Name:	Target Grade:	Actual Grade:

BRIGHT CULTURE

HUMAN DIGESTIVE
MCQ and STRUCTURED QUESTIONS

READ THESE INSTRUCTIONS FIRST

INSTRUCTIONS TO CANDIDATES

1. Find a quiet, comfortable spot free place from distractions.

2. Spend one minute on each mark.

3. Time yourself for every single question.

4. Every chapter has their own question types. Ensure that you know the different question type for each chapter.

5. Make a conscientious effort to remember your mistakes, especially in terms of answering techniques. E.g Take a picture for the mistakes that you made, keep it in a photo album, and revise it over and over again.

6. Highlight question types that you tend to keep making mistakes and review them nearing exams.

7. Always review the common questions and question type that you tend to make mistakes nearing exams.

8. During exams, classify the question type and recall what you have learnt, how you need to analyse the questions for the different question type, what you need to take note of and answer with the correct answering techniques!

✨ **Wishing you all the best for this test!**

You've got this!

💡 **With lots of love,**
Bright Culture 💛

GOOD LUCK FOR YOUR EXAM!

MARKS

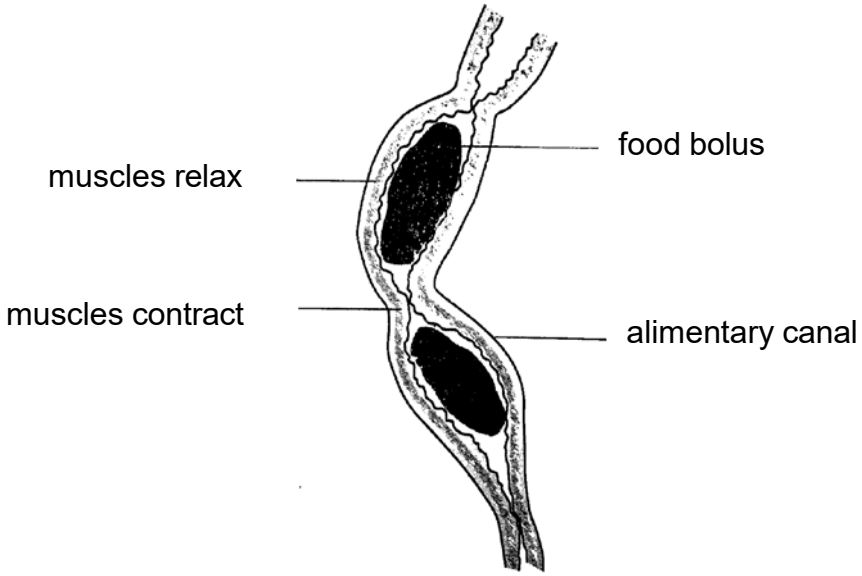
HUMAN DIGESTIVE MCQ

1 Seeds store a specific nutrient. The nutrient is broken down by enzyme amylase during seed germination.

What could this nutrient be?

A cellulose
B fat
C protein
D starch

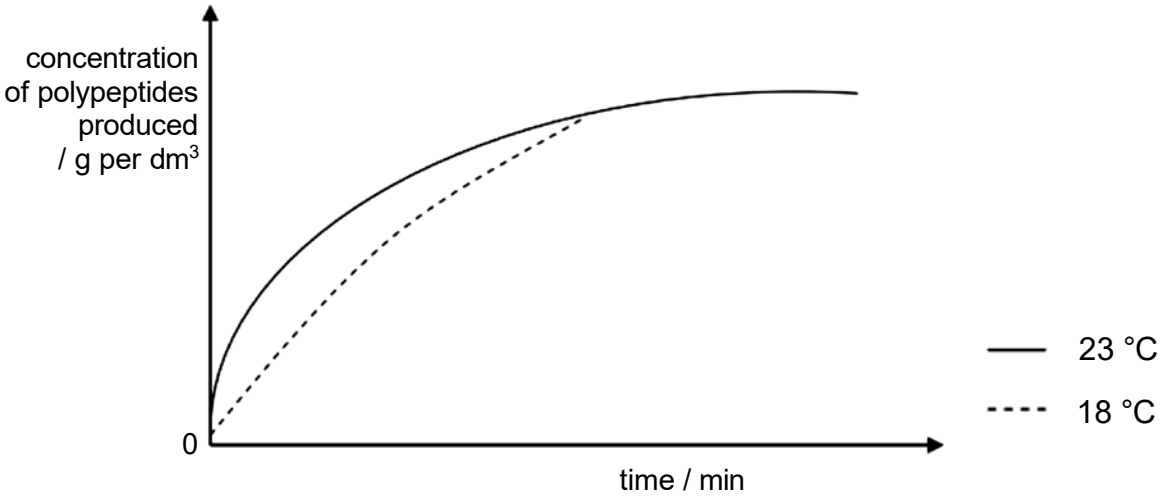
2 The diagram shows the movement of food in the human alimentary canal.



Which of the following regions in the human alimentary canal can this movement occur?

