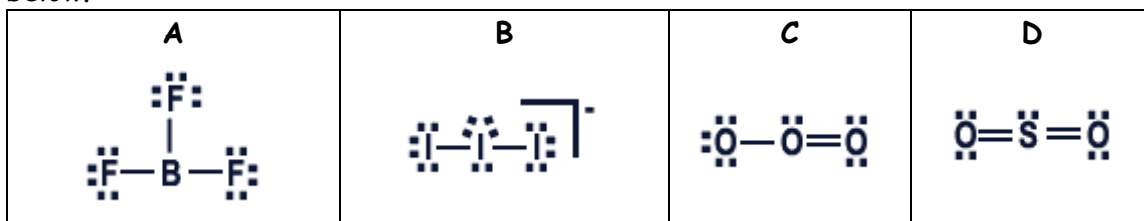


Question 1  
24 Points

The following questions refer to the molecules whose Lewis Dot Structure are depicted below.



- The **number** of molecules whose bonding about the central atom is best described by **sp** hybridization? **0**
- The **molecule(s)** whose bonding about the central atom is best described using **sp<sup>2</sup>** hybrid orbitals? **A, C, D**
- The bonding about the central **I** atom in **B** is best described using what type of **hybridization**? **sp<sup>3</sup>d**
- The molecule with the **greatest** number of **pi bonds**? **D**
- The molecule with the **greatest** number of **sigma bonds**? **A**

The following questions refer to the O<sub>3</sub> (Molecule C)

- The lone pair on the central oxygen atom is best described as being in what **type** of **orbital**? **sp<sup>2</sup>**
- The **O=O** bond is best described: as a sigma bond formed from the overlap of a(n) **sp<sup>2</sup>** on **O** with a(n) **sp<sup>2</sup>** on **O**; and a pi bond formed by the overlap of a(n) **2p** orbital on **O** with a(n) **2p** orbital on **O**.