Directions: In the space provided use Standard English and grammatically correct sentences and paragraphs (unless otherwise noted) to respond to the statement or question. Note point values. *If your cell phone produces an audible tone during the exam you owe us all chocolate!*

1. Use the pancreas and differentiate between endocrine, exocrine, and paracrine secretions. Illustrate your answer of these three "crine" words with appropriate cells and secretions and one BASIC FUNCTION of each. (15)

2. List the three different chemical classes of hormones—be specific. Choose the lipid class (can’t use this “L” word as an answer on the dotted line) and discuss its activation mechanism and illustrate your answer with a specific example: tell how it travels in the blood and how it functions. (5, 10)
   A. _______________ B. _______________ C. _______________

   Choice: _______________
3. Describe the anatomical and physiological relationship between the hypothalamus, adenohypophysis, and a peripheral endocrine gland. Choose a specific set of hormones to illustrate your answer—be sure to discuss how each hormone functions? (20)

4. For each of these scenarios, briefly in a few sentences answer the questions. (5,5)
   a) Mr. Sanchez makes an appointment to see his doctor for pain in his abdominal area. Tests and X rays reveal kidney stones as well as bones with a "moth-eaten" appearance. Further questioning reveals a medical history of abnormal reflexes and muscle weakness. What is the problem and what treatment would be recommended?
   
   b) The parents of a 16-year-old boy are concerned about his height because he is only 5 feet tall and they are both close to 6 feet tall. After tests by their doctor, exogenous certain hormone therapy is prescribed for the boy. What is the probable diagnosis, and what hormone was prescribed? Why might the child still expect to reach his growth potential?
5. How does insulin function—provide 3 specific actions? If the kidney filters and then regulates the composition of the blood, explain the glucose tolerance data collected in our laboratory class—both urine and blood levels. (15)

Inter-relate the “poly” words associated with uncontrolled diabetes mellitus. (5)

Lots of extra room here because I didn’t want to scrunch #6....
6. If a nasty chemistry student contaminated the cafeteria food with a g-protein blocker, what physiological events would occur and why? Discuss the BASIC chemistry and activation mechanism that is appropriate—YOU DO NOT NEED AN EXACT STEP-BY-STEP sequence. Use epinephrine to illustrate this type of hormone. Where is this hormone released from, how does it travel in the blood, and how does it function? What turns this hormone off? (20)