Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 8:30am form A quiz # _____

Name Key (print name) Name _____ (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

1. a. Give the Lewis Dot symbol of the element  (4 pts)

   b. Number of valence electrons for the element above is: 5 electrons (4 pts)

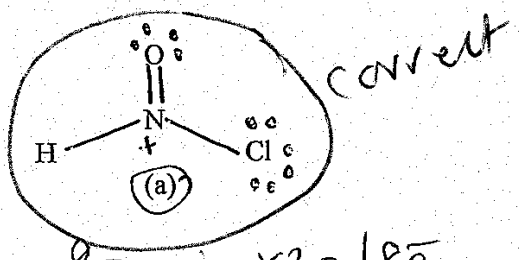
2. Give the Lewis Dot Structure of the following by completing the following. **$HNOCl^{+1}$**

   a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

   H N O Cl charge

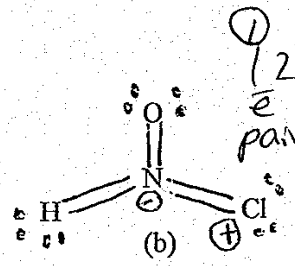
   $(1e) + (5e + (6e) + 7e - 1e = 18\bar{e}$

   b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect.** (6 pts)



correct

9 $\bar{e}$ pair X2 = 18$\bar{e}$

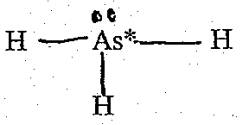


① 9 $\bar{e}$ pair X 2 = 24$\bar{e}$ too many $\bar{e}$

② H can only do duet

③ N in 2nd period can't expand octet

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT 4

b. Number of lone pairs on the atom with the * 1

c. Geometry of the electron pairs at the atom with the * tetrahedral

d. Geometry of the molecule at the atom with the * trigonal pyramidal

e. Bond angle at the atom with the * 109.5°

f. Hybridization at the atom with the * sp^3

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 8:30am form B quiz # _____

Name Key (print name) Name _____ (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

1. a. Give the Lewis Dot symbol of the element  (4 pts)

   b. Number of valence electrons for the element above is: 7 electrons (4 pts)

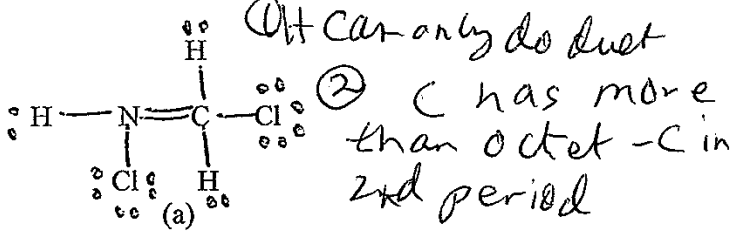
2. Give the Lewis Dot Structure of the following by completing the following. **$H_3N\ C\ Cl_2$**

   a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

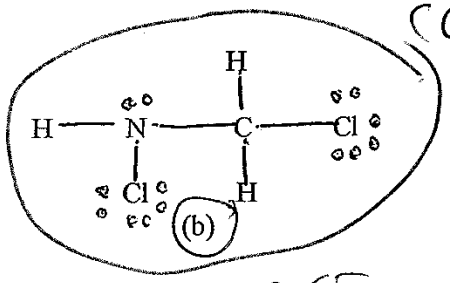
   $3(1e) + (5e) + (4\bar{e}) + 2(7\bar{e}) = 26\bar{e}$

   H N C Cl

   b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect**. (6 pts)



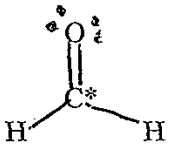
① H can only do duet ② C has more than octet - C in 2nd period



correct

③ $16\bar{e}$ pair $\times 2 = 32\bar{e}$ too many $\bar{e}$ $13 \times 2 = 26\bar{e}$

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT 3

b. Number of lone pairs on the atom with the * 0

c. Geometry of the electron pairs at the atom with the * trigonal planar

d. Geometry of the molecule at the atom with the * trigonal planar

e. Bond angle at the atom with the * 120°

f. Hybridization at the atom with the * sp^2

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 9:55 am form A quiz# _____

Name (print name) Key Name (sign name) _____

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

1. a. Give the Lewis Dot symbol of the element C (4 pts)

   b. Is the bond N----O [(polar covalent) or (non polar covalent)] (circle one) (4 pts)

