Bauck's CHEMISTRY Ch. 7 Test Review *This is an optional assignment due the day of the test.*

Materials: loose leaf paper, pen and/or pencil (You will be given a periodic table.)
Test date: _____
Test value: 200 points
Test format: multiple choice**;** short answer essays;
10 electron configurations:

For each question:

a) Write the element name.
b) Write the CONDENSED electron configuration
c) Write the VALENCE electron configuration
d) Draw the VALENCE orbital "boxes," labeled and filled with electron arrows.

For each question:

a) Write the symbol and charge of the ION that the element can form.
b) How many electrons are gained or lost?
c) Write the name of the ION formed.
d) Using the periodic table, write the VALENCE electron configuration for the ION.

For each question:

a) Write the element name.
b) Write out the COMPLETE electron configuration and underline the valence parts.
c) Write how many electrons are in the valence shell.
d) Write how many electrons are in each energy level. List in order.

TOPICS TO STUDY:

1) **Antiparallel spin**—What is this? What is its importance to electrons in "shells"?
2) **Aufbau diagram**—What is this? Contrast to electron configurations using the periodic table. (NOTE: There will be no Aufbau diagram on the test.)
3) **Electron configuration**—What is it? How is it done with the periodic table? Contrast and be able to write out the following:
    a) **Complete electron configurations**
    b) **Condensed electron configurations**
    c) **Valence electron configurations**
    d) **Configurations of atoms vs. ions**

    Choose an element and give an example of a-d for this review.
4) **Noble Gas configuration**—What is this? Identify examples. Contrast with **Pseudo-Noble Gas configuration.**
5) **Orbitals—**What are they? Be able to identify correct and incorrect orbital designations. Give an example of each.
6) **Principal energy level (n) –**What is this?
7) **Pseudo-Noble Gas configuration**—What is this? When does this occur? Why is this an exception to regular electron configurations? Contrast with **Noble Gas configuration.**
8) **Sublevels**—What are they? What shapes can they be? What four letters are assigned to them?
9) **Superscript** vs. exponent—Which is used in **electron configurations**?
10) **Valence**—What is it? How does it relate to electron configurations?