

Exam #5 Objectives



CHEM 1100 General Chemistry II

Text Reading

Chapter 17: sections 1-6

Homework Assignment

McGraw-Hill LearnSmart and Connect online assignments.

Concepts

1. The concepts from the previous chapter are used in this section, also.
2. Recognize the shape of titration graphs and identify the equivalence and half equivalence points for the following types of titrations:
 - a. strong acid-strong base
 - b. weak acid-strong base
 - c. strong acid-weak base
3. Calculate the pH for the three type of titrations:
 - a. before the titration has begun
 - b. before the equivalence point
 - c. at the equivalence point
 - d. after the equivalence point
4. Demonstrate the ability to describe how a buffer works and calculate the pH of buffer solutions using appropriate simplifications when possible.
5. Write solubility equilibria and use the solubility product in calculations.
6. Use the common ion effect in pH and solubility calculations.
7. Demonstrate a working vocabulary of the following terms:

| | | |
|-------------------|--------------------|--------------------|
| buffer | formation constant | molar solubility |
| common-ion | K_f | solubility product |
| equivalence point | K_{sp} | titration |

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

See the previous chapter's objective sheet for those formulae.