1.12 The Digestive System and Enzymes: 10-minute Pack

AQA 8464 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The table below lists four organs involved in digestion. Complete the table by writing one main digestive function for each organ.

Organ	Main digestive function
Mouth	?
Stomach	?
Small intestine	?
Large intestine	?

(Total for Question 1 is 4 marks)

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2 Enzymes are essential for digestion.

(a) State what is meant by a catalyst. **(1)**

(b) State the type of molecule that all digestive enzymes are made of. **(1)**

(c) State why enzymes are needed to digest food. **(1)**

(Total for Question 2 is 3 marks)

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3 The gastric juice in the stomach has a low pH because it contains hydrochloric acid.

(a) Calculate the hydrogen ion concentration $[H^+]$ in mol/dm3 of gastric juice with pH 2. Show your working. **(2)**

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(Total for Question 3 is 2 marks)

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Mark scheme · 1.12 The Digestive System and Enzymes: 10-minute Pack

Question 1

mouth: mechanical digestion by chewing (mastication) and mixing food with saliva, which contains amylase to begin starch digestion, oe **B1**

stomach: churns food (mechanical digestion) and produces protease (pepsin) and hydrochloric acid, which gives the acidic pH needed for pepsin and helps kill bacteria, oe **B1**

small intestine: site where chemical digestion is completed (amylase, protease and lipase act here) and where the small, soluble products of digestion are absorbed into the blood through the villi, oe **B1**

large intestine: absorbs water (and some mineral ions) from the undigested remains of food, forming faeces, oe **B1**

Answer: Mouth: mechanical digestion and amylase in saliva begins starch digestion. Stomach: churns food and produces pepsin and hydrochloric acid. Small intestine: completes chemical digestion and absorbs digested food into the blood. Large intestine: absorbs water, forming faeces.

Question 2

(a) a substance that speeds up a reaction without being changed or used up itself, oe **B1**

(a) Answer: A substance that speeds up a reaction without being changed or used up itself.

(b) protein **B1**

(b) Answer: Protein.

(c) to speed up (catalyse) the breakdown of large, insoluble food molecules into small, soluble molecules fast enough to be useful at body temperature, oe **B1**

(c) Answer: They speed up the breakdown of large, insoluble food molecules into small, soluble ones fast enough for the body to use them.

Question 3

(a) uses relation $[H^+] = 10^{-p}H$ and substitutes pH = 2 **M1**

(a) 0.01 mol/dm3 cao **A1**

(a) Answer: 0.01 mol/dm3

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