Material covered in the Chemistry 10 Placement Exam

Note: You will need your calculator; a periodic table will be provided. The time limit for the exam is one hour.

The goal of this exam is to ensure that all entering students have knowledge of some fundamental principles and background that will not be covered in class. Test questions will assume implicit knowledge of the nature of atoms and molecules.

Relevant sections from two sample textbooks:

(1) *Principles of Modern Chemistry*, 7th edition; Oxtoby, Gillis and Campion (Brooks Cole) - referred to below as 'OGC'. This book is used in Chem 5/6.
(2) *Chemical Principles - The Quest for Insight*, 6th edition; Atkins, Jones and Laverman (Freeman) - referred to below as 'AJL'. (The 7th edition of this textbook will be used in Chem 10 in 2016F.)

Topics Covered
To get a sense for the range of material *implicitly* assumed you can look through the AJL 'Fundamentals' sections at the start of the book. For material *explicitly* covered:

(a) Balancing simple chemical reaction equations:
   * OGC Chapter 2
   * AJL Fundamentals section H

(b) Reaction stoichiometry and limiting reagents:
   * OGC Chapter 2, Chapter 11 section 11.3
   * AJL Fundamentals sections L, M

(c) Using the Ideal Gas Law:
   * OGC Chapter 9 sections 9.1 - 9.3;
   * AJL Chapter 5 sections 5.1- 5.5

(d) pH of aqueous solutions:
   * OGC Chapter 15 sections 15.1 - 15.3
   * AJL Fundamentals section J, and Chapter 12 sections 1-5

(e) Simple bonding concepts: Lewis Dot structures and shapes of simple molecules:
   * OGC Chapter 3
   * AJL Chapter 3 sections 3.1-3.7 and Chapter 4 sections 4.1 - 4.3

(f) Trends in atomic properties:
   * OGC Chapter 3
   * AJL Chapter 16 section 1

(g) Zeroth and first order reaction kinetics:
   * OGC Chapter 18 sections 18.1 and 18.2 up through first-order reactions
   * AJL Chapter 15 sections 15.1 - 15.5, only including first-order reactions.
There is no separate document that contains a set of sample questions. In order to practice for this Placement test you can choose amongst the questions in OGC and AJL that are related to the material specified above.