

Human nutrition – 2020 IGCSE 0610

1. March/2020/Paper_12/No.14

The list shows some human health problems.

- 1 chronic obstructive pulmonary disease
- 2 constipation
- 3 coronary heart disease
- 4 obesity

Which problems can be caused by malnutrition?

- A** 1, 2 and 3 **B** 1 and 3 only **C** 2, 3 and 4 **D** 2 and 4 only

2. March/2020/Paper_12/No.15

The table shows the percentage of students from two schools who have one or more decayed teeth.

	percentage of students with decayed teeth
school X	30
school Y	60

What might explain these results?

- A** There is less calcium in the students' diet at school X than at school Y.
B There is less sugar in the students' diet at school X than at school Y.
C There is less vitamin C in the students' diet at school X than at school Y.
D There is less vitamin D in the students' diet at school X than at school Y.

3. March/2020/Paper_12/No.16

Digested proteins are absorbed into the blood as

- A** amino acids.
B fatty acids.
C glucose.
D glycerol.

4. March/2020/Paper_22/No.16

Which food group is chemically digested in the mouth, passes through the stomach and continues to be broken down by chemical digestion in the small intestine?

- A** carbohydrates
B mineral salts
C proteins
D vitamins

(a) Fig. 7.1 is a diagram of the alimentary canal and associated organs.

