GROUP HOMEWORK #1

CHEM 121, section 1, winter 2014-15. **Printed Name:**_____

Background and Chp. 12

Homework Due DEC. 10, 2014, 12:15 PM! **Group Name:**_____

1. (2 pts. total) Circle the correct compound type (ionic or covalent) for the following:

formula	compound type
a) NBr_3	(ionic or covalent)
b) NaCl	(ionic or covalent)
c) C_2H_5OH	(inorganic or organic)
d) NH_4NO_3	(inorganic or organic)

2. (1 pts. total) For the atoms and ions below, circle the correct ground state valence electron configuration of carbon in core format:

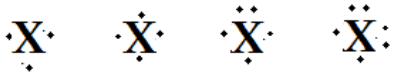
a) Carbon (C): $2s^2, 2p_x^1 2p_y^1 2p_z^1$

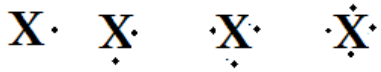
b) Carbon (C): $4s^1$ or $3s^2, 3p^6$

c) Carbon (C): [Ne] $3s^2, 3p^3$

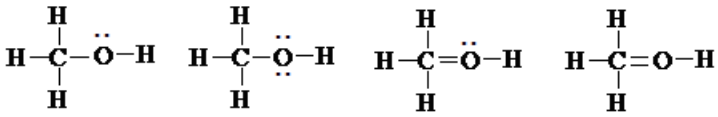
d) Carbon (C): [He] $2s^2, 2p_x^1 2p_y^1 2p_z^0$

3. (1 pts.) Circle the Lewis structures of the following atoms:

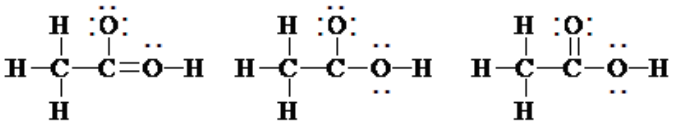
a) N 

b) C 

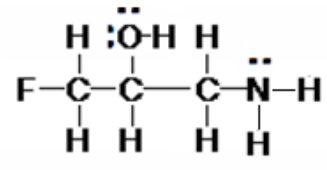
4. (2 pts. total) Circle the correct Lewis structure for following compounds:

a) CH_3OH 

a) CH_3COOH



5. (1 pts.) Circle the most polar bond in the following molecule:

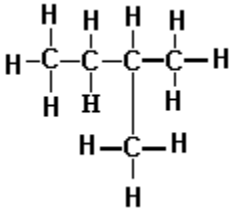


6. (3 pts.) Name the functional group in each of the following molecules

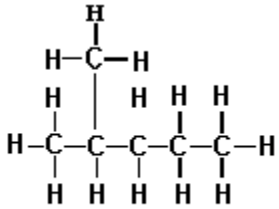
Molecule	**Functional group**
$CH_3CH_2CH_2$-OH	
$CH_3CH_2CH_2$—O—CH_2CH_3	
$CH_3CH_2CH_2$—Cl	
$CH_3CH_2CH_2$—CH(=O)	
$CH_3CH_2CH_2CH_2$—C(=O)—OH	
$CH_3CH_2CH_2$—C(=O)—OCH_2CH_3	

7) (3 pts) Give the formulas for each of the following:

a)



i) Molecular formula:
ii) Condensed formula:

b) 

i) Molecular formula:
ii) Condensed formula:

iii) Line-angle formula:

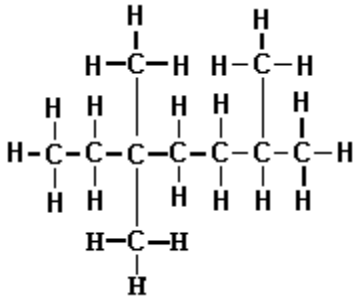
8) (2 pts) Give the following for an straight alkane with five carbons atoms

i) Molecular formula:
ii) Condensed formula:

iii) Line-angel formula:

iv) IUPAC name:

9) (2 pts) IUPAC name of the following branched alkane:



10) (3 pts) Give the names of following alkyl groups:

Name	Alkyl Group	Name	Alkyl Group
i)	$-CH_2CH_2CH_3$	iv)	$-CH_2CHCH_3$ CH_3
ii)	$-CHCH_3$ CH_3	v)	$-CHCH_2CH_3$ CH_3
iii)	$-CH_2CH_2CH_2CH_3$	vi)	CH_3 $-CCH_3$ CH_3