

## Bauk'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, calculator, colored pencils or thin markers  
(You will be given a periodic table. Also, the following will be given on the test: VSEPR shapes table, electronegativity values table, bond strength range table.)

**Test value:** 200 points

**Test format:** multiple choice; formula writing and naming; short answer essays; bond strength calculations; electron dot diagrams for BM molecules; VESPR shapes

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### TOPICS TO STUDY:

- 1) **Acids**—What are they? Give the names and formulas for the six major acids in the notes. (Chem 1H – give an overview of the acid naming rules an example of each rule.)
- 2) **Bonding (shared) pair**—What is it? Where is it found? Give an example.
- 3) **Coordinate covalent bond**—What is it? Compare and contrast it to a typical covalent bond.
- 4) **Covalent bond**—What is it? Where is it found? Contrast with **ionic bond**.
- 5) **Crystal lattice**—What is it? Where is it found? Which type of compounds form crystals?
- 6) **Diatomic elements (“Super Seven”)**—What are their names and formulas? Draw their electron dot diagrams. Which ones have single, double, and triple bonds?
- 7) **Dipole**—What is it? How can you identify if a compound is a dipole?
- 8) **Electron dot diagram (Lewis structure)**—What is this? (Be able to write electron dot diagrams for individual atoms and molecular compounds.)
- 9) **Electronegativity**—What does this measure? Which element is the most electronegative, and why? Which elements are the least electronegative, and why? How are electronegativity values used to determine bond strength?
- 10) **Exothermic reaction**—What is it? Contract with **endothermic reaction**.
- 11) Formula classification: What is the difference between **BI**, **BM**, and **TI** compounds? (Be able to write and name chemical formulas: BM from this chapter and BI/TI from last chapter. Review the polyatomic ions.)
- 12) **Formula unit**—What is it? Give an example of a formula unit. Contrast with **molecule**.
- 13) **Lewis structures for covalent compounds**: Draw an example here.
- 14) (Chem 1H) **Lewis structures for polyatomic ions**: Give an example here.
- 15) **Hybrid orbitals**—What are they? In which types of bonds are these found: sp, sp<sup>2</sup>, sp<sup>3</sup>
- 16) **Intermolecular forces (IMF)**—What are they? Give examples.
- 17) **Ionic bond**—What is it? Where is it found? Contrast with **covalent bond**. Which bond is stronger?
- 18) **Molecule**—What is it? Give an example of a molecule. Contrast with **formula unit**.
- 19) **Nonbonding (unshared) pair**—What is this? Where is it found? Give an example.
- 20) **Pi (  $\pi$  ) bond**— What is this? Where is it found?
- 21) **Polar**—What does this mean?
- 22) **Polar covalent bond**—What is it? Where is it found?
- 23) List the ten **Prefixes** and numerical values used in naming BM compounds.
- 24) (Chem 1H) **Resonance**—What is it? How does it work?
- 25) **Sigma (  $\sigma$  ) bond** – What is it? Where is it found?
- 26) **VSEPR**—What does this acronym stand for? How is it used? (Be prepared to predict molecular shape, given the VSEPR table.)

\*\*\* Note \*\*\*

There will be at least one question pertaining to material in past chapter(s) or unit(s).