

King Fahd University of Petroleum & Minerals

Department of Civil and Environmental Engineering

CE 201 – Static

Semester: 112
Examination: First Major
Date (Day): February 28, 2012 (Tuesday)
Time: 07:00 – 09:00 p.m.

Section	1 & 11	2 & 5	3	4	7 & 9	10 & 12	13
Instructor	Chowdhary	Mandil	Qahtani	Hussein	Malack	Arifulzaman	Sharif
Time	09:00 & 11:00	08:00 & 09:00	09:00	10:00	08:00 & 13:10	10:00 & 09:00	11:00
Tick							

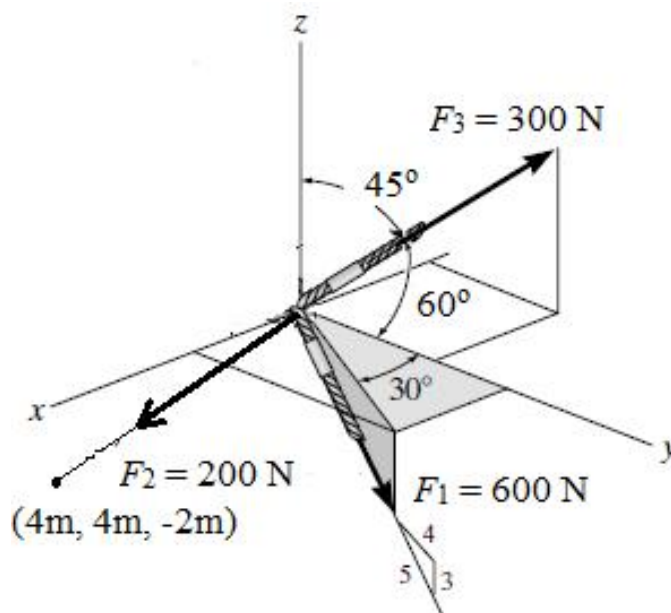
Student's Name :
Student's ID :

Problem	Assigned Grade	Earned Grade
1	25 (Points)	
2	25 (Points)	
3	25 (Points)	
4	25 (Points)	
Total	100 (Points)	

Good Luck

Problem 1 (25 Points)

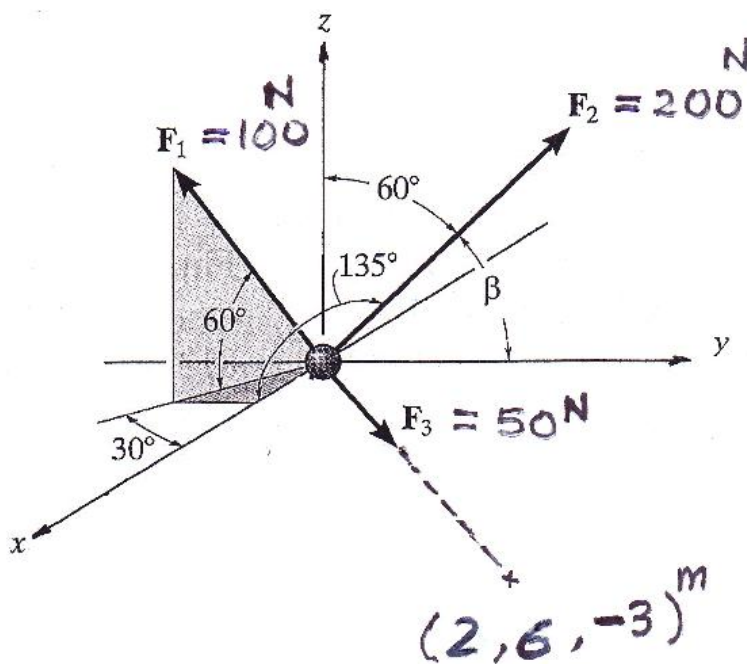
Find the resultant of the concurrent three forces F_1 , F_2 and F_3 and determine its direction.



Problem 2 (25 Points)

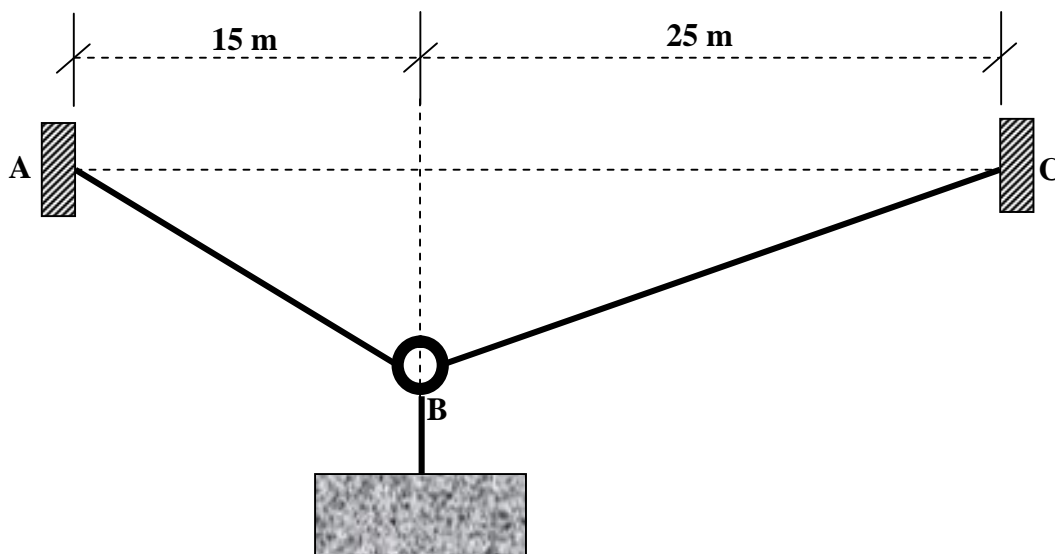
In the figure shown below:

- (10 Points) (a) Find the angle between forces (\mathbf{F}_1) and (\mathbf{F}_2)
- (10 Points) (b) Find projection of (\mathbf{F}_2) along the direction of (\mathbf{F}_3)
- (5 Points) (c) Find Resultant of all three forces (\mathbf{F}_1 , \mathbf{F}_2 and \mathbf{F}_3)



Problem 3 (25 Points)

The crate which has a mass of 4000 kg is suspended at ring B and supported by cables AB and BC. If the sum of the lengths of cable AB and BC is 42 meters $[(AB + BC) = 42 \text{ m}]$. Determine the tensions in cables AB and BC.



Problem 4 (25 Points)

Determine the forces in struts AB and AC and the stretch (s) of the spring in cable AD when force $F=1250$ N.

