

## **CH 223 Chapter Fourteen Part I 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.