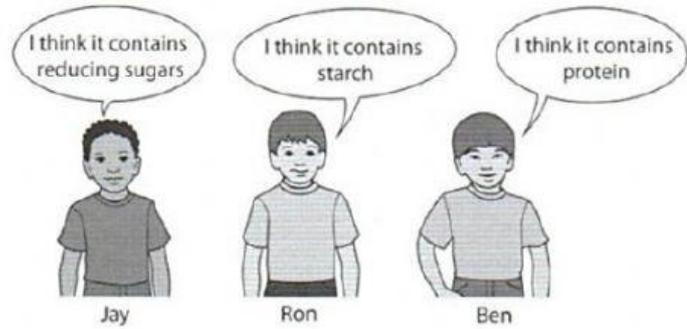


Human Nutrition Test

**Question 1**

- a) Three Biology students are given a solution of a food substance and each makes a different suggestion about what it contains.



Complete the following table to summarise THREE different tests the students could use to find out whose suggestion is correct.

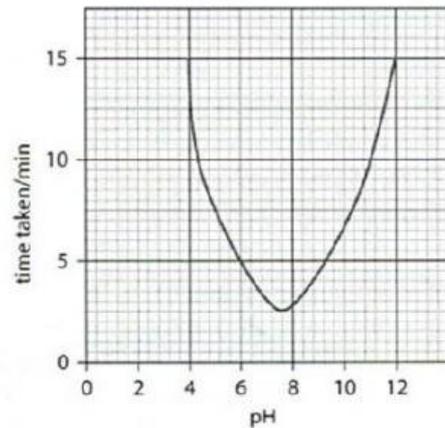
Test reagent(s)	Results of test if		
	Jay's suggestion is correct	Ron's suggestion is correct	Ben's suggestion is correct

[9]

- c) The graph shows how the time taken for a unit mass of starch to be broken down to reducing sugars by the enzyme amylase varies with pH.

- i) Use the information given in the graph to complete the following table.

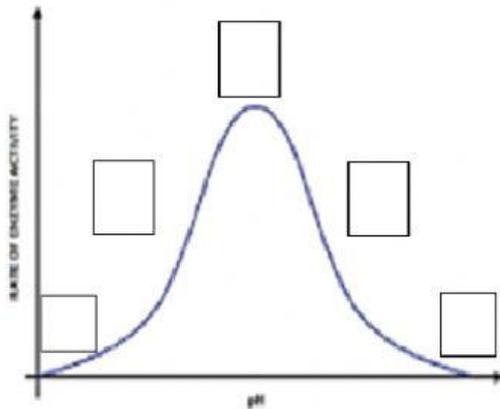
pH	Time taken for starch to be broken down/min
4.4	
6.0	
8.8	
11.0	



[4]

ii. Based on the graph, what is the optimum pH for amylase to work? \_\_\_\_\_ [1]

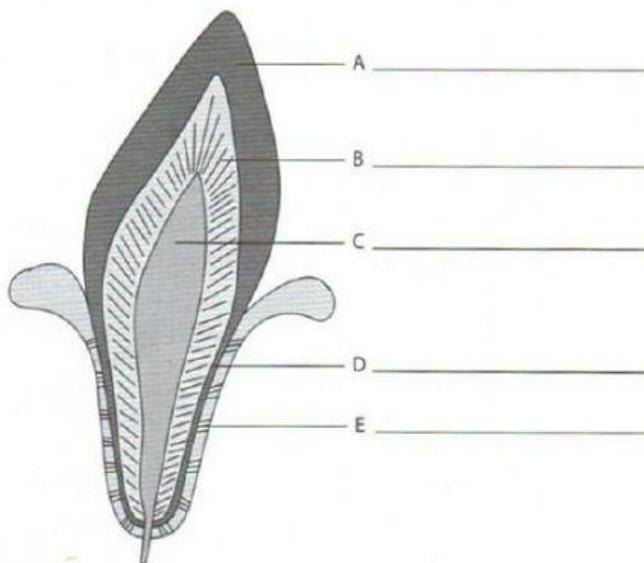
iii. Drag the labels from the left to explain what is happening in the enzyme vs pH graph below.



- A** enzyme starts to slow down as the solution it is in get more basic **A**
- B** (acidic) denaturation point **B**
- C** enzyme starts to slow down as the solution it is in gets more acidic **C**
- D** (basic) denaturation point **D**
- E** Optimum pH **E**

**Question 2**

The diagram below shows a section through a canine tooth. Label A to E on the lines provided. [5]



iii. Name two OTHER types of teeth found in humans. [2]

\_\_\_\_\_ and \_\_\_\_\_

iv. What is the importance of teeth in the process of digestion?

