Chemistry 2541, Fall 2017 Quiz 1

(30 points)

Important notes:

- Please use the provided Scantron form for your answers; you can keep the sheet with the questions and can use it as scratch paper
- Do not forget to write your name on the Scantron form
- You will not receive credit for unmarked answers or for more than one mark on answer line
- Your scores will be posted on eGradebook; graded Scantron forms will not be returned to students.

Questions 1-10: Please mark the appropriate box on the front of the Scantron form (3 pts each).

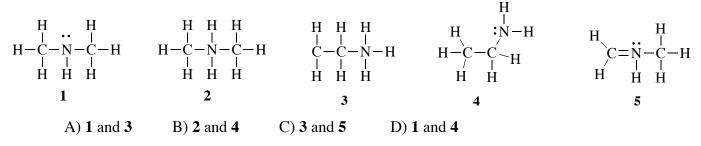
1. Which **element** has the following electronic configuration: $1s^2 2s^2 2p_x^2 2p_x^2 2p_z^1$?

A) C B) N C) O D) F

2. Which one of the following pairs of elements will form an ionic compound?

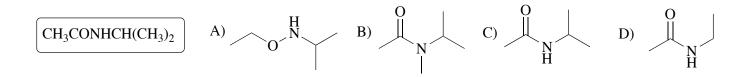
A) Be and O B) F and C C) O and N D) F and H

3. Which two of the following structures represent correct **Lewis structures** of a compound with molecular formula C_2H_7N ?



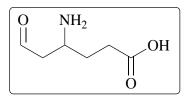
4. Which one of the following polyatomic ions is a correct Lewis structure with correct formal charges?

5. Which of the line-angle structures corresponds to the condensed structural formula shown in the box?



6. Which one of the following compounds has the functional group of an ester?

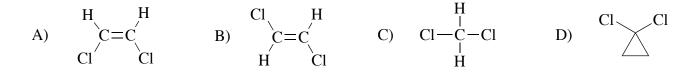
- A) HOCH₂COCH₃ B) CH₃CH₂CO₂H C) (CH₃)₃CCHO D) CH₃CO₂CH₂CH₃
- 7. What are the names of **functional groups** in the following molecule?



A) ketone, amine, carboxylB) aldehyde, amide, hydroxylC) aldehyde, amine, carboxylic acidD) carbonyl, ammonium, carboxyl

- 8. What is the approximate Cl-C-H bond angle in vinyl chloride CH₂=CHCl ?
 - A) **90**° B) **120**° C) **109.5**° D) **180**°

9. Which of the following molecules has **dipole moment** $\mu = 0$ **D**?



10. Sort the following compounds by increasing boiling point.