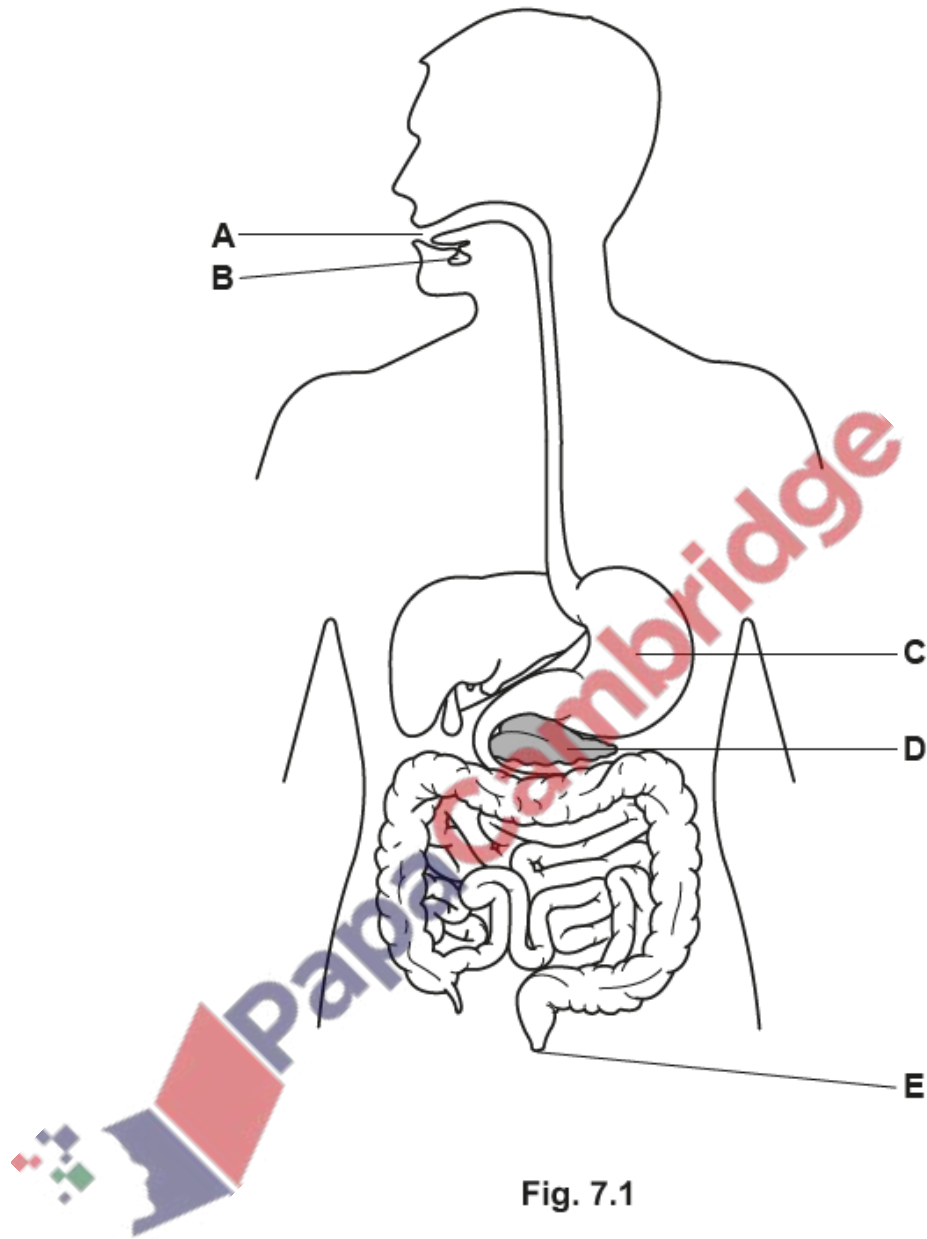


Fig. 7.1

The boxes on the left show the letters on Fig. 7.1.

The boxes in the middle show some of the names of the parts in Fig. 7.1.

The boxes on the right show the functions of the parts.

Draw lines to link each part with its correct letter and function.

letter on Fig. 7.1	name of the part	function
A	anus	contains hydrochloric acid to kill bacteria
B	mouth	production of amylase, protease and lipase
C	pancreas	production of saliva
D	salivary glands	site of egestion
E	stomach	site of ingestion

[6]

(b) The anus is part of the large intestine.

State the names of two other parts of the large intestine.

1

2

[2]

(c) State where mechanical digestion occurs in the alimentary canal.

..... [1]

(d) Protein and fats are two of the components of a balanced diet.

State the names of **three** other components of a balanced diet.

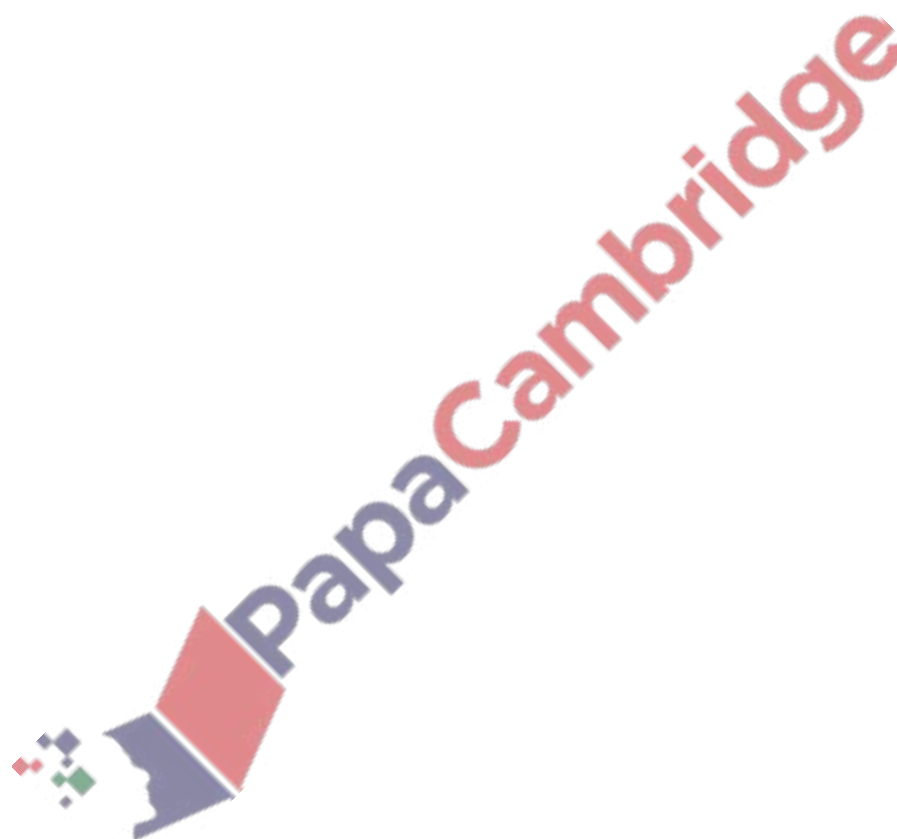
1

2

3

[3]

[Total: 12]



(a) Describe the similarities and differences between marasmus and kwashiorkor.

similarities

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[4]

(b) Researchers at a hospital recorded the total number of children admitted to the hospital between 1984 and 2002.

A common reason for children being admitted to this hospital was severe diarrhoea.

Table 4.1 shows this information.

Table 4.1

year	total number of children admitted to the hospital
1984	1386
1986	1604
1988	1955
1990	2054
1992	1726
1994	1143
1996	1422
1998	1419
2000	1580
2002	1161

- (i) Calculate the percentage decrease in the total number of children admitted to the hospital between 1998 and 2002.

