Chemistry 1501, Dr. Hunter

Fall 2007

Exam # 2 (Group Part)

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Last name **First** name

The group portion of this exam has this title page plus three pages of questions. Please make sure you have all pages. Place the names (last name first) and signatures of each group member above. *Initial each page of the exam in the top right hand corner* using the initials of the all group members so that if your exam pages get separated I can match them to your group.

To obtain maximum credit for each question, show your work in detail. Partial credit for questions will not be assigned if no work is shown. **Indeed, no credit will be granted if complete work is not shown *even for correct answers*.** Feel free to use pictures/diagrams to illustrate your text answers and/or to use short text explanations to explain your drawings if your pictures are ambiguous. If you have to make assumptions, etc., to complete any answers, write me a short note stating and/or explaining your assumptions and testing them to the degree possible. Be very careful with significant figures on all answers. Note: Use the Atomic Masses from the table on the inside front cover of the text book that were also handed out with the exam.

You have 30 minutes for the individual part of this exam. The 25 points for the individual part of this exam correspond to 12.5% of the 200 overall points for this course. Together, the group and individual parts of this exam are worth ¼ of the total course grade.

Grade /25 (Group grade)

G1. (10 Points Total). Determine the number of moles of the indicated products and/or starting materials as requested:

G1-a. If one wants to produce 17 moles of $Ca_3(PO_4)_2$, how many moles of H_3PO_4 should one use?

$$\_\_\ H_3PO_4 \ + \ \_\_\ Ca(OH)_2 \ \rightarrow \ \_\_\ Ca_3(PO_4)_2 \ + \ \_\_\ H_2O$$

G1-b. How many moles of C_6H_6 have to be burned to produce 6.06 moles of CO_2.

Grade /10

G2. (10 points total). Determine the number of grams of the indicated products and/or starting materials as requested:

G2-a. How many tonnes of Oxygen does it take to burn 1.6 kilograms of C_2H_4?

Grade /10

G3. (5 points total). 12 moles of WN_4O_4 were reacted with 0.50 moles of CO. Identify the limiting reagents and then predict the yield of the products in moles.

$$\_\_WN_4O_4 + \_\_CO \rightarrow \_\_NO + \_\_WC_6O_6$$

Grade /5