UTM
UNIVERSITI TEKNOLOGI MALAYSIA
Faculty of Mechanical Engineering

ASSIGNMENT 2
SEMESTER II, SESSION 2016/2017

COURSE CODE : **SKMM1203**

COURSE NAME : **STATICS (*STATIK*)**

Name:

Matrix Number:

Q1: Determine the resultant of two forces acting on the spike (screw eye) as shown in Figure 1 by using rectangular components method.

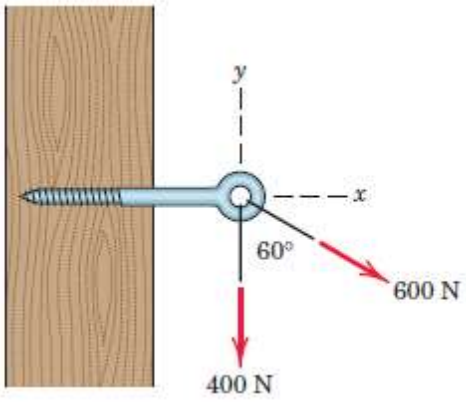

Figure 1

Q2: By using rectangular components method:

i. **Determine the resultant, R of the two forces shown in Figure 2 respect to x-y axes. (Note: the direction of R must be measured from x-axis)**

ii. **Determine the resultant, R of the two forces shown in Figure 2 respect to x'–y' axes. (Note: the direction of R must be measured from x'-axis)**

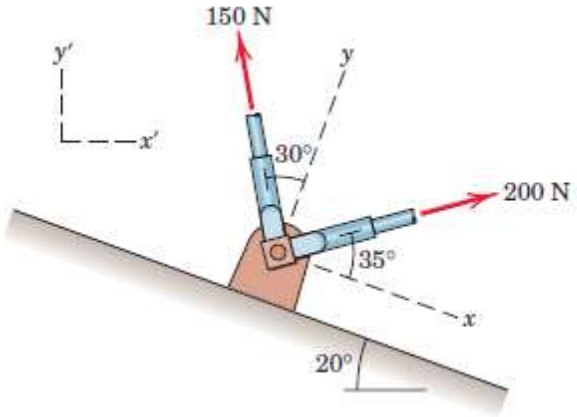

Figure 2

Q3: If the equal tensions T in the pulley cable are 400 N, determine the resultant, R exerted on the pulley by the cable. Use rectangular components method.

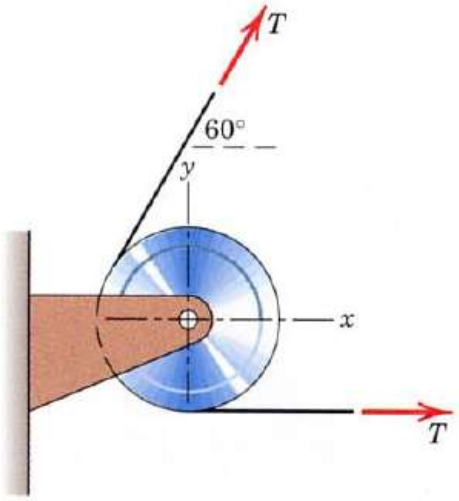

Figure 3

Q4: Cabels AB and AC are attached to the top of the transmission tower. The tension in cable AC is 8 kN. Determine the tension in cable AB such that the net effect of the two cable tensions is a downward force at point A. Determine the magnitude R of this downward force.

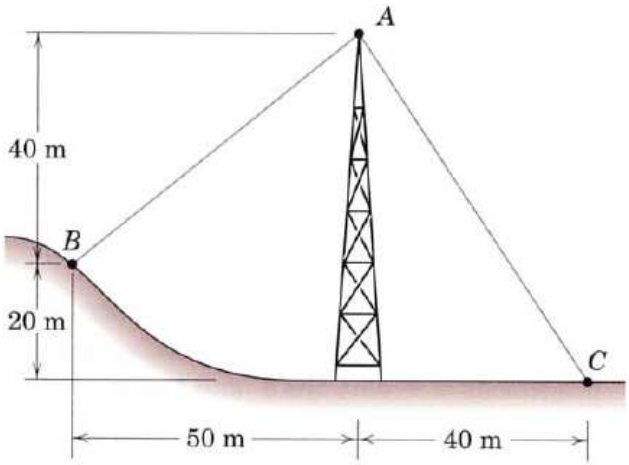

Figure 4

Q5: Determine the resultant force R of the three tension forces acting on the eye bolt shown in Figure 5.

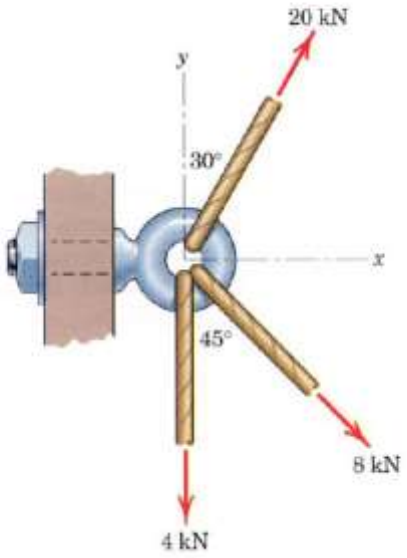

Figure 5

Q6: The eyebolt used to support four forces as shown in Figure 6. If the resultant force, R of the four forces is 3 kN acting along x direction, determine the values of T and θ.

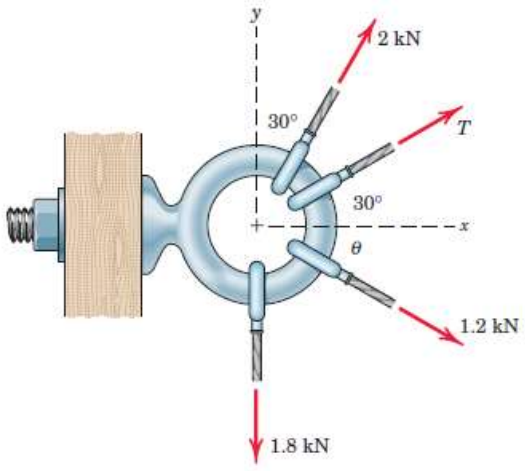

Figure 6