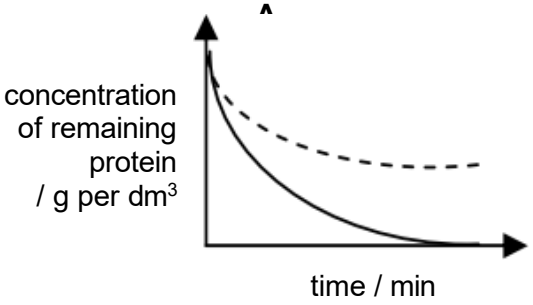
A duodenum, colon and pancreas
B gall bladder, pancreas and rectum
C ileum, colon and gall bladder
D ileum, duodenum and colon

3 When protease is added to protein solution, polypeptides are produced.
The concentration of polypeptides produced was measured in two separate experiments, one at 18 °C and the other at 23 °C.
The results are shown in the graph.

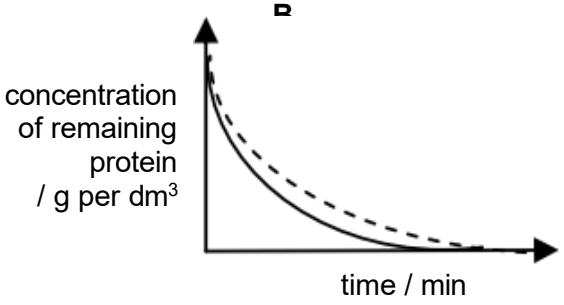


Which graph best represents the results of the two experiments when the concentration of remaining protein in the solution is plotted against time?

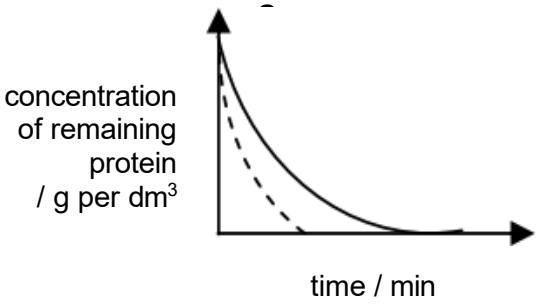
A



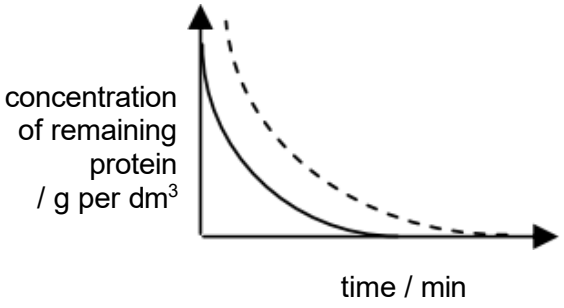
B



C



D



4 Which statements accurately describe the digestion of food in the mouth?

1. Amylase breaks down large starch molecules into smaller maltose molecules.
2. Chewing increases the surface area of food for digestion.
3. Saliva emulsifies fats into smaller droplets.
4. Teeth help to create a small ball of food called a bolus for ease of swallowing.

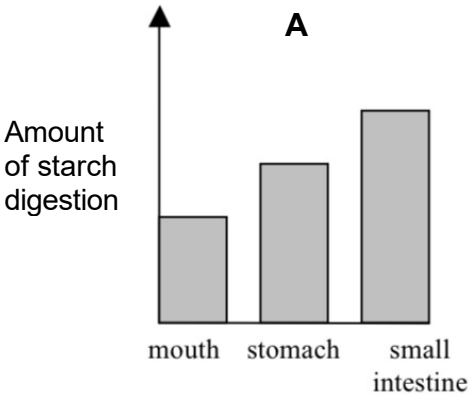
A 1 & 2
B 1 & 4
C 2 & 3
D 3 & 4

5 Which statements about the stomach is **incorrect**?

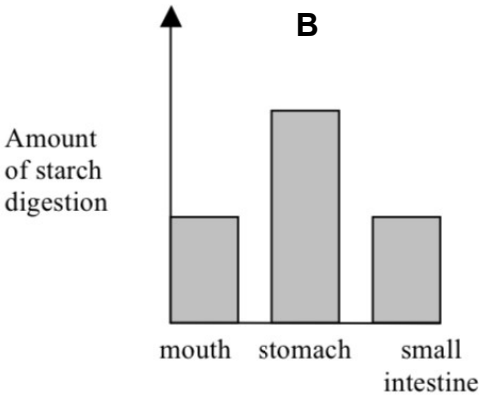
A Gastric juice contains acid and proteases that are involved in digestion.
B Proteases in gastric juice breaks down proteins to amino acids.
C The stomach churns to digest food mechanically.
D The surface layer in the stomach secretes mucus to protect the intestine from damage by proteases and acid.

