Exam #4 Objectives

CHEM 1090 General Chemistry I

Text Reading

Chapter 4: sections 1-5

Homework Assignment

McGraw-Hill LearnSmart and Connect online assignments.

Concepts

1. Work molarity calculations both for dilutions and as a conversion between mass or moles of solute and volume of solution.
2. Distinguish between and discuss strong electrolytes, weak electrolytes, and nonelectrolytes.
3. Write proper dissociation chemical equations for ionic compounds that have been dissolved in water.
4. Name and write formulae for binary acids and oxoacids.
5. Distinguish between strong and weak acids.
6. Write proper dissociation equations for both strong and weak acids.
7. Demonstrate the ability to use the solubility handout.
8. When given a set of reactants, write proper molecular and net ionic chemical equations.
9. Use the net ionic equation to determine if a chemical reaction has occurred.
10. When given a set of ions for reactants (cation and anion) or a product, write a proper net ionic equation.
11. Assign oxidation numbers using the rules discussed in class.
12. Using oxidation numbers, determine whether a given chemical equation is a redox equation.
13. Identify what is oxidized, is reduced, the oxidizing agent, and the reducing agent in a redox equation.
14. Demonstrate a working vocabulary of the following terms:

acid	neutralization	reducing agent
base	nonelectrolyte	reduction
dilution	oxidation	soluble
dissociation	oxidation number	solute
double replacement	oxidizing agent	solution
electrolyte	oxidizing agent	solvent
insoluble	oxoacid	
molarity	precipitation	

15. Memorize and demonstrate the ability to use the following equation(s):

$C_1V_1 = C_2V_2$ (often written as $M_1V_1 = M_2V_2$)