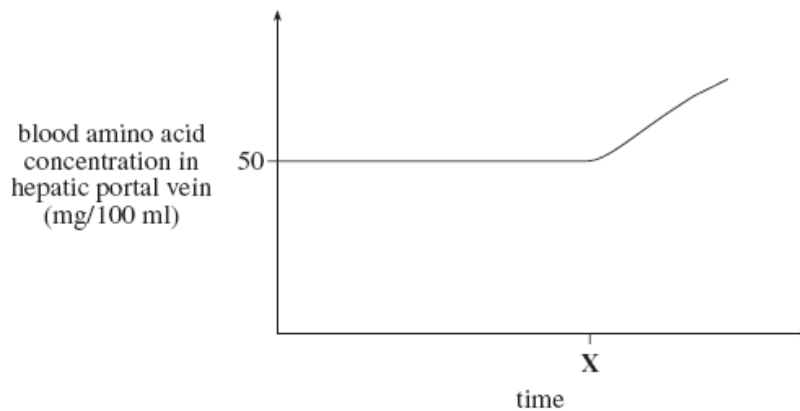


CH. 14 – DIGESTIVE SYSTEM

PRACTICE QUESTIONS

15. What structure prevents food from entering the trachea?
- A. the tongue
 - B. the pharynx
 - C. the epiglottis
 - D. the cardiac sphincter
16. Which is a function of the large intestine?
- A. the secretion of bile
 - B. the absorption of vitamins
 - C. the production of glycogen
 - D. the release of sodium bicarbonate

Use the following graph to answer question 17.



17. What enzyme is responsible for the change at time X?
- A. lipase
 - B. amylase
 - C. nuclease
 - D. peptidase

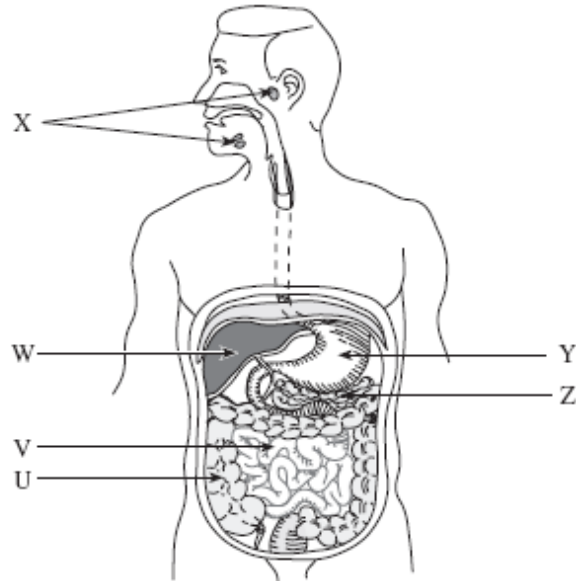
18. Which of the following is a reactant in the chemical digestion of food?
- water
 - enzymes
 - hormones
 - heavy metals
19. Which enzyme functions optimally in a low pH?
- lipase
 - pepsin
 - trypsin
 - amylase
21. The removal of the gall bladder would affect the rate of digestion of which of the following?
- lipids
 - proteins
 - nucleotides
 - carbohydrates
22. Which of the following results in an increase in the surface area of food?
- lipase digesting starch
 - peristalsis in the stomach
 - synthesis of glycogen in the liver
 - absorption of water in the large intestine

Use the following chart to answer question 22.

	Temperature (°C)	pH	Substrate
W	37	2.0	protein
X	37	8.0	starch
Y	70	7.4	dipeptides
Z	15	2.0	protein

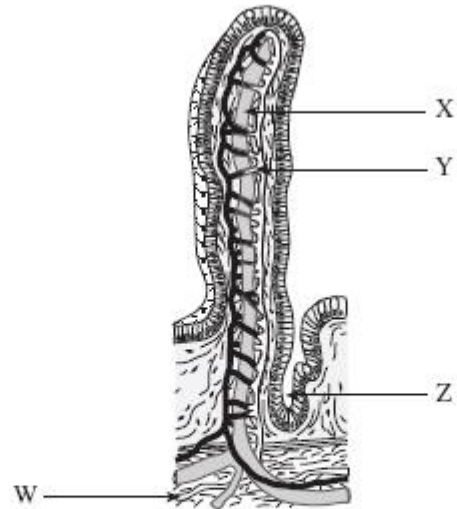
22. During which of the conditions above would pepsin function optimally?
- W
 - X
 - Y
 - Z
23. Which structure is **not** part of the pathway that food follows on its way through the digestive tract?
- pharynx
 - duodenum
 - gall bladder
 - cardiac sphincter

Use the following diagram to answer questions 25 and 26.



