

Chemistry 210 – Review – Exam #3

Topics directly covered:

1. STOICHIOMETRY (Chapters 3,4)
 - Basic Stoichiometry & Yields
 - Other conversions (eg. Particles, density)
 - Gas Laws applied: 22.4 L/mol gas at STP
 - Limiting Reagents
 - Solutions / Titrations
 - Combustion Analysis

2. OXIDATION / REDUCTION CHEMISTRY (Chapters 4,21)
 - Oxidation States
 - Oxidizing agents / reducing agents
 - Balancing Redox Reactions
 - Acidic solutions
 - Basic solutions

3. THERMOCHEMISTRY (Chapter 6)
 - Energy, Enthalpy, Heat, Work, State and Non-State functions.
 - Heat and sign conventions
 - Calorimetry: $q_{\text{system}} = -q_{\text{surroundings}}$
 - $q = mC_p\Delta T$
 - $q = Hc\Delta T$
 - $\Delta H_{\text{reaction}}$ determined from calorimetry
 - $\Delta H_{\text{reaction}}$ & Stoichiometry

Format:

- The above topics are the *focus* of the exam – but material is cumulative. You must still be able to write formulas, reactions, etc.
- This exam will consist primarily of problems with a few short answer questions.