Chem 100

STUDY GUIDE - EXAM4

BRING TO CLASS ON EXAM DAY:

Scan- Tron Form 883
#2 pencil and good eraser

Material Covered on Exam:

Chemistry: assigned reading for unit 4
Lab Manual: Experiments 10, 11 Exercises 10, 11, 12

1. List the general properties of organic versus inorganic compounds.

2. Write the general formulas for the various classes of organic compounds: alkanes, alkenes, alkynes, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, and primary amines.

3. Be able to name or give structural formulas (full or condensed) for simple members (up to 10 C's in parent chain) of the above classes of organic compounds (including cyclic hydrocarbons).

4. Functional groups

   a. Give the functional groups in the above classes of organic compounds.

   b. Write the names for the following functional groups: OH, C=O, NH_2, and C-OH (O)

5. Physical Properties

   a. Tell whether a given organic compound is soluble in water, and why.

   b. From your knowledge of boiling point trends among the classes of organic compounds, choose the compound with the highest or lowest boiling point from a list of specific compounds.

6. Isomerism

   a. Draw isomers of organic compounds.

   b. Given a pair of isomers, recognize the type of isomerism involved.

   c. Given an organic compound, tell what type of isomerism it might exhibit.

7. Reactions

   a. Recognize whether a given reaction is oxidation, substitution, addition, condensation, hydrolysis, or neutralization.

   b. Predict the class of compounds to which the organic products of a reaction belong.

8. Describe the chemical tests for saturation, carboxylic acids, aldehydes, any organic compound.