25. Which structures produce secretions which aid in the digestion of proteins?
- A. U, Y
 - B. V, W
 - C. Y, Z
 - D. X, V
26. Which structures produce secretions which aid in the digestion of carbohydrates?
- A. U, V
 - B. U, Y
 - C. W, V
 - D. X, Z
27. How would digestion be affected if liver secretions were unable to enter the duodenum?
- A. The rate of emulsification would increase.
 - B. The breakdown of maltose would increase.
 - C. There would be less amino acid production.
 - D. The rate of fatty acid production would decrease.
19. A person's ability to breathe and swallow is impaired when the tonsils are swollen. What region is affected?
- A. larynx
 - B. trachea
 - C. pharynx
 - D. esophagus
30. Which characteristics of the digestive system increase its surface area?
- A. *E. coli*, bile and villi
 - B. villi, ridges/folds and length
 - C. sphincters, peristalsis and epiglottis
 - D. intestinal glands, gastric glands and ridges/folds

Use the following diagram to answer question 29.



29. Where does the absorption of amino acids take place?

- A. W
- B. X
- C. Y
- D. Z

22. Which of the following digestive enzymes is correctly matched with its optimum pH?

	Digestive Enzyme	Optimum pH
A.	trypsin	3
B.	lipase	3
C.	amylase	8
D.	pepsin	8

18. What conditions would decrease the ability of lipase to form an enzyme-substrate complex?

- A. a pH of 8.5
- B. the addition of lipids
- C. the addition of lead ions
- D. an increase in the amount of bile available

5. a) Describe how carbohydrates are digested and absorbed in the human digestive system.

(6 marks)

29. What two structures produce chemicals that digest proteins?

- A. the liver and the pancreas
- B. the salivary and intestinal glands
- C. the gastric glands and the pancreas
- D. the gastric glands and the gall bladder

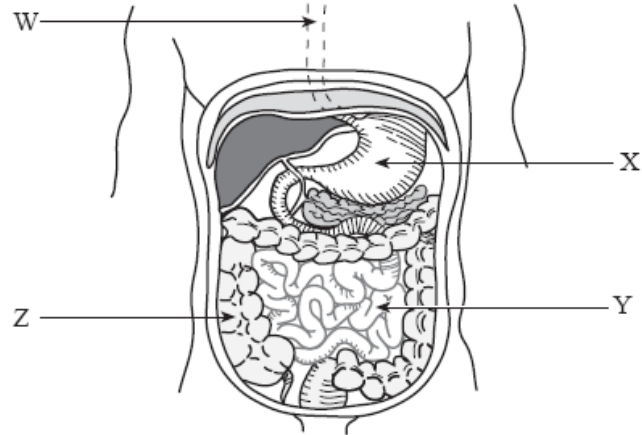
Use the following list to answer question 30.

- emulsification by bile
- chewing in the mouth
- churning in the stomach
- nucleic acid digestion by nuclease
- production of vitamins by bacteria

30. How many of the above are examples of physical digestion?

- A. 2
- B. 3
- C. 4
- D. 5

Use the following diagram to answer question 7.



7. Identify each of the labelled structures and give **one** function of each.
(6 marks: $\frac{1}{2}$ mark each for name; 1 mark each for function)

Part **W**:

Name: _____

Function: _____

Part **X**:

Name: _____

Function: _____

Part **Y**:

Name: _____

Function: _____

Part **Z**:

Name: _____

Function: _____

31. Which of the following is **not** produced in the liver?
- A. bile
 - B. urea
 - C. lipase
 - D. glycogen
32. When the liver is unable to break down red blood cells, which of the following would be produced in decreased amounts?
- A. maltose
 - B. peptides
 - C. fat droplets
 - D. nucleotides
19. What would occur if sodium bicarbonate ions were removed from pancreatic juice?
- A. Decreased amounts of bile would be released.
 - B. Increased H₂O absorption would occur in the colon.
 - C. The cells lining the small intestine would be damaged.
 - D. Digestion of nutrients in the small intestine would increase.
20. Which of the following describes peristalsis?
- A. the physical breakdown of fats
 - B. production of vitamins by *E. coli*
 - C. release of enzymes by the pancreas
 - D. muscle contractions of the digestive tract
21. Trypsin functions **best** in which of the following conditions?
- A. basic
 - B. acidic
 - C. neutral
 - D. low pH