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v. Draw lines to place each of the different parts of the alimentary canal in the order that food passes through and match each with its function or functions.

1	stomach	transports food to the stomach
2	colon	digestion of starch begins here
3	oesophagus	digestion is completed here
4	mouth	absorbs water
5	small intestine	absorbs the products of digestion
		digestion of protein begins here

iii. By what TWO processes are the products of digestion absorbed? Choose TWO.

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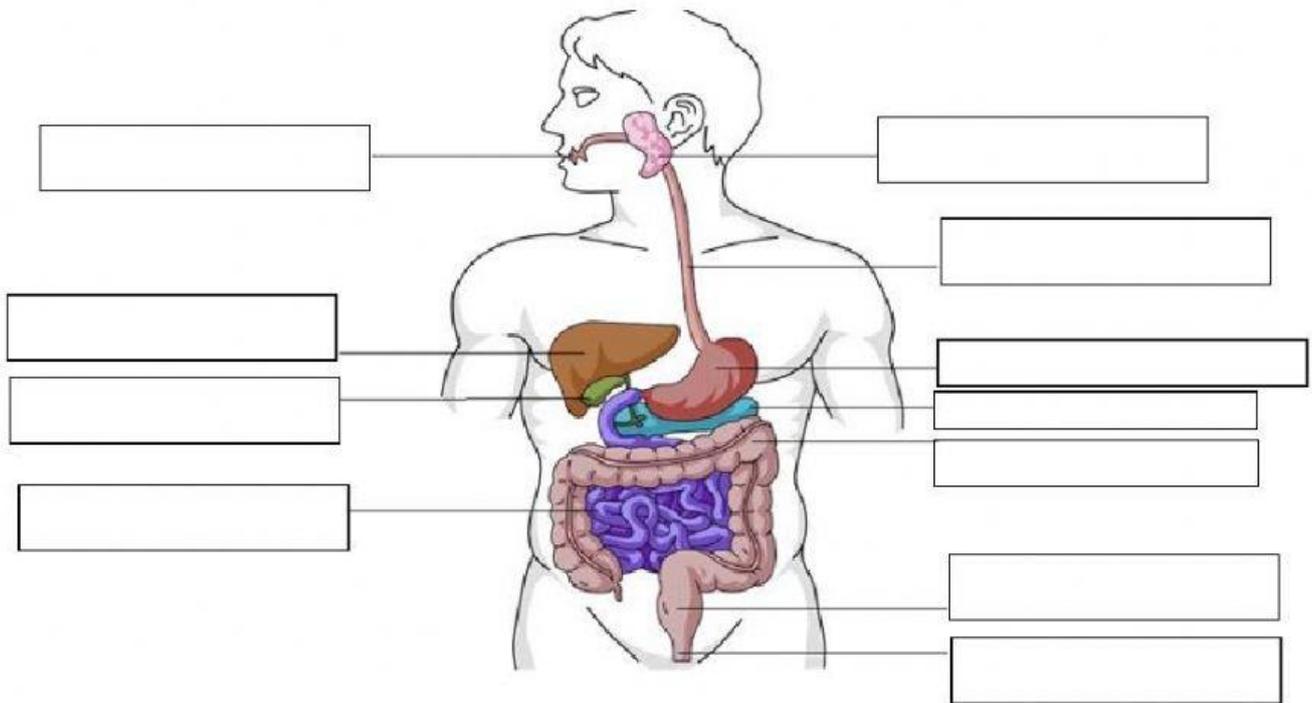
iv. What is the main role of the small intestines?

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v. Choose THREE ways that the small intestines are adapted to the role mentioned in (iv) above.

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vi. Label the diagram of the digestive system below. [11]



vii. Differentiate between the terms alimentary canal and digestive system.

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**Question 3**

i. Fibre is important in preventing \_\_\_\_\_ while water helps to prevent \_\_\_\_\_.

ii. What is malnutrition? \_\_\_\_\_ [1]

iii. What is a balanced diet? \_\_\_\_\_ [1]

iii. Complete the following table to give information about THREE deficiency diseases.

Name of deficiency disease	Cause of deficiency disease	Two symptoms of deficiency disease
	lack of iron in the diet	1. 2.
scurvy		1. 2.
		1. bow legs 2.

[9]