

Chemistry 2541, Summer 2018 Quiz 2

Key

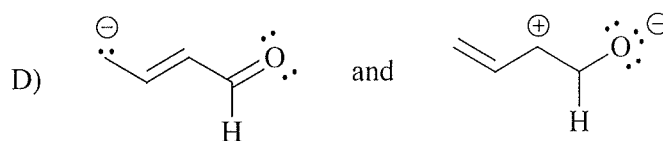
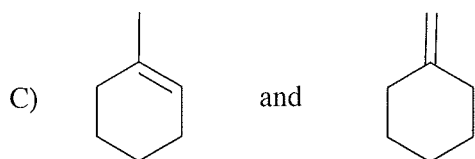
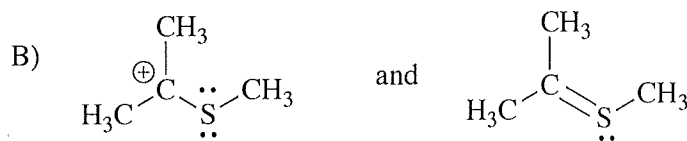
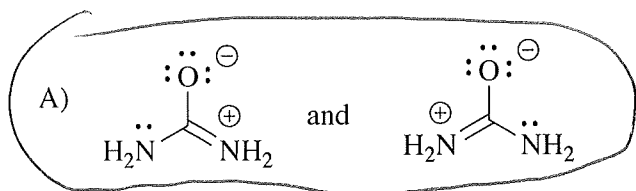
(30 points)

Important notes:

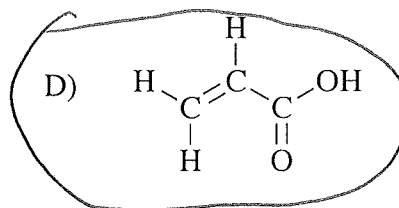
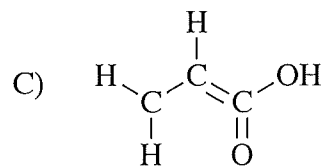
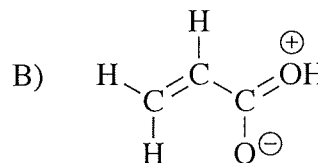
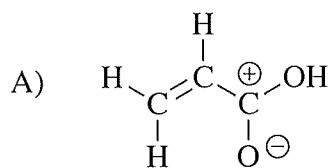
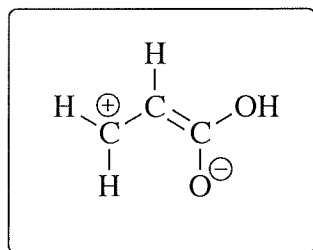
- Please use the provided Scantron form for your answers; you can keep this sheet with the questions and can use it as scratch paper (your marks on this sheet will not be graded)
- Do not forget to write your name on the Scantron form
- You will not receive credit for unmarked answers or for more than one mark on answer line
- Your scores will be posted on eGradebook; graded Scantron forms will not be returned to students.

Questions 1-10: Please mark the appropriate box on the front of the Scantron form (3 pts each).

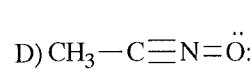
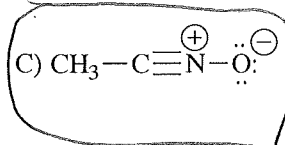
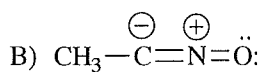
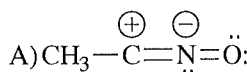
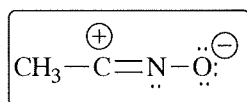
1. Which one of the following pairs of structures depicts **resonance contributors**?



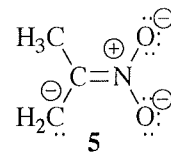
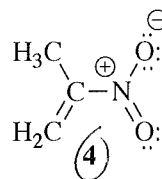
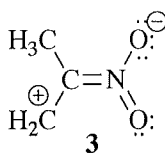
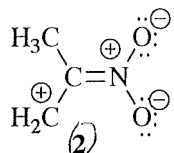
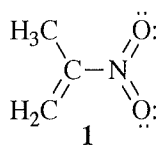
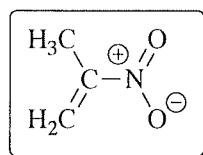
2. Which one of the following structures represents **major resonance contributor** of molecule in the box?



3. Which one of the following structures represents **major resonance contributor** of molecule in the box?



4. Which two of the following structures (1-5) represent **resonance contributors** of molecule in the box?



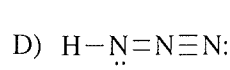
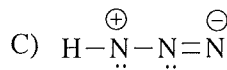
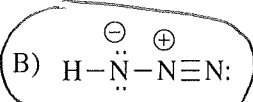
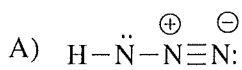
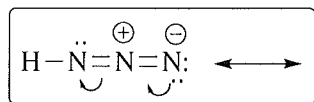
A) 1 and 2

B) 1 and 3

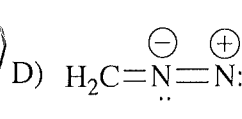
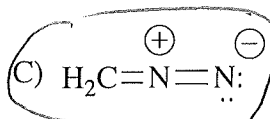
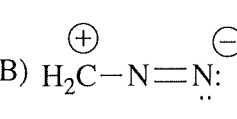
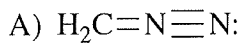
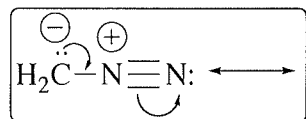
C) 2 and 5

D) 2 and 4

5. Which one of the following structures represents the **resonance contributor** of a molecule in the box in agreement with the shown curved **arrows**?



6. Which one of the following structures represents the **resonance contributor** of a molecule in the box in agreement with the shown curved **arrows**?



7. Which **orbitals** overlap to form the carbon-oxygen π bond of acetaldehyde, CH₃CHO?

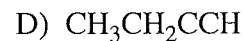
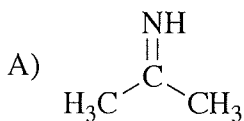
A) p + p

B) p + sp²

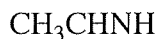
C) sp² + sp²

D) sp + sp²

8. Which one of the following compounds has **sp-hybridized** atoms in the structure?



9. Which two the following compounds (molecules 1-5) have **two π bonds** in their structures?



A) 1 and 2

B) 1 and 3

C) 3 and 4

D) 3 and 5

10. Which one of the following molecules has the **longest carbon-carbon bond**?

A) C₂H₄

B) C₂H₆

C) CH₃CH=CH₂

D) C₂H₂