Give your answer to the nearest whole number.

Space for working.

..... %
[3]

- (ii) Health workers in the communities near the hospital were trained in the prevention and treatment of diarrhoea. This affected the total number of children being admitted to the hospital.

Suggest the year in which the training took place.

Give a reason for your answer.

year

reason

.....
.....

[2]

- (iii) The health workers provided advice to the community on ways of preventing the spread of the pathogens that cause diarrhoea.

Suggest the advice that was given to the community.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
..... [3]

[Total: 12]

7. June/2020/Paper_11/No.11

Which substance found in a healthy diet helps to prevent constipation?

- A fat
- B fibre
- C minerals
- D vitamins

8. June/2020/Paper_11/No.12

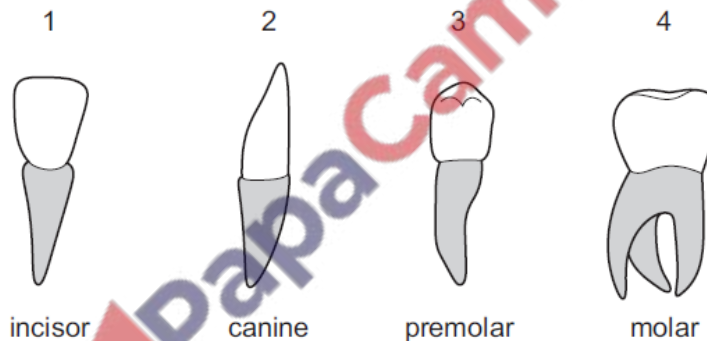
The activity of amylase is measured in four parts of the alimentary canal.

Which two parts have the most amylase activity?

- A colon and duodenum
- B colon and stomach
- C mouth and duodenum
- D stomach and mouth

9. June/2020/Paper_12/No.9

The diagram shows the four types of human tooth.



Which teeth are used for grinding food?

- A 1 and 2
- B 2 and 3
- C 3 and 4
- D 4 and 1

10. June/2020/Paper_13/No.11

Which substance found in a healthy diet helps to prevent constipation?

- A fat
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- C minerals
- D vitamins

11. June/2020/Paper_13/No.12

The table shows the percentage of the daily recommended intake of nutrients in a serving of four foods.

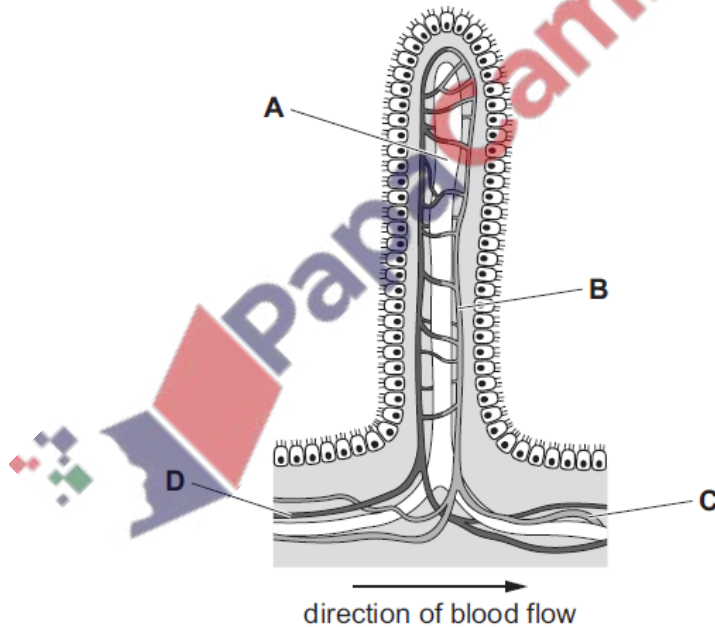
Which food would be the best choice to prevent scurvy?

	percentage of daily recommended intake in a serving of food			
	calcium	iron	vitamin C	vitamin D
A	71	1	0	6
B	24	11	2	73
C	3	3	72	0
D	1	72	1	0

12. June/2020/Paper_22/No.14

The diagram shows the structure of a villus. The arteriole, capillary, lacteal and venule are labelled with letters.

Which letter shows where nutrients are absorbed into the blood?



13. June/2020/Paper_22/No.16

Dodder is a plant that grows on other plants called the hosts. The dodder plant connects to the host's vascular bundles.

The dodder plant does not have green leaves or roots.

