

CH 223 Chapter Sixteen Study Guide

- Know the three major acid-base theories discussed in the chapter.
- Be able to identify and name common strong and weak acids and bases.
- Be familiar with the Arrhenius theory of acids.
- Be able to recognize common monoprotic and polyprotic acids and bases. Know how to write balanced equations for their ionization in water.
- Know the definition of amphiprotic.
- Be able to recognize Brønsted acids and bases in reactions.
- Know the definition of conjugate and know how it applies to acids and bases.
- Know how to use values of K_a and K_b to predict the relative strengths of acids and bases
- Know how to predict when an acid-base reaction is reactant- or product-favored.
- **MEMORIZE** the value of K_w , the water autoionization constant.
- Be able to calculate **pH** and **pOH** for a solution. Know how to find $[H^+]$ or $[OH^-]$ from pH or pOH.
- Be able to calculate equilibrium constants using K_a , K_b , pH, pOH, etc.
- Be able to describe the acid-base properties of salts and calculate the pH of salt solutions.
- Understand the importance of the Lewis concept of acids and bases. Know what qualifies as a Lewis acid or a Lewis base.
- Be able to solve and understand the assigned problems in problem set #2.