

**QUIZ 1**  
**Fall 2016-17**  
 (Monday October 24, 2016)  
**CIVE210 – STATICS**  
**CLOSED BOOK, 1 HR 30 MN**

**Name:** \_\_\_\_\_ **ID#:** \_\_\_\_\_ **Sec:** \_\_\_\_\_

**NOTES**

- 3 PROBLEMS– 12 PAGES.
- ALL YOUR ANSWERS SHOULD BE PROVIDED ON THE QUESTION SHEETS.
- TWO EXTRA SHEETS ARE PROVIDED AT THE END.
- ASK FOR ADDITIONAL SHEETS IF YOU NEED MORE SPACE.
- SOME ANSWERS MAY REQUIRE MUCH LESS THAN THE SPACE PROVIDED.
- DO NOT USE THE BACK OF THE SHEETS FOR ANSWERS.
- DRAFT BOOKLET WILL BE PROVIDED; BUT DO NOT USE FOR ANSWERS.
- BOTH QUESTION SHEETS AND DRAFT BOOKLET SHOULD BE RETURNED.
- CHECK BOXES ARE TO CONFIRM THAT YOU HAVE SOLVED A QUESTION.



**YOUR COMMENT(S)**

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DO NOT WRITE IN THE SPACE BELOW

**MY COMMENT(S)**

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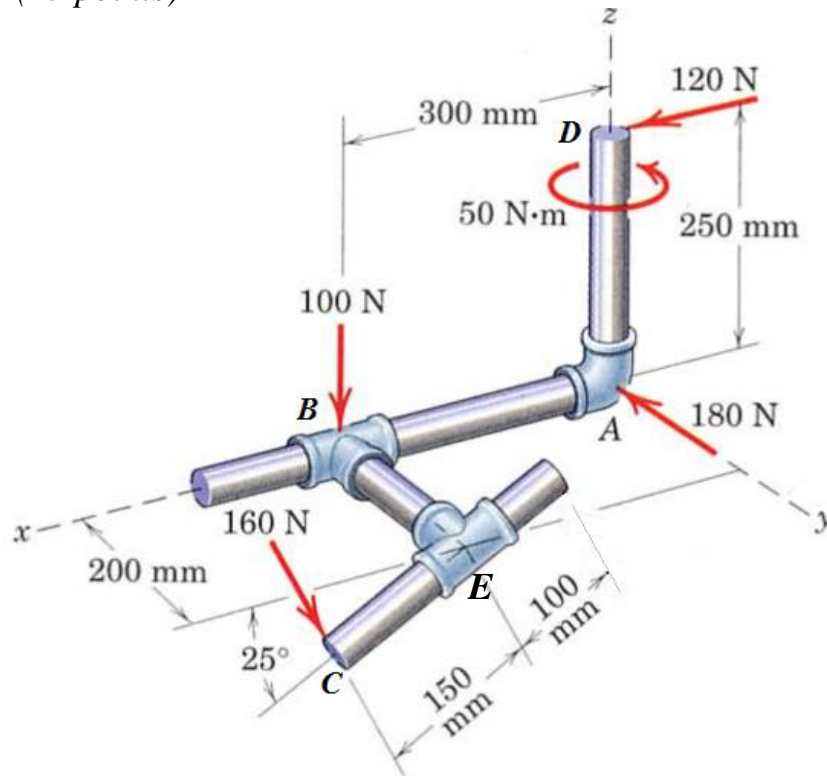
**YOUR GRADE**

	Problem I:	___/20
	Problem II:	___/45
	Problem II:	___/35
Bonus/Extras – Organization, Neatness, Special, ...:		___
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	<b><u>TOTAL:</u></b>	/100





**Problem II:** (45 points)



**Figure II**

The rigid pipe system is subjected to the forces and moment shown in Figure II. Note that EC is in a vertical plane parallel to XZ, the 160 N is a force in this plane and is perpendicular to EC, and the 25 degrees angle is a vertical angle.

- 1- Determine the equivalent resultant force (Express in Cartesian vector form, and calculate its magnitude and direction). (13 points)
- 2- Determine the magnitudes of the projected component of the resultant force on AB and AE. (7 points)
- 3- **Using whichever method you wish, or a combination of methods,** compute the moment produced by the applied loads (forces and moment) at point A (Express in Cartesian form, and calculate its magnitude and direction). Draw it as best as you can as a “vector” on the figure above. (18 points)
- 4- Determine the component of this moment about an axis extending between points A and C. (magnitude only). (7 points)

Calculations and/or Diagrams:

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