6 Which bar chart shows the correct amount of starch digested in the different regions of the digestive system?

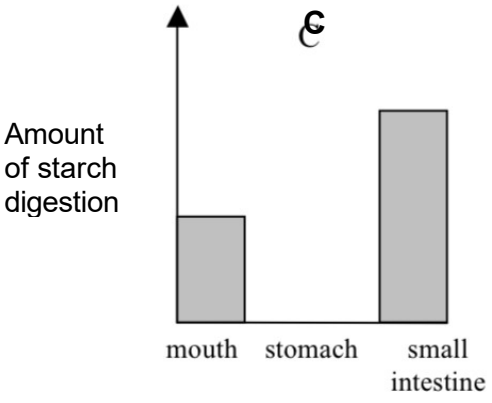
A



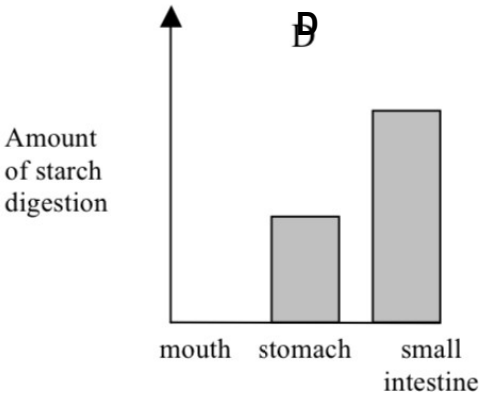
B



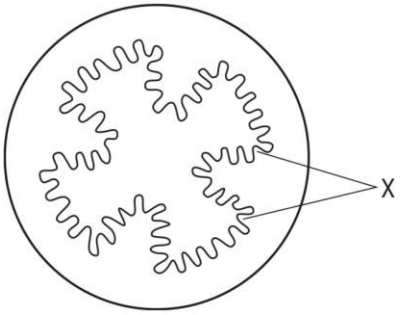
C



D



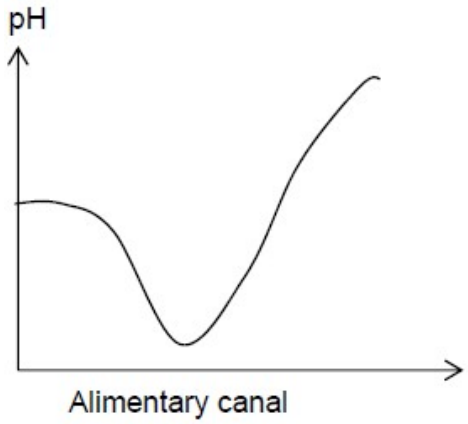
7 The diagram represents a section through the small intestine.



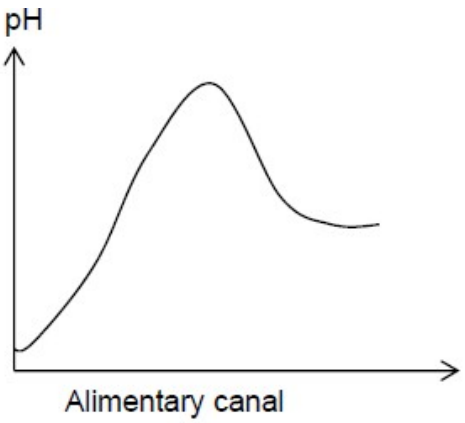
What is the role of the structures labelled X?

A They help to move the food along.
B They make a large surface area for absorption.
C They move mucus over the surface.
D They protect against bacteria.

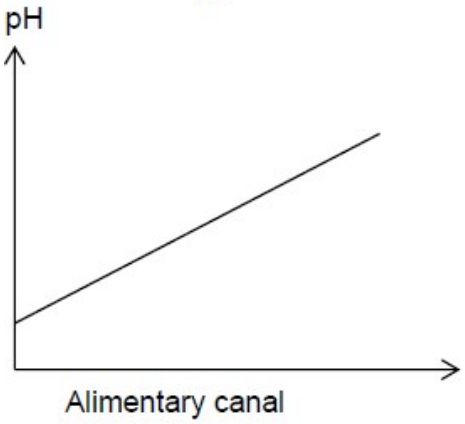
8 Which graph shows the change in pH through the alimentary canal, from mouth to small intestine?



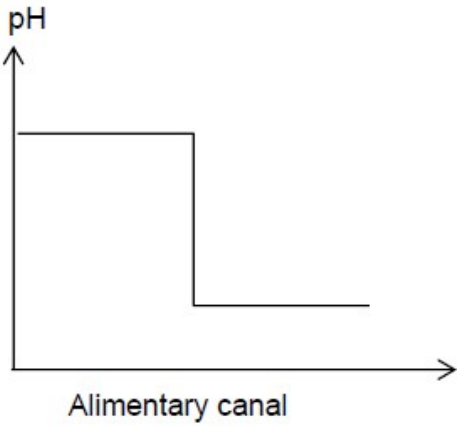
A



B



C



D

HUMAN DIGESTIVE STRUCTURED QUESTIONS

1 **Fig. 12.1** shows an animal transport system with surrounding cells.

