

Past-paper walk-through

Digestive system ■ 7.2

eXercise

Questions in this set

- 0610/42 N25 Q1 ■ 14 marks
- 0610/43 J25 Q1 ■ 15 marks

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

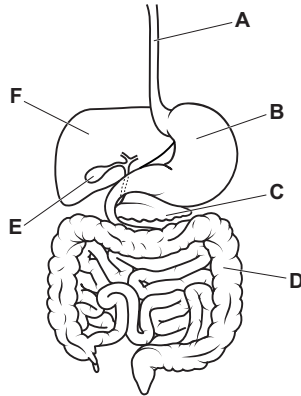
Question 1

0610/42 N25 ■ Q1 ■ 14 marks

-
- 1 (a) Describe what is meant by the term physical digestion.

Question 1

(b) Fig. 1.1 is a diagram of the human digestive system.



Question 1

Fig. 1.1

State the letter from Fig. 1.1 that shows one part where:

Question 1

Question 1

Question 1

[3]

(c) Explain the role of bile in physical digestion.

Question 1

(d) Physical digestion also occurs in the mouth.

State the names **and** functions of **two** types of human teeth.

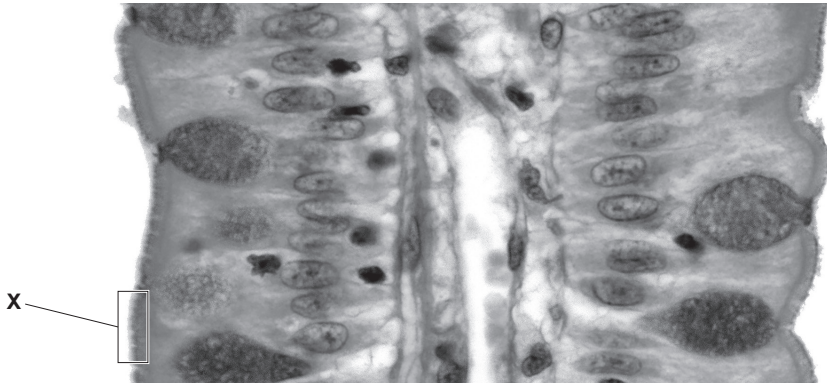
Question 1

Question 1

Question 1

[2]

(e) Fig. 1.2 is a photomicrograph of part of one villus in the small intestine.



Question 1



Question 1

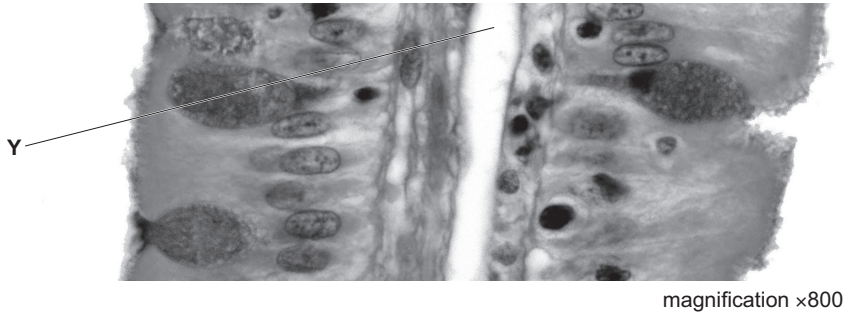


Fig. 1.2

Identify **and** explain the roles of the parts labelled **X** and **Y** in Fig. 1.2.

Question 1

[Total: 14]

Solution 1

(a)

Mark scheme

- the breakdown of food into smaller, pieces / AW ;
- without chemical change (to the food molecules) ;
- 2

Solution 1

(b)

Mark scheme

- B ;
- C ;
- F ;
- 3

Solution 1

(c)

Mark scheme

- ref. to emulsification of fat ;
- ref. to increased surface area (of fat) ;
- (idea of increased surface area / more droplets) for, action of enzymes / action of
- lipase / chemical digestion ;
- 3

Solution 1

(d)