What correctly describes the regions for translocation?

	host leaves	dodder
A	sink	sink
B	sink	source
C	source	sink
D	source	source

14. June/2020/Paper_23/No.13

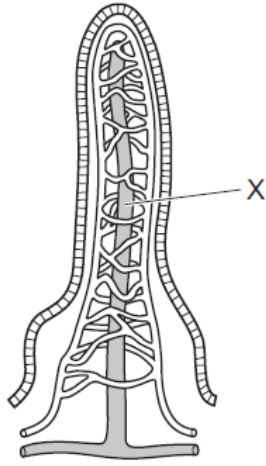
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B	24	11	2	73
C	3	3	72	0
D	1	72	1	0


15. June/2020/Paper_23/No.14

The diagram shows a villus in the small intestine.



What is absorbed at X?

- A fats
- B glucose
- C glycogen
- D starch

 PapaCambridge

(a) Fig. 1.1 shows some of the structures involved in excretion.

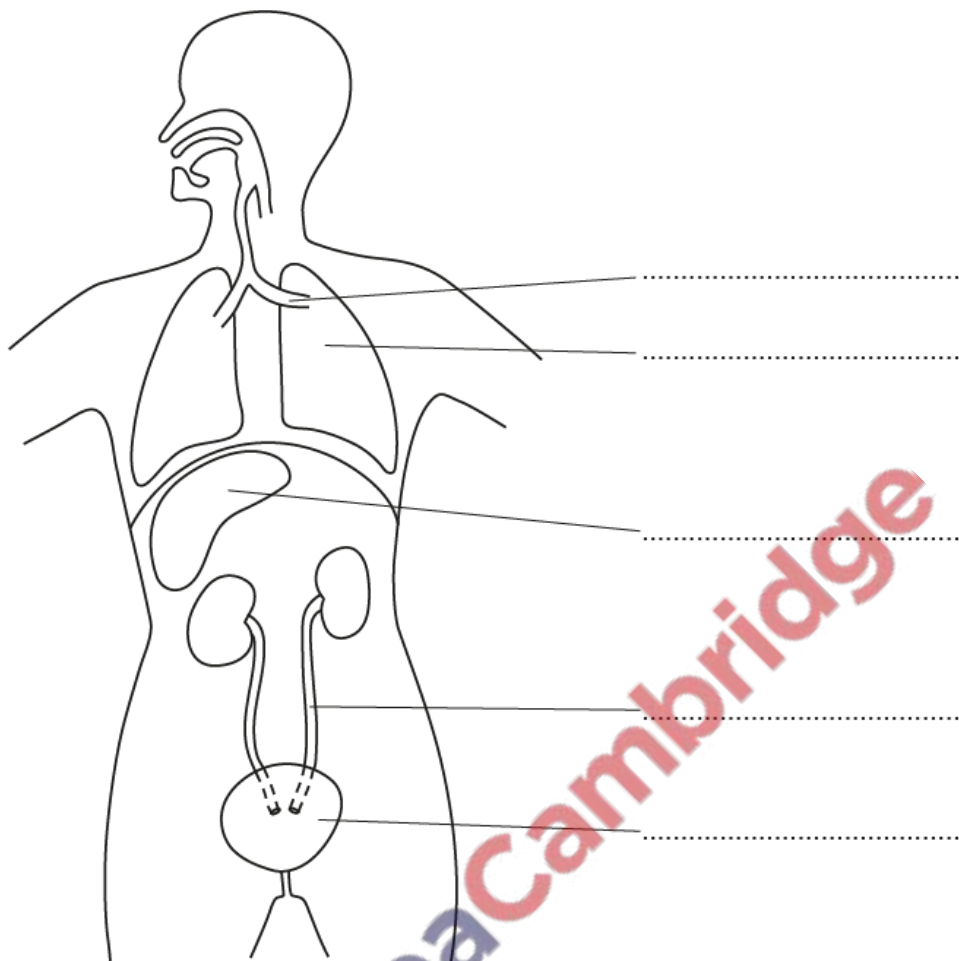


Fig. 1.1

Complete Fig. 1.1 by labelling the structures in the spaces provided.

Choose structures from the list:

- | | | | | |
|----------|----------|--------|---------|------|
| bladder | bronchus | heart | liver | lung |
| pancreas | trachea | ureter | urethra | |

[5]

(b) Urea is excreted.

(i) State the name of the substance that urea is made from.

..... [1]

(ii) State where in the body urea is made.

..... [1]

- (c) Urine produced by the kidneys contains three excretory substances: urea, water and mineral salts.

Table 1.1 shows the average mass of urea, water and mineral salts in 100 g of blood plasma and in 100 g of urine.

