CH 223 Chapter Fourteen Part II Study Guide

- Be able to predict the pH of an acid-base reaction at the equivalence point:

Acid	Base	pH at equivalence point
Strong Acid	Strong Base	pH = 7 (neutral)
Strong Acid	Weak Base	pH < 7 (acidic)
Weak Acid	Strong Base	pH > 7 (basic)
Weak Acid	Weak Base	depends on the magnitudes of K_a and K_b

- Know the definition of equivalence point.

- Be able to calculate the pH at the equivalence point for the above acid - base examples.

- Be able to predict the effect on pH of adding a common ion using the idea behind the common ion effect.

- Understand how a buffer works.

- Be able to calculate the pH of a buffer solution before and after adding an acid or a base.

- Know how to use the Henderson-Hasselbalch Equation to calculate the pH of a buffer solution. Know how to utilize the equation upon changes in buffer composition.

- Know how to create a buffer of a given pH in the lab.

- Be able to calculate the pH at any point along a titration curve. This includes before adding any titrant (the initial point), during the period before equivalence point, at the equivalence point, and after the equivalence point.

- Understand the differences between titration curves for strong acids - strong bases and when using a strong - weak combination.

- Be able to describe how indicators can assist in acid-base titrations.

- Be able to solve and understand the assigned problems in problem set #3.