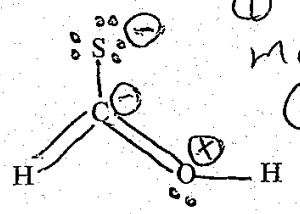
2. Give the Lewis Dot Structure of the following by completing the following. **H_2C S O**

   a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

H C S O

$2(1\bar{e}) + (4\bar{e}) + 6\bar{e} + 6\bar{e} = 18\bar{e}$

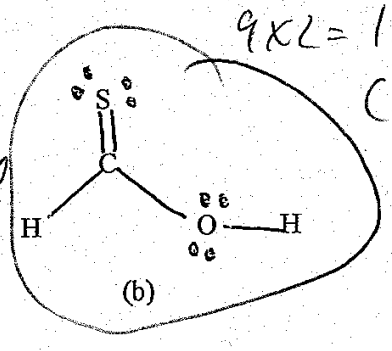
   b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect**. (6 pts)



(a)

① H cannot have more than duet

② C in 2nd period cannot expand Octet

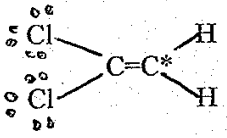


(b)

9 x 2 = 18 $\bar{e}$ correct

② 10 x 2 = 20 $\bar{e}$

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



   a. Number of electrons pairs on the atom with the * for VSEPRT 3

   b. Number of lone pairs on the atom with the * zero

   c. Geometry of the electron pairs at the atom with the * trigonal planar

   d. Geometry of the molecule at the atom with the * trigonal planar

   e. Bond angle at the atom with the * 120°

   f. Hybridization at the atom with the * sp^2

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 9:55 am form B quiz # _____

Name Key (print name) Name _____ (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

1. a. Give the Lewis Dot symbol of the element Se (4 pts)

   b. Is the bond N-----N [(polar covalent) or (non polar covalent)] (circle one) (4 pts)

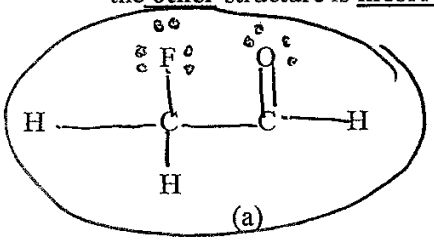
2. Give the Lewis Dot Structure of the following by completing the following. **H_3C_2F O**

a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

$3(1\bar{e}) + 2(4\bar{e}) + 7\bar{e} + 6\bar{e} = 24$

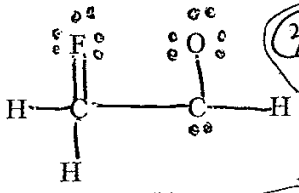
H C F O

b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect**. (6 pts)



(a) Correct

$12 \times 2 = 24\bar{e}$



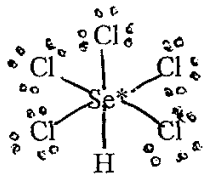
(b)

(3) F can't expand octet-2nd period

(2) C can't expand octet

(1) $14 \times 2 = 28\bar{e}$ too many $\bar{e}$ 2nd period

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT 6

b. Number of lone pairs on the atom with the * zero

c. Geometry of the electron pairs at the atom with the * octahedral

d. Geometry of the molecule at the atom with the * octahedral

e. Bond angle at the atom with the * 90°

f. Hybridization at the atom with the * sp^3d^2

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 8:30am form A quiz # 5-4

Name _____ (print name) Name _____ (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

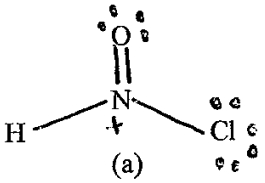
1. a. Give the Lewis Dot symbol of the element **N** (4 pts)

   b. Number of valence electrons for the element above is: _____ electrons (4 pts)

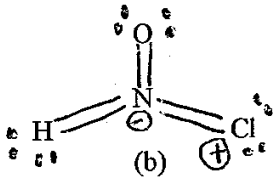
2. Give the Lewis Dot Structure of the following by completing the following. **HNOCl** $^{+1}$

   a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

   b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect.** (6 pts)

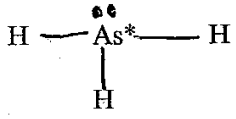


(a)



(b)

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT _____

b. Number of lone pairs on the atom with the * _____

c. Geometry of the electron pairs at the atom with the * _____

d. Geometry of the molecule at the atom with the * _____

e. Bond angle at the atom with the * _____

f. Hybridization at the atom with the * _____

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 8:30am form B quiz # G-1

Name _____ Name _____
(print name) (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

