

Study Guide
Exam 2, Chem 103

General instructions.

Prepare the workshop questions and problems separately.

For workshop questions,

- i) Note the main concepts
- ii) Go over the definitions
- iii) Understand key explanations

For problem questions,

- i) Write main equations for each problem
- ii) Note the conversion of quantities
- iii) Make sure your answer has the right significant figures and units

Workshop 5

- a) Drawing Lewis Symbol of atoms and (1 question)
- b) Predicting formula and names of *ionic compounds* (2 questions)
- c) Molecular and ionic equation writing (1 question)
- d) Qualitative view of the lattice energy and charges (1 question)
- e) Covalent bonding in common homo-diatomic molecules (1 question)
- f) % mass and mole ratio of elements in compounds (1 question)

Workshop 6

- a) Electronegativity and prediction of covalent, polar, and ionic bond (2 questions)
- b) Predicting formula and names of *covalent(also called molecular) compounds* (2 questions)
- c) Lewis structure of covalent molecules (2 questions)

Workshop 7

- a) Resonance (2 questions)
- b) Formal charge (1 question)
- c) Incomplete octet, odd number of electrons, and expanded octet (3 questions)
- d) Empirical formula and Molecular formula (1 question)

Workshop 8

Stoichiometry (reaction types A, B, and C) (5 short problems of 25% points)

25% questions from Workshop1 to Workshop4, please use Keys of Exam 1 as guide