

Preview Sheet for Test 2

Chapters 18 and 21 [and a little of 5 and 20]
Lectures from 2/12 through 3/5; Problem Set 4

The test will be on Thursday, March 8, in Olin-Rice **250**, starting at 8:30 a.m. You will have 2 hours and 30 minutes to work on the exam.

Studying Strategies:

- Focus on your lecture notes and homework first, then look at your textbook.
- You are still responsible for calibration ideas covered on Test 1; they are relevant to Unit 2.
- Do extra problems at the ends of the chapters.
- It is important to understand concepts from lecture not covered explicitly in the homework problems. These will be covered by the multiple choice and essay questions.
- If a topic was not covered in homework or in lecture, you are not responsible for it!

Test Format: 35 points based on calculations, and 65 points based on multiple choice and essay questions. Here's a preview of the instructions:

1. Write your name in the space above and on the backs of the other pages.
2. This exam is closed-everything.
3. Your exam booklet should have **eight** pages total, with questions on pages 2-6, equations and constants on page 7, and a periodic table on page 8. Check to see you have eight pages now. If you do not, ask for another copy of the exam.
4. You may use programmable calculators, but chemical data should not be stored in them.
5. Except for the multiple-choice questions, you should always demonstrate your thought process in writing. You will be awarded credit only for clear, legible work.
6. Your non-permanent midterm grade will be based only on your scores on Test 1 and this test.
7. You have **150 minutes** to work on this exam. Do not start until you are instructed to.

Also note the formulas and constants you will be given on the exam:

$$\Delta E = h\nu = h\frac{c}{\lambda} = hc\bar{\nu} \qquad dP' = -\beta CP'dx \qquad T = \frac{P}{P_o}$$

$$A = -\log T = \epsilon bC \qquad F = kP_o C \qquad y_{LOD} = \bar{y}_{blank} + 3s \qquad y_{LOQ} = \bar{y}_{blank} + 10s$$

$$N_A = 6.022 \times 10^{23} \text{ particle mol}^{-1} \qquad h = 6.626 \times 10^{-34} \text{ J s particle}^{-1} \qquad c = 2.998 \times 10^8 \text{ m s}^{-1}$$

$$1 \text{ eV} = 1.602 \times 10^{-19} \text{ J particle}^{-1} \qquad 1 \text{ nm} = 10^{-9} \text{ m}$$

$$1 \text{ L} = 1000 \text{ mL} = 1000 \text{ cm}^3 \qquad T (\text{K}) = T(^{\circ}\text{C}) + 273.15 \qquad \ln a = (\log a) (\ln 10)$$

$$1 \text{ ppm} = 1 \text{ in } 10^6 \qquad 1 \text{ ppb} = 1 \text{ in } 10^9 \qquad 1 \text{ ppt} = 1 \text{ in } 10^{12}$$