Table 1.1

substance	average mass/g	
	in 100 g of blood plasma	in 100 g of urine
water	90.00	95.00
urea	0.03	2.00
mineral salts	0.69	1.35

Calculate the percentage increase in the average mass of mineral salts between blood plasma and urine.

Give your answer to two decimal places.

Space for working.

..... %
[3]

- (d) Describe the process that produces the carbon dioxide that is excreted by the lungs.

.....

 [2]

- (e) State the name of the component of blood that transports carbon dioxide to the lungs.

..... [1]

[Total: 13]

(a) State **three** uses of energy in the human body.

- 1
- 2
- 3

[3]

(b) Fig. 1.1 shows part of the digestive system of a human.

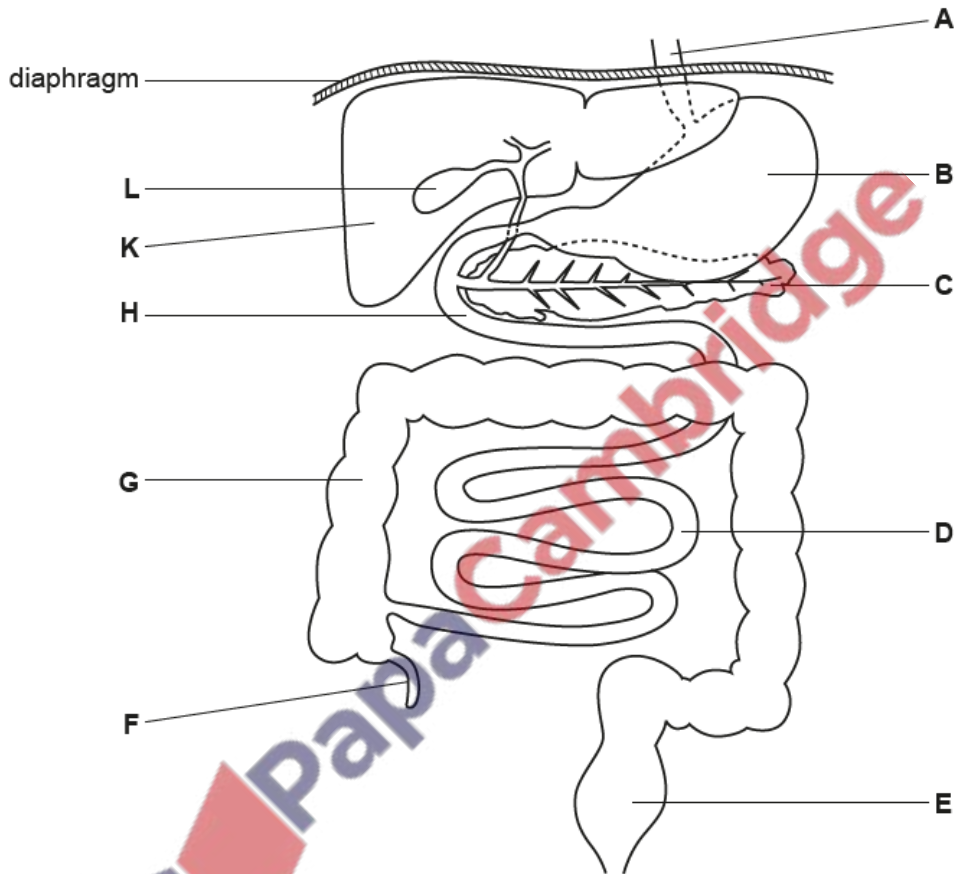


Fig. 1.1

Complete Table 1.1. One row has been done for you.

Table 1.1

function	name of structure	letter from Fig. 1.1
pushes food to the stomach	oesophagus	A
assimilation of amino acids to produce plasma proteins		
storage of bile		
secretion of insulin		
absorption of fatty acids and glycerol		
secretion of pepsin		
digestion of starch		

[6]

(c) Describe the role of the liver in the recovery from oxygen debt after strenuous exercise.

.....

.....

.....

.....

.....

[2]

(d) Alcohol is a drug.

Define the term drug.

.....

.....

.....

[2]

(e) (i) State **two** immediate effects of excessive alcohol on the body.

- 1
- 2 [2]

(ii) State **two** long-term effects of excessive alcohol on the body.

- 1
- 2 [2]

(f) Pregnant women are advised not to drink alcohol as it may have harmful effects on the fetus.

(i) Outline these harmful effects.

-
-
-
-
- [2]

(ii) State **two** harmful substances **other than alcohol** that can cross the placenta.

- 1
- 2 [2]

[Total: 21]