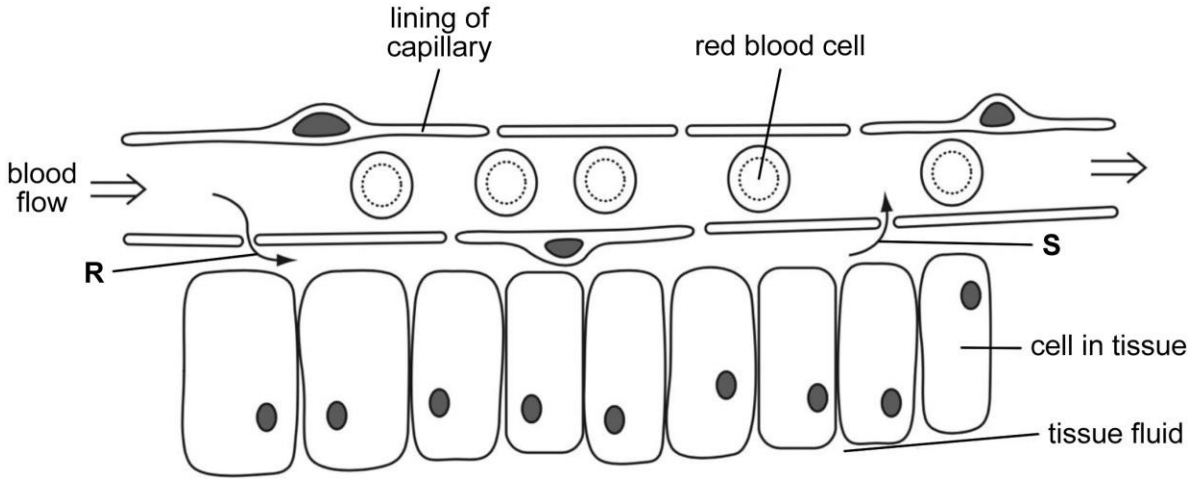


Fig. 12.1

a. Name one substance required by cells, other than oxygen, that pass from the blood to the tissue fluid at **R**. [1]

……

b. Name one substance produced by cells that pass from the tissue fluid to the blood at **S**. [1]

……

c. With reference to **Fig. 12.1**, describe and explain **two** ways in which capillaries are adapted to their function. [4]

……

……

……

……

d. **(i)** Describe one difference that exists between a red blood cell and a typical animal cell. [1]

……

……

(ii) State an advantage of the feature you described in **(d) (i)** for a red blood cell.

[1]

……

……

[Total = 8 marks]

2 **(a)** Fig. 3.1 shows part of the alimentary canal and the organs associated with it.

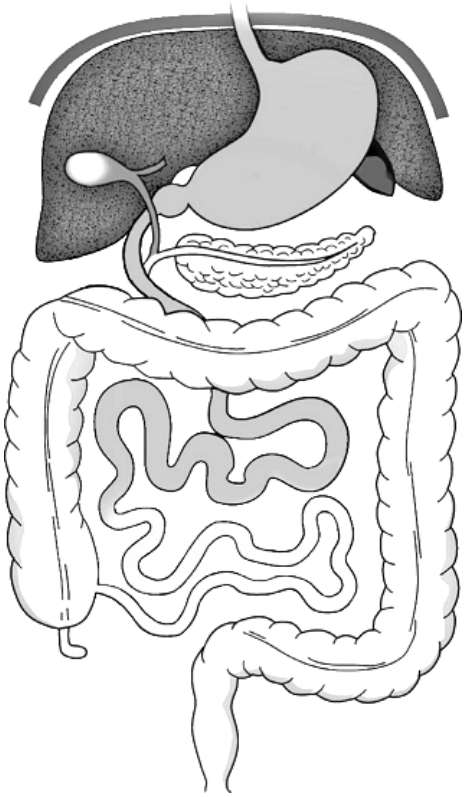


Fig. 3.1

On Fig. 3.1,

(i) using the letter **M**, label the structure which produces bile. [1]

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(b) Person X was given a type of weight control pill that helps to decrease his mass by preventing fat digestion. The pill is encased in a protective layer that can only be broken down in the stomach.

(i) What could the protective layer of the pill be made of?

..... [1]

(ii) Name the enzyme that speeds up the digestion of fats.

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(iii) A few months later, person X noticed that his mass has not decreased and have instead increased.

Suggest a possible reason for the increase in his mass.

.....

..... [1]

[Total: 5m]

3 A 30-year old man has his stomach partially removed by surgery.

State how he should change his diet after surgery.

.....

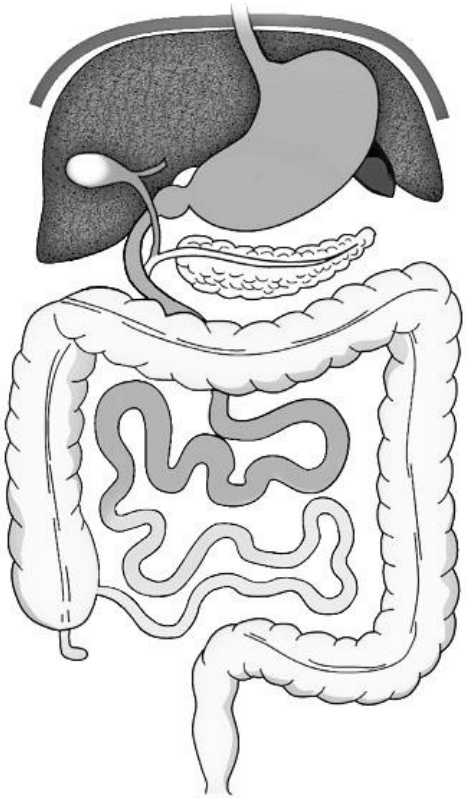
.....

