

The problems that will be used as the basis for the final exam (as stated in the last homework are)

Chapter 20 (or 9 of Engel):

Questions 2, 5, 6, 7, 9;

Problems 1.2 . 4 (which single integral gives the orthogonality?), 5, 6, 8, 9 , 11 (do in units of Bohr-Radius; and show that the radial probability maximizes at the Bohr Radius), 14, 16, 18 (Use the Virial Theorem), 24.

Chapter 21 (or 10 of Engel)

Questions 1, 4, 5, 7, 9, and 11-17 inclusive (Identify the orbitals from the patterns of nodes and types of nodes)

Problems: 2, 3, 7, 9, 10 (this is a very nice problem with a twist to it), 11, 13

Zumdahl:

Chapter 12

1, 2, 5, 6, 10, 16, 17, 22-24, 26, 27, 30, 32, 34, 36, 38, 40, 42, 47, 49, 50, 53, 54, 60, 62 (what is the energy of an H atom in the ground state), 65, 66, 72, 75, 78.

Chapter 13 1, 3, 4, 9, 10, 11, 12, 20, 48, 50, 72, 76.

Chapter 14 1, 2, 3 (Goes o the heart of the MO order), 5, 9, 13, 15, 16, 22, 26, 28, 43, 45