Chemistry 141 Name

Dr. Cary Willard

Quiz 7A (20 points) April 10, 2008

All work must be shown to receive credit.

1. (3 points) Write the complete electron configuration for an atom of magnesium.
2. (3 points) Write the shorthand electron configuration as predicted by the periodic table for osmium.
3. (4 points) What are valence electrons and why are they important?
4. (5 points) Both vanadium and its 3+ ion are paramagnetic. Use electron configurations to explain why this is so.
5. (3 points) Explain how effective nuclear charge and ionization energy are related.
6. (1 points) Which is larger, at atom of bromine or an atom of chlorine?
7. (1 points) Which has the larger ionization energy, an atom of nitrogen or an atom of oxygen?

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Quiz 7B (20 points) April 10, 2008

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1. (3 points) Write the complete electron configuration for an atom of phosphorus.
2. (3 points) Write the shorthand electron configuration as predicted by the periodic table for seaborgium.
3. (4 points) What are valence electrons and why are they important?
4. (5 points) Both vanadium and its 3+ ion are paramagnetic. Use electron configurations to explain why this is so.
5. (3 points) Explain how effective nuclear charge and ionization energy are related.
6. (1 points) Which is larger, at atom of silicon or an atom of chlorine?
7. (1 points) Which has the larger ionization energy, an atom of nitrogen or an atom of arsenic?