.....

..... [2]

[Total: 2m]

4 Fig. 1.1 shows part of the alimentary canal and the organs associated with it.



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(i) State what the protective layer of the pill could be made of.

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ANSWER FOR HUMAN DIGESTIVE SYSTEMS MCQ

1 Seeds store a specific nutrient. The nutrient is broken down by enzyme amylase during seed germination.

What could this nutrient be?

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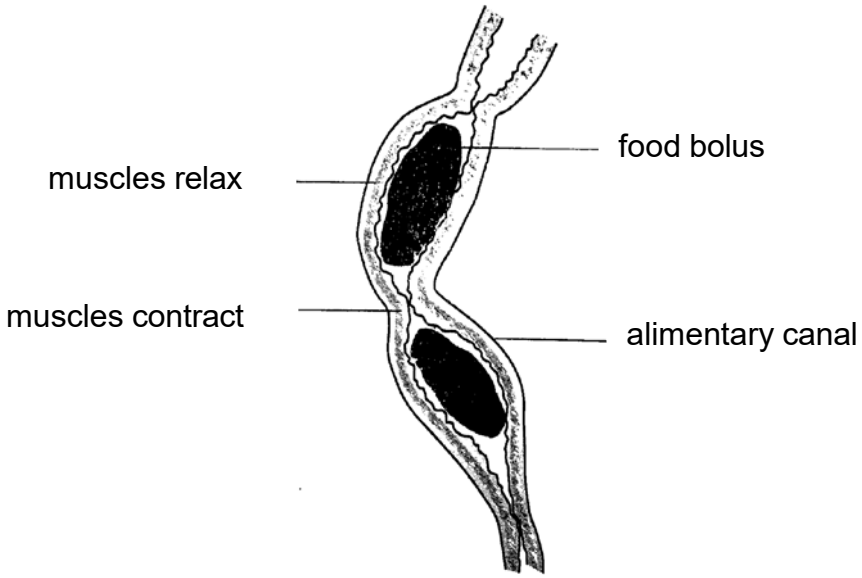

Which of the following regions in the human alimentary canal can this movement occur?

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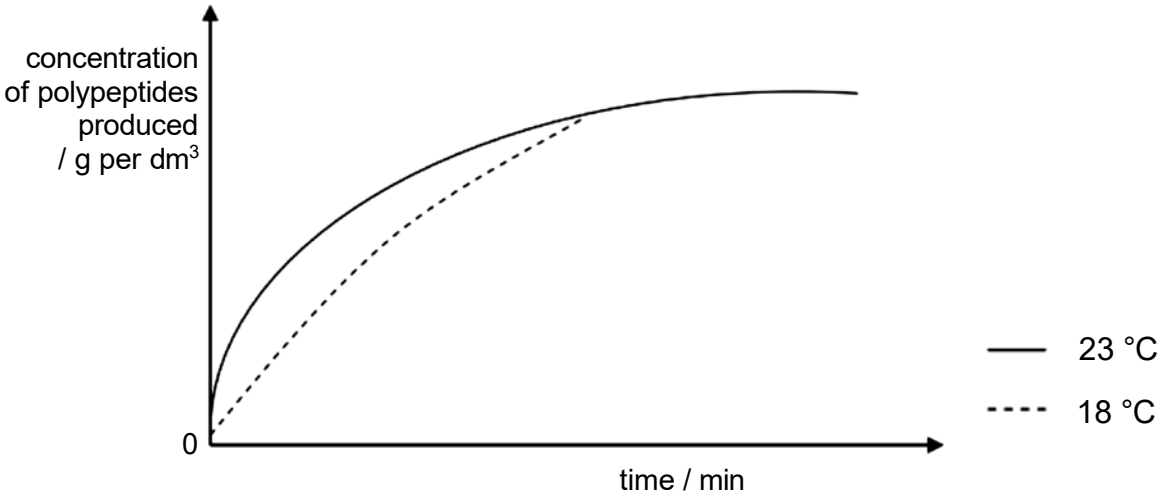

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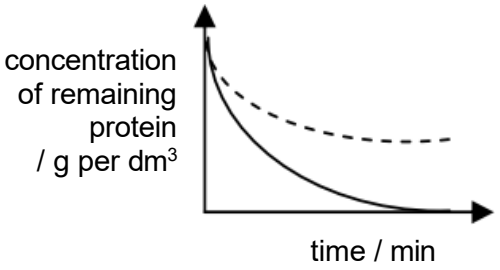

