

CP Chemistry Unit-IV Exam Outline

- I. Reactions (Chapter 11)—Know how to:
 - A. write and balance chemical equations
 - B. use *solubility guidelines*.
 - C. write *ionic* and *net ionic equations*.
 - D. distinguish between *redox* and *non-redox* reactions.
 - E. predict whether or not a reaction will occur (based on *activity series* or *solubility rules*, depending on the type of reaction).

- II. Redox Reactions (Chapter 20)—Know how to:
 - A. identify *redox* reactions.
 - B. assign *oxidation numbers*.
 - C. identify *species* being oxidized and/or reduced.
 - D. identify *oxidizing* and *reducing agents*.
 - E. write *half-reactions*.
 - F. balance redox equations in *acidic* or *basic solution*.

- III. Mole Conversions (Chapter 10) & Stoichiometry (Chapter 12)—
Know how to:
 - A. determine and correctly use *molar mass*, *molar volume at STP* (and the meaning of *STP*), *molar ratio* (from balanced equation); determine *empirical* and *molecular formulas* given sufficient information; calculate *percentage composition* from a formula or given information
 - B. do *stoichiometry*—Using a balanced equation, calculate how much of a product should be produced, or reactant used up and/or left over, based on the amount(s) of a reactant or product given.
 - C. determine the *limiting reactant* and maximum amount of yield, when given two reactant quantities.
 - D. calculate the *percent yield* of a reaction using stoichiometry (*expected yield*) and empirical data (*actual yield* from the lab, for example).