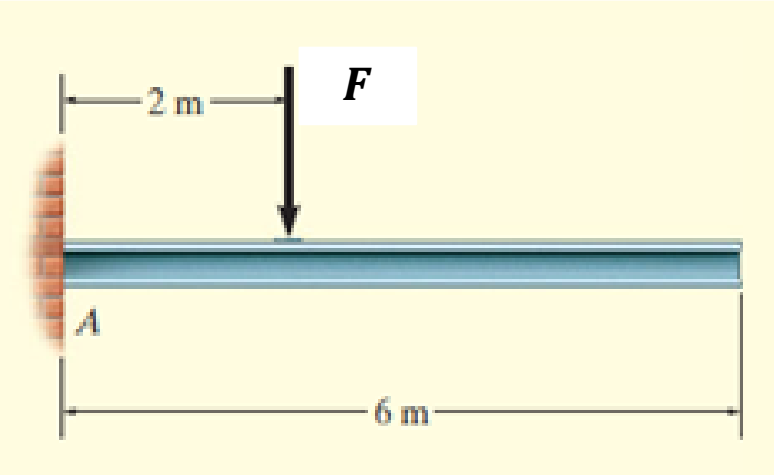
Q1. The $200\ kg$ crate in the Figure below is suspended using the ropes AB and AC. Draw the free body diagram of the ring at A. Calculate the tension force AD, AC and AB. Cord AB is horizontal. Take $\theta = 350$.



Q2. Determine the unstretched length of DB to hold the 40 kg crate in the position shown. Take $k = 180\ N/m$



Q3. The uniform beam shown in the figure has a mass of $100\ \mathrm{kg}$ and is fixed at support A. Calculate the reaction force(s) at A.



$F = 1000\ N$