Mansoura University
Faculty of Engineering
BCE Program

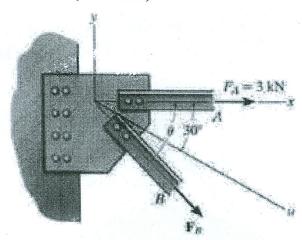


Midterm Exam-(MATH002)

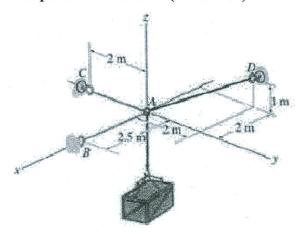
Date: 30-3-2015 Time: 45 min

Total Marks: 22 marks

1-If the resultant force is required to act along the positive u axis and have a magnitude of 5 kN, determine the required magnitude of  $F_B$  and its direction  $\theta$ . (7 Marks)



2-Determine the tension in the cables in order to support the 100 kg crate in the equilibrium position shown. (7 Marks)



3-Determine the resultant moment produced by forces  $F_B$  and  $F_C$  about point O. Express the result as a Cartesian vector. (8 Marks)