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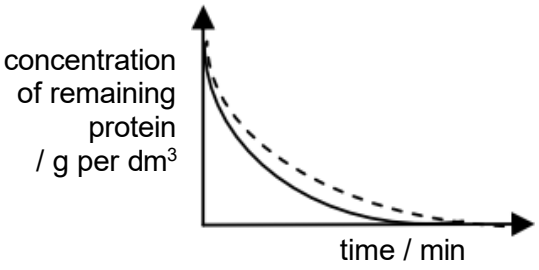
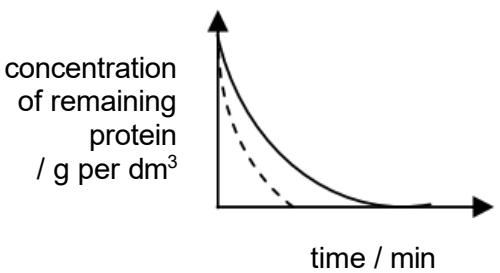


C



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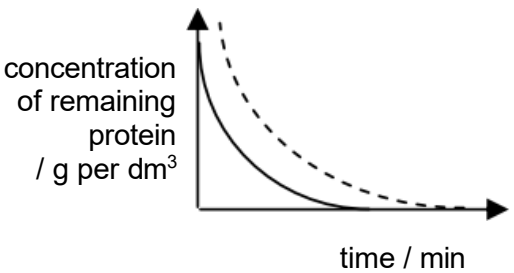

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A 1 & 2
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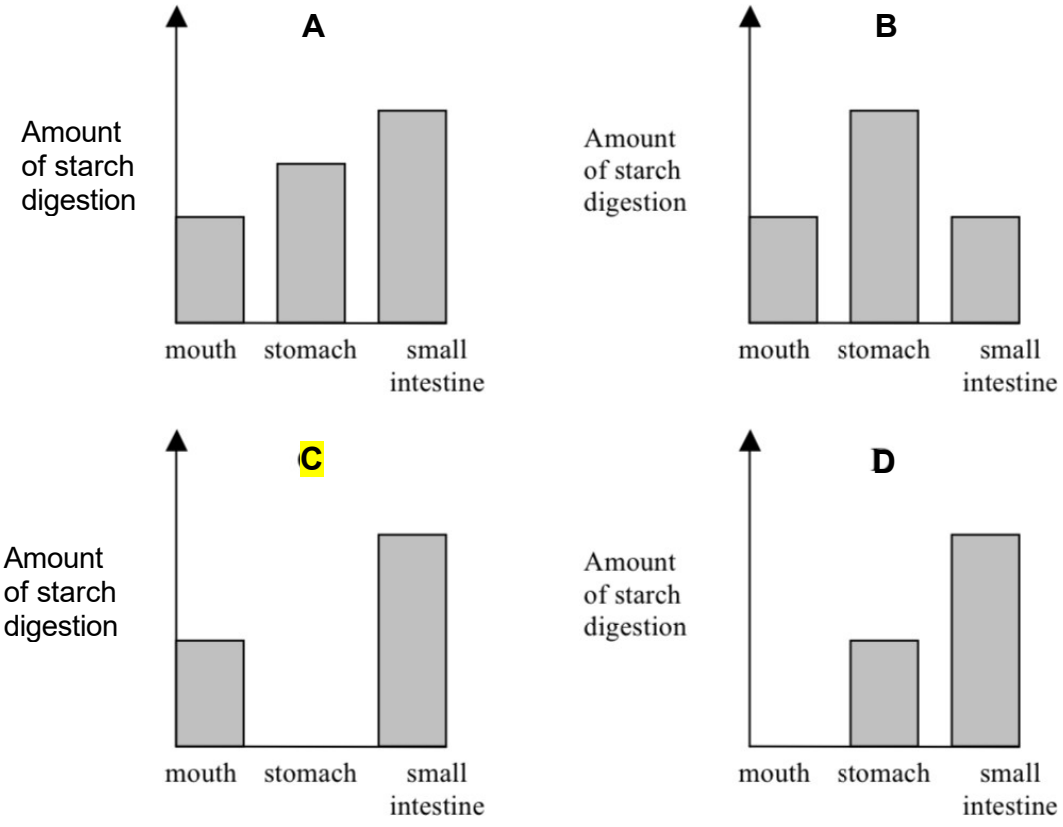

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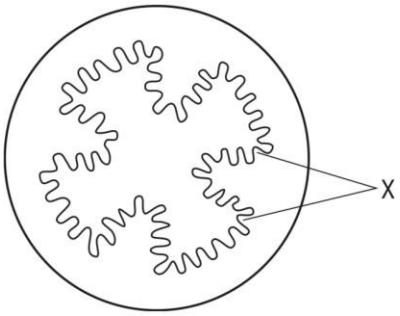

What is the role of the structures labelled X?

