1. (15 pts) You have just fed your pet pig a balanced diet containing all the necessary nutrients needed for optimal growth. Describe the digestion of the dietary protein as it passes down the digestive tract. Include in your answer the specific organs and sites in the intestinal tract involved, the enzymes involved, the products absorbed, and site(s) of absorption. Organize your thoughts and write legibly. If your instructor cannot easily read what you have written, he will assume that it is wrong. You do not need to talk about absorption mechanisms (see question 2), and you do not need to mention hormonal control of digestion (see question 4). You are encouraged to use diagrams to illustrate your explanations.

This outlines the basic information expected in your discussion of protein digestion. You could have used an illustration format like this with some brief discussion at key points.

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Stomach
  Pepsinogen (Chief cells)  HCl → Pepsin
  → Long polypeptides & undigested protein

(Pancreas)
  Small intestine
    Trypsinogen → Trypsin (Trypsin also autocatalytic)
    Pancreas (Acinar cells)
    Chymotrypsinogen → Chymotrypsin
    → Procarboxypeptidase → Carboxypeptidase

  Protein and
  Long polypeptides (from stomach)
  → Trypsin, Chymotrypsin (Endoproteases)
  → Short polypeptides + Dipeptides + Tripeptides + some free AA

  Peptidases
  Endopeptidases → dipeptides tripeptides
  Brush border

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