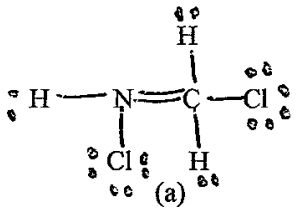
1. a. Give the Lewis Dot symbol of the element **Cl** (4 pts)

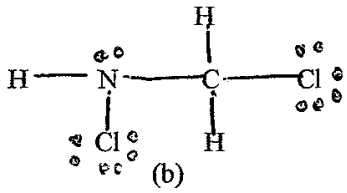
   b. Number of valence electrons for the element above is: _____ electrons (4 pts)

2. Give the Lewis Dot Structure of the following by completing the following. **$H_3N\ C\ Cl_2$**

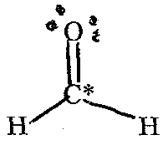
   a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

   b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect**. (6 pts)


(a)


(b)

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT _____

b. Number of lone pairs on the atom with the * _____

c. Geometry of the electron pairs at the atom with the * _____

d. Geometry of the molecule at the atom with the * _____

e. Bond angle at the atom with the * _____

f. Hybridization at the atom with the * _____

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 9:55 am form A quiz # 2-4

Name _____ (print name) Name _____ (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

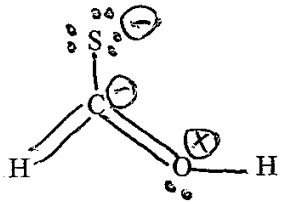
1. a. Give the Lewis Dot symbol of the element **C** (4 pts)

   b. Is the bond N----O [(polar covalent) or (non polar covalent)] (circle one) (4 pts)

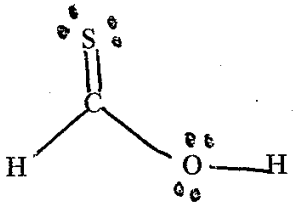
2. Give the Lewis Dot Structure of the following by completing the following. **H_2C S O**

a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect**. (6 pts)

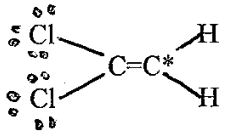


(a)



(b)

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT _____

b. Number of lone pairs on the atom with the * _____

c. Geometry of the electron pairs at the atom with the * _____

d. Geometry of the molecule at the atom with the * _____

e. Bond angle at the atom with the * _____

f. Hybridization at the atom with the * _____

Quiz VII General Chemistry I Lecture Spring 15 Dr. Hahn 20 pts 4/21 T 9:55 am form B quiz # 2-5

Name _____ Name _____
(print name) (sign name)

Please show all work for full credit and for partial credit. **Final Exam 4/30** 8:30 am Tues,Thurs class 8:30-10:30am; 9:55 am Tues,Thurs class 3-4pm in **LSF 301** 1/3 multiple choice,1/3 short answer,1/3 long answer

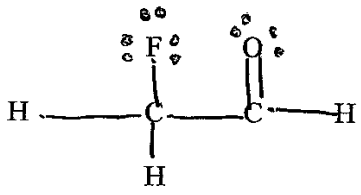
1. a. Give the Lewis Dot symbol of the element **Se** (4 pts)

   b. Is the bond N-----N [(polar covalent) or (non polar covalent)] (circle one) (4 pts)

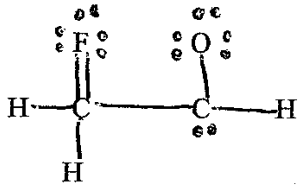
2. Give the Lewis Dot Structure of the following by completing the following. **H_3C_2F O**

   a. Show your work for the count of the valence electrons in the entire molecules. (6 pts)

   b. Given the following two structures, choose the correct structure and then explain one reason why the **other** structure is **incorrect**. (6 pts)

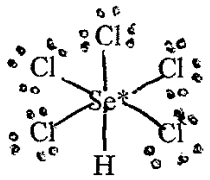


(a)



(b)

Extra Credit (3 pts, ½ pt each blank) For the following given Lewis Dot Structure, complete the following:



a. Number of electrons pairs on the atom with the * for VSEPRT _____

b. Number of lone pairs on the atom with the * _____

c. Geometry of the electron pairs at the atom with the * _____

d. Geometry of the molecule at the atom with the * _____

e. Bond angle at the atom with the * _____

f. Hybridization at the atom with the * _____