

**An example from the Fall 1997 Hour Examination #2:**

3. (20 points)

Answer each of the following two (2) questions precisely, succinctly and with correct grammar.

A. Why is a racemic mixture optically inactive?

B. Why are  $S_N2$  reactions completely stereoselective?

**An example from the Fall 1997 Final Examination:**

6. (20 points)

Answer the following two (2) questions precisely, succinctly and with correct grammar.

A. Why do infrared absorptions span a range of wave numbers instead of occurring only at single wave numbers?

B. Why are  $^1\text{H}$  NMR resonances not all singlets?