Mark scheme

- any two from:
- incisor for, grabbing / piercing / cutting / tearing / slicing / biting / AW ;
- canine for, grabbing / piercing / cutting / tearing / slicing / biting / AW ;
- premolar for, grinding / chewing / crushing / AW ;
- molar for, grinding / chewing / crushing / AW ;
- 2

Solution 1

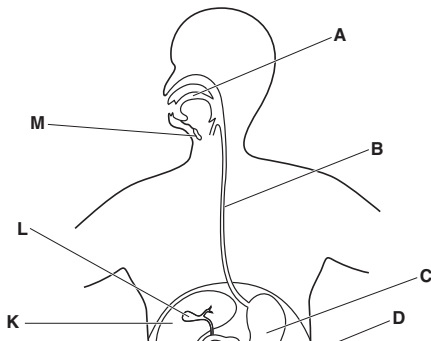
(e) Mark scheme

- X are microvilli ;
- (X) increased / provides large, surface area for absorption (of nutrients)
- OR
- (X) for, attachment of / release of / contains, enzymes / maltase ;
- Y is the lacteal ;
- (Y) absorption of, products of fat digestion / AW ;
- 4
- Guidance

Question 1

0610/43 J25 ■ Q1 ■ 15 marks

- 1 (a) Fig. 1.1 is a diagram of the human digestive system.



Question 1

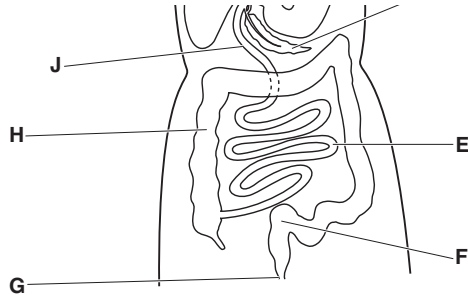


Fig. 1.1

Table 1.1 shows information about some of the structures shown in Fig. 1.1.

Complete Table 1.1, using Fig. 1.1.

—

Question 1

Table 1.1

name of the structure	function	letter in Fig. 1.1
		G
	produces amylase	
gall bladder		
	transports food to the stomach	

[4]

Question 1

- (b) (i)** Describe the role of chemical digestion.

Question 1

(ii) Maltose is digested by maltase.

State the name of the product of this reaction.

Question 1

- (iii) Describe where maltose is digested in the small intestine.

Question 1

- (iv) Explain why amylase digests starch in the small intestine but does **not** digest starch in the stomach.

Question 1

[Total: 15]

Solution 1

(a) Mark scheme

- name of structure
- function
- letter in Fig. 1.1
- anus
- egestion / removal
- of, undigested
- food / faeces
- G

Solution 1

- salivary glands
- / pancreas
- produce amylase
- M / D
- gall bladder
- stores bile
- L
- oesophagus
- transports food to
- the stomach

Solution 1

- B
- ;;;
- 4 one mark per correct row

Solution 1

(b)(i)

Mark scheme

- (the breakdown) of large molecules into small molecules ;
- idea of (only) small molecules can be absorbed ;
- idea of insoluble (molecules) to soluble (molecules) ;
- 3

Solution 1

(b)(ii)

Mark scheme

- glucose ;
- 1

Solution 1

(b)(iii)

Mark scheme

- (the membranes of the) epithelium lining, epithelial cells (of, small intestine /
- villi) ;
- 1

Solution 1

(b)(iv) Mark scheme

- any six from:
- 1
- stomach produces, gastric juice / hydrochloric acid / HCl ;
- 2
- acidic / low pH, in stomach ;
- 3
- (acid) denatures, amylase / enzyme ;
- 4

Solution 1

- changes shape of the active site ;
- 5
- (active site) no longer complementary (shape) to, substrate / starch ;
- 6
- cannot form enzyme-substrate complexes ;
- 7
- bile is released into the, small intestine / duodenum ;
- 8
- bile is an alkaline mixture ;
- 9

Solution 1

- neutralises the acidic mixture ;
- 10 idea of suitable pH for amylase to work in small intestine ;
- 6
- MP1 A stomach contains gastric juice / HCl
- MP7 A pancreatic juice instead of bile
- 0610/43
- May/June 2025
- Guidance