CHEM 1305 - Chapter 15
(introductory paragraphs for Chapter 15, and sections 15.4-15.6 only) - Handout

Memorize:
Formula for molarity

Define the following terms; explain the following concepts, and answer the following questions:

1) A solution is composed of at least two components: the minor component is referred to as the SOLUTE and the major component as the SOLVENT.

2) A solution is the special name given to a HOMOGENEOUS MIXTURE.

3) (T/F) There are many ways to express "concentration"?

4) The main measure of concentration used in this course is called MOLARITY.

5) Molarity can be thought of as a conversion factor between MOLES OF SOLUTE and LITERS OF SOLVENT.

6) There are three basic types of word problems involving molarity:
   a) PROBLEMS IN WHICH MOLARITY IS CALCULATED
   b) PROBLEMS IN WHICH MOLARITY IS USED (TYPICALLY AS A CONVERSION FACTOR) TO CALCULATE SOMETHING ELSE
   c) CONCENTRATION–DILUTION PROBLEMS

7) Examples of the types of Molarity problems mentioned in Item 6:
   a) An example of the first-mentioned type of Molarity problem is given by Example 15.3 in the textbook.
   b) An example of the second-mentioned type of Molarity problem is given by Example 15.7 in the textbook. This is an important type of calculation in which a scientist determines how many grams of a solute needed to be diluted to make a solution of desired concentration.
   c) An example of the first-mentioned type of Molarity problem is given by Example 15.8 in the textbook. Note that the CV=C'V' formula involves the TOTAL volume of solvent before and after the dilution (or concentration) process. To determine how much solvent must be added (in a dilution) or removed (concentration), the answer must be corrected for the amount of initial material present.