

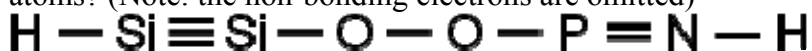
CH301 Fall 2009 Practice Quiz 3

1. Which of the bonds below could be found in a non-polar molecule?

- I. C=C
- II. H-F
- III. B-Cl

- 1. I
- 2. II
- 3. III
- 4. I and II
- 5. I and III
- 6. II and III

2. Consider the molecule below; how many different hybridizations are required to describe all of its central atoms? (Note: the non-bonding electrons are omitted)



- 1. 1
- 2. 2
- 3. 3
- 4. 4
- 5. 5

3. Which of the following does not have a pyramidal molecular geometry?

- 1. IOF₃
- 2. XeCl₄
- 3. PH₃
- 4. AsI₅

4. Which of the following molecules is/are polar?

- I. SO₂
- II. O₃
- III. CH₂F₂

- 1. I
- 2. II
- 3. III
- 4. I and II
- 5. I and III
- 6. II and III
- 7. I, II and III

5. Which of the compounds below would have the greatest number of pi bonds?

- 1. XeO₃
- 2. CH₃NHCHCCH
- 3. C(NH₂)₄
- 4. HSCN
- 5. SO₂

6. Which of the molecules below will contain a $\sigma_{\text{sp}^2, \text{sp}^3}$ bond?

- 1. SiH₃CHCHCH₃
- 2. CH₃PHCH₃
- 3. CF₃CBr₃
- 4. CH₂SF₂