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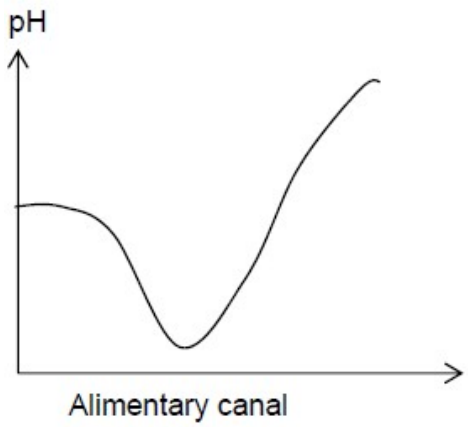
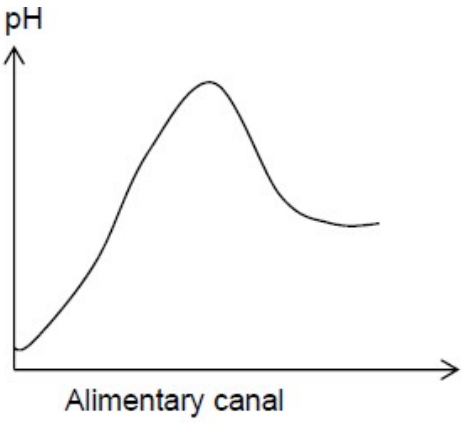


A



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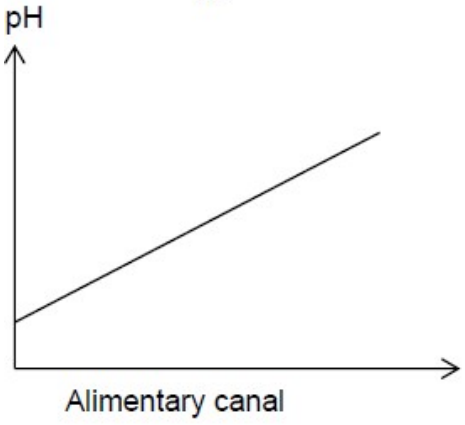

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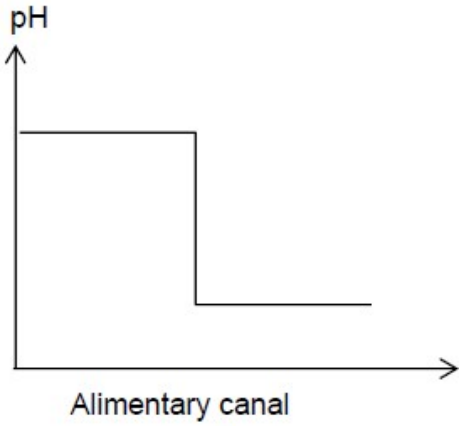

D

Ans : A

ANSWER FOR HUMAN DIGESTIVE SYSTEMS STRUCTURED QUESTIONS

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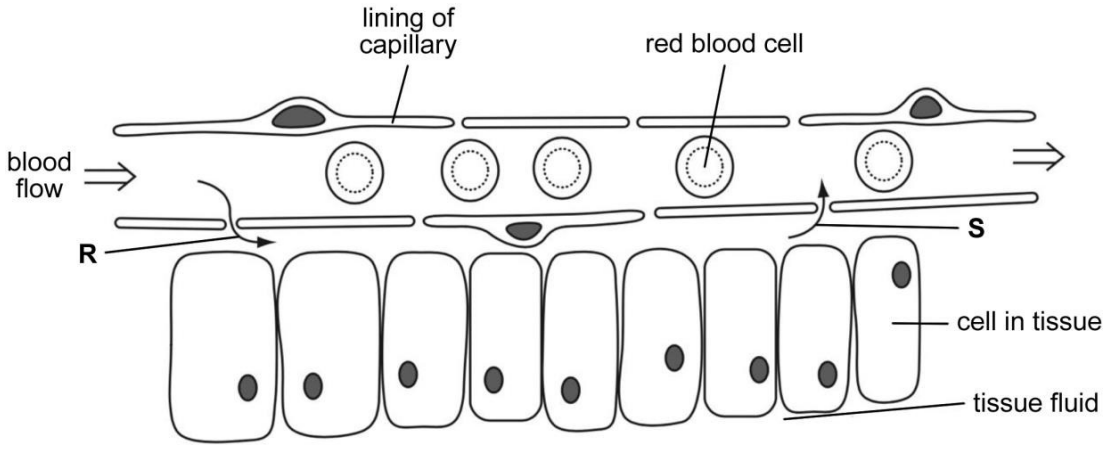


Fig. 12.1

a Name one substance required by cells, other than oxygen, that pass from the blood to the tissue fluid at **R**. [1]

Any one: water / glucose / simple sugars / amino acids / minerals.

b Name one substance produced by cells that pass from the tissue fluid to the blood at **S**. [1]

Carbon dioxide / white blood cells.

c With reference to **Fig. 12.1**, describe and explain **two** ways in which capillaries are adapted to their function. [4]

Description: pores / holes / gaps in capillary wall. [1]

Explanation: allows diffusion of molecules (between blood and tissue fluid) via diffusion / white blood cells are able to pass through to combat bacteria and viruses. [1]

Description: one cell thick capillary wall [1]
Explanation: short diffusion distance for diffusion of substances / faster diffusion of substances

d (i) Describe one difference that exists between a red blood cell and a typical animal cell. [1]

Red blood cell has haemoglobin / biconcave shape / no nucleus Accept any one for 1 mark.

