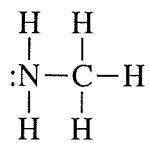


Key, Quiz 1, F2010

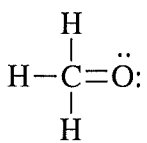
1. (2) Circle the element that has the following ground state electron configuration: $1s^2 2s^2 2p^4$:

H He Li Be B C N **O** F Ne Na Mg Al Si P S Cl Ar

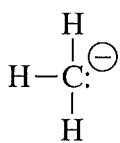
2. (4) Which of the following structural formulas (A-E) are **correct Lewis structures** (place letters corresponding to the correct Lewis structures in the answer box, no partial credit):



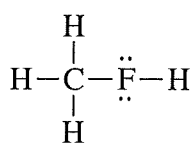
A



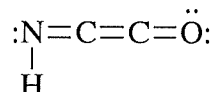
B



C



D



E

ACE

answer

3. (2) What is an approximate **F-B-F bond angle** in the molecule of **BF₃**, according to VSEPR ?

(circle correct answer): 109.5° 180° 160° **120°** 90° 60° 45°

4. (3) Circle the structure of the compound that has **dipole moment $\mu = 0$ D**:

CH₃OH

NH₃

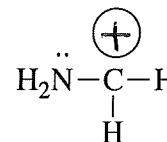
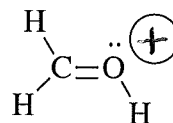
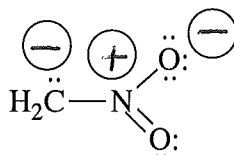
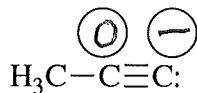
H₂O

CHCl₃

CH₂Cl₂

CF₄

5. (10 pts) Assign correct formal charges to atoms by placing **0**, **-**, or **+** in each circle (1 pt each):



6. (2) Circle the structure of a compound that has the functional group of **carboxylic acid**:

CH₃OCH₂CH₂OH

(CH₃)₃CCO₂H

CH₃CO₂CH₃

CH₃OCH₂CHO

NH₂CH₂CH₂OH

7. (2) Circle the formula of the **ionic** compound:

CF₄

BH₃

NH₃

CH₃OH

CH₃OLi

NF₃

CO₂

HF

Overall Score: _____

25