

## Human nutrition

### IGCSE Biology Topical Questions Paper 1

May/June 2003

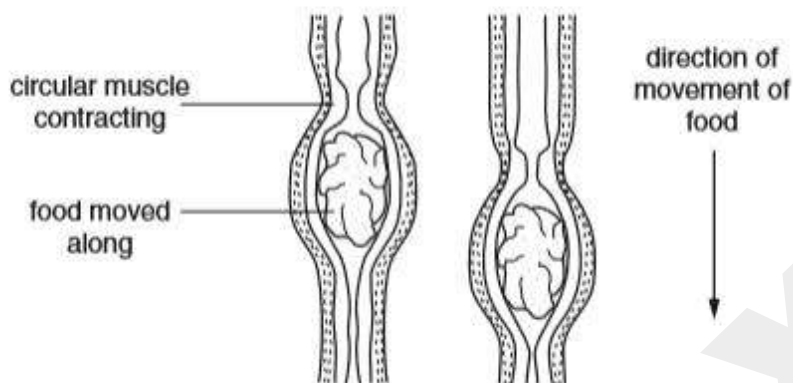
12 The table shows the mass of some nutrients found in 100 g of four different foods.

food	carbohydrate /g	fat /g	protein /g	vit C /mg	vit D /mg
beans	10.0	0.4	5.0	3.0	0.0
bread	48.0	1.5	9.0	0.0	0.0
cheese	0.0	34.0	25.0	0.0	0.4
eggs	0.0	11.0	13.0	0.0	1.5

Which foods would best prevent rickets and scurvy?

	rickets	scurvy
<b>A</b>	beans	bread
<b>B</b>	bread	cheese
<b>C</b>	cheese	eggs
<b>D</b>	eggs	beans

13 The diagram shows some food moving along the alimentary canal.



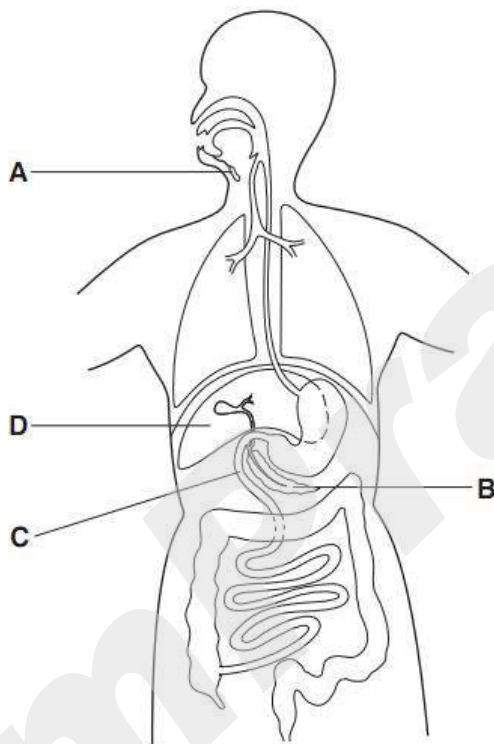
What is the name of the process that pushes the food along?

- A absorption
  - B digestion
  - C peristalsis
  - D swallowing
- 17 What is happening in a bolus of food as it passes along the oesophagus?
- A Fats are being digested.
  - B Fats are being emulsified.
  - C Protein is being digested.
  - D Starch is being digested.

Oct/Nov 2003

12 The diagram shows the human alimentary canal.

Which structure does **not** secrete digestive enzymes?



16 The table shows the deficiency symptoms that result from a lack of some substances in the human diet.

Which symptom results from a deficiency in iron?

	deficiency symptom
A	anaemia (haemoglobin deficiency)
B	rickets
C	scurvy
D	soft teeth

May/June 2004

15 The table shows the percentage of protein, fat and carbohydrate in four samples of dried food.

Which sample has the highest energy content?

	protein %	fat %	carbohydrate %
<b>A</b>	76	9	15
<b>B</b>	17	0	83
<b>C</b>	33	32	35
<b>D</b>	15	85	0

16 The table shows some of the nutrients in four meals.

Which meal will be the most likely to stimulate peristalsis in the alimentary canal?

	g/100g			
	carbohydrate	fat	fibre (roughage)	protein
<b>A</b>	18	12	8	25
<b>B</b>	30	32	2	12
<b>C</b>	40	15	10	5
<b>D</b>	38	4	22	10

