Nutrition Study Guide
Chapter Three
Meals to Molecules

1 What is the significance of the "hierarchy of organization"? What is the smallest unit of life?

2 What is the structure and function of the gastrointestinal system?

3 What is the sequence of structures between the mouth and anus? What tissues and organs secrete juices into the tubular GI tract?

4 What is the significance of these three digestive system secretions: mucous, enzymes, and hormones?

5 What term describes the throat? What two passageways are inferior to the throat? Significance?

6 What is the Heimlich maneuver?

7 What is the difference and location of a bolus, chyme, and fecal matter?

8 What is the structure an function of the stomach? What is the volume of the stomach when it is empty, full, and extremely full?

9 How long does it take to "empty the stomach"?

10 What is the significance of grelin, gastrin, secretin, cholesytokinin, and insulin independent gastric peptide?

11 What is the structure and function of the small intestine? How is the structure of the small intestine designed to achieve its function?

12 What is a brush border? What are brush border enzymes? What is contact digestion?

13 Why is the pancreas called a digestive system accessory organ? What does the pancreas secrete?

14 What is an enzyme? Structure and function?

15 What is the structure and function of the liver? Why is the liver called an accessory organ of the digestive system?

16 What is stored in the gall bladder? Why? How and when will the gall bladder release its stored products?

17 What is bile? Significance?

18 What is the difference between chemical and mechanical digestion?

19 What are three methods used to move nutrients across the wall of the small intestines?

20 What is the structure and function of the large intestine? Primary function?

21 What is feces? What percent volume is bacteria?

22 What is the difference between probiotics and prebiotics? Functions?

23 What is an antigen? Are foods able to introduce antigens into our bodies? Significance?

24 What role do white blood cells play in our immune system? Difference between T and B cells? Antibodies? Phagocytosis?

25 What is a food allergy?

26 What is the difference between irritable bowel syndrome and inflammatory bowel disease?

27 What is celiac disease? What is Crohn's disease? Ulcerative colitis?

28 What is gastroesophageal reflux disease?

29 What is a peptic ulcer?

30 What is a hiatal hernia?

31 What is a gallstone? How may these inhibit the function of the pancreas?

32 What is diarrhea? Constipation? Dysentery? Diverticulitis?

33 What is the structure and function of the heart, artery, capillary, and vein?

34 What are the three blood circuits?

35 Is all the fluid in the cardiovascular system conserved? How much leaks out? Where does it go?

36 How are the digestive system and cardiovascular system associated?

37 What is the portal circulation? Significant role of the liver? Type of nutrients delivered to liver?

38 What is the lymphatic system? What is a lacteal? Significance?

39 What is metabolism? Catabolism? Anabolism? What type of molecule mediates these reactions?

40 What is ATP?

41 What is the significance of glycolysis and the Krebs cycle? Where is the location of these metabolic pathways? What are the requirements for these metabolic pathways? What is the end products of these metabolic pathways? What additional pathway is associated with the Krebs cycle?