(ii) State an advantage of the feature you described in **(d) (i)** for a red blood cell. [1]

Carries oxygen / increases surface area for absorption and release of oxygen / can hold greater amount of haemoglobin.

Accept any one for 1 mark.

Note: Advantage must relate to difference with the general animal cell.

[Total = 8 marks]

2 **(a)** Fig. 3.1 shows part of the alimentary canal and the organs associated with it.

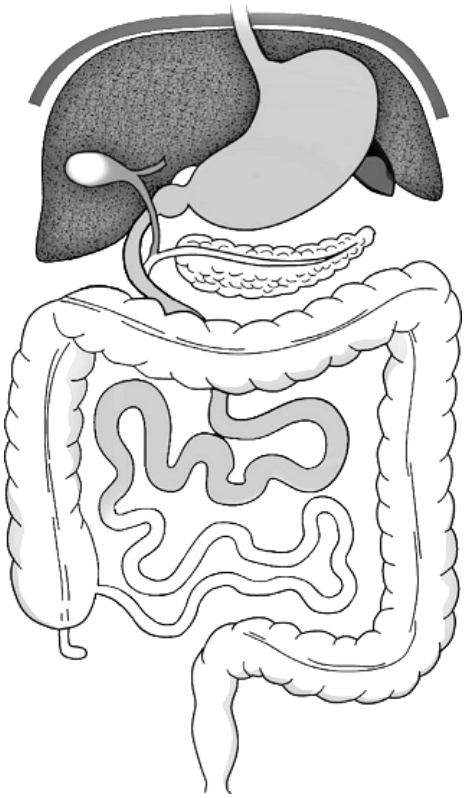


Fig. 3.1

On Fig. 3.1,

(i) using the letter **M**, label the structure which produces bile.

liver [1]

(ii) using the letter **N**, label the structure which absorbs the end products of digestion. [1]

small intestine

(b) Person X was given a type of weight control pill that helps to decrease his mass by preventing fat digestion. The pill is encased in a protective layer that can only be broken down in the stomach.

(i) What could the protective layer of the pill be made of?

protein ; **Accept:** polypeptide/gelatin [1]

(ii) Name the enzyme that speeds up the digestion of fats.

lipase s [1]

(iii) A few months later, person X noticed that his mass has not decreased and have instead increased.

Suggest a possible reason for the increase in his mass.

She is taking in high amount of carbohydrates instead of fats. ; She has increased her intake of food ;
She has decreased her level of physical activity ; max 1
Reject: protein layer on the pill, when digested added to the weight, the pills did not work

[1]

[Total: 5m]

3 A 30-year old man has his stomach partially removed by surgery.

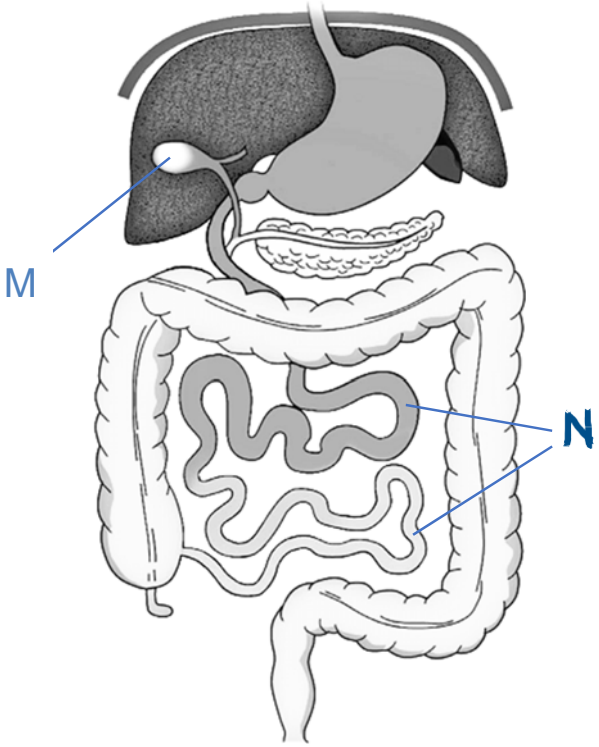
State how he should change his diet after surgery.

Take smaller; frequent meals; in a day Consume
softer food ;
Eat more slowly;
Consume food that is cooked ;
Accept:
Eat less proteins
Take more protein/take more foods with protein/take a protein source at each meal
Reject: Ensure balanced diet, take in more vitamins
Comments: Many candidates described “why” the diet needs to be changed instead of stating “how”, which is what the question requires. Need to state more than one way since the question carries 2 m.

[2]

[Total: 2m]

4 **(a)** Fig. 1.1 shows part of the alimentary canal and the organs associated with it.



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(i) What could the protective layer of the pill be made of?

Protein / Gelatin [1]

(ii) Name the enzyme that speeds up the digestion of fats.

Lipase [1]

[4 marks]