

**Preview Sheet for Test 3**  
**Chemical Bonding, VSEPR Theory, and MO Theory**

- Lectures from 10/10 to 11/4
- Problem Sets 5, 6, and 7
- Reading:
  - Chapter 8: pp. 312-313
  - Chapter 9: pp. 329-332; 335-336; 340-343; 351-354
  - Chapter 10: all
  - Chapter 11: pp. 409-417

Studying strategies:

- Focus on your lecture notes and homework. Use your textbook only as a reference.
- Do extra problems at the ends of the chapters. In particular, work the blue-numbered problems paired with the black-numbered problems you were assigned for homework; the answers to the blue problems are in Appendix E of your textbook. If you are stuck on a problem, please come talk with me or one of the student tutors:

Student Tutoring Schedule  
(in Olin-Rice 341)  
Sunday: noon – 9:00 p.m.  
Monday – Thursday: 7:00 – 10:00 p.m.

**Extra Office Hours**  
**This Tuesday, 6:30 – 8:30 p.m.**

- It is also important to understand concepts not covered explicitly in the homework problems. This conceptual material will be tested either with true-false or essay questions.
- If a topic was not covered in homework or in lecture, you are not responsible for it!
- Test Format: ~25 points for true-false and multiple-choice questions, ~40 points for problem solving, and ~35 points for short answer and essay questions.

[From the test booklet:]

Instructions before starting the test:

1. Your exam booklet should have **six** pages total, with questions on pages 2-5, and a periodic table of electronegativities and other reference data on p. 6. Check to see you have six pages now. If you do not, ask for another copy of the exam.
2. You may remove the last page.
3. Write your name in the space above and on the backs of pages 2-5.
4. This exam is closed-everything.
5. You may use programmable calculators, but chemical data should not be stored in them.

6. You do **not** need to justify your answers unless you are explicitly told to do so.
7. You have **65 minutes** to work on this exam.

What not to memorize (they will be provided on page 6 of the test booklet):

- (1) A periodic table showing electronegativities.
- (2) Molecular orbital diagrams for second row homonuclear diatomics. Note that you should be able to draw in and label the energies of atomic orbitals on such diagrams.
- (3) The information below.

$$\lambda = \frac{2L}{n} \quad \lambda = \frac{h}{mv} \quad KE = \frac{1}{2}mv^2$$

### Test-Taking Tips

- Pace yourself. Try to make your effort on a given problem proportional to the number of points that it is worth. Be sure not to spend too much time on the multiple-choice and true-false questions at the start of the exam.
- Read the problems carefully.
- If you can't figure out how to begin a problem after thinking about it for a couple of minutes, go on to the next problem.
- Please ask me if a question doesn't make sense.