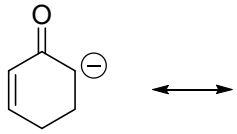
Organic Chemistry Camp 2020 **Instructor: Mihaela C. Stefan**

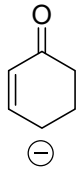
Problems Part 2 (Resonance, Lewis structures)

1. a. Draw all relevant resonance structures for compounds **A**-**D** shown below.

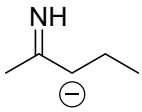
A



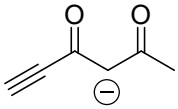
B



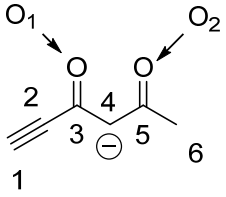
C



D



b. Indicate the hybridization of all nonhydrogen atoms in structure **D**.



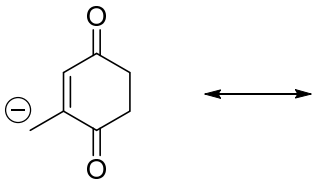
C_1 ___ C_2 ___ C_3 ___ O_1 ___ C_4 ___ C_5 ___ O_2 ___ C_6 ___

2. Consider the molecule $HC(O)NH_2$
a. Draw a Lewis dot structure for this compound.

b. How many σ and π bonds are in this compound?

_____ σ _____ π

3. Consider the structure shown.



a. In the space provided above, draw all relevant resonance structures for this compound.

b. What is the hybridization of the carbon atom outside of the ring? (Carbon with the negative charge in resonance structure shown.)

c. Circle the resonance structure that is lowest in energy.

4. Circle the structure below that cannot delocalize the negative charge.