Oct/Nov 2004

15 What is lacking in the diet of someone with anaemia (haemoglobin deficiency)?

- A calcium
- B iron
- C vitamin C
- D vitamin D

16 By which process is undigested waste material removed from the body?

- A absorption
- B assimilation
- C egestion
- D ingestion

May/June 2005

14 Which function is performed by the ileum?

- A absorption
- B assimilation
- C egestion
- D ingestion

15 Which substances are stored in the body of a healthy person?

	substance		
	carbohydrate	fat	protein
A	✓	✓	x
B	✓	x	✓
C	x	✓	x
D	x	x	✓

Key

✓ = yes

x = no

16 Which of these is digested by protease?

A ■

B ●

C ■—■—■—■

D ●—●—●—●

key

■ amino acid

● glucose

— chemical bond

Oct/Nov 2005

14 What is needed in the diet of a man working hard in a hot climate?

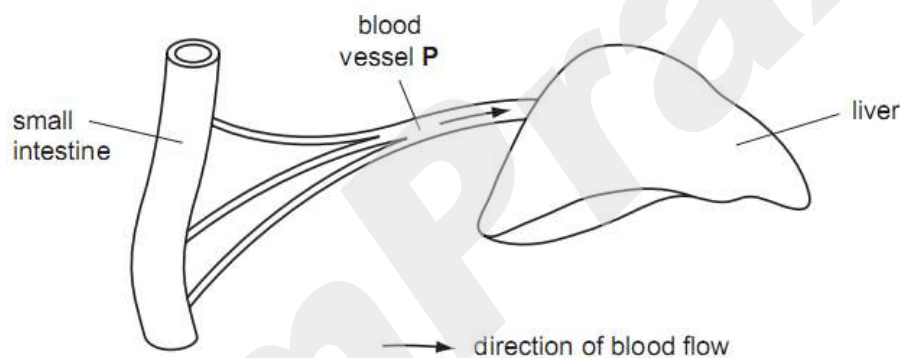
	high energy intake	protein	extra water
<b>A</b>	✓	✓	x
<b>B</b>	✓	x	✓
<b>C</b>	✓	✓	✓
<b>D</b>	x	✓	✓

key

✓ = needed

x = not needed

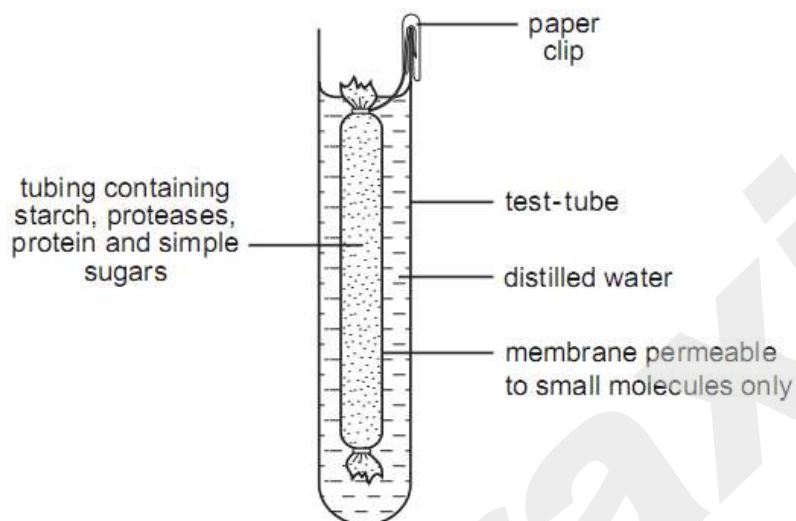
15 The diagram shows the small intestine, the liver and blood vessel P that joins them.



Which carbohydrate is found in blood vessel P and which carbohydrate is found in the liver?

	blood vessel P	liver
<b>A</b>	glucose	glycogen
<b>B</b>	glucose	starch
<b>C</b>	maltose	glycogen
<b>D</b>	maltose	starch

16 The diagram shows some apparatus set up and kept at room temperature.



What is present in the water surrounding the membrane after 45 minutes?

- A amino acids and simple sugars
- B protein and amino acids
- C protein and simple sugar
- D starch and simple sugars

May/June 2006

16 Poor nutrition can lead to a condition called rickets in which bones fail to develop properly.

The table shows some minerals and vitamins present in four foods.

Which food would be best for a child who has rickets?

	calcium	iron	vitamin C	vitamin D
<b>A</b>	✓	x	✓	x
<b>B</b>	✓	x	x	✓
<b>C</b>	x	✓	✓	x
<b>D</b>	x	✓	x	✓

key

✓ = substance present

x = substance absent

Also came out in May/June 2015(13) no. 14.



Oct/Nov 2006

13 In humans, where does most absorption of digested food take place?

- A colon
- B kidney
- C liver
- D small intestine

15 The table shows nutrients found in a biscuit.

Which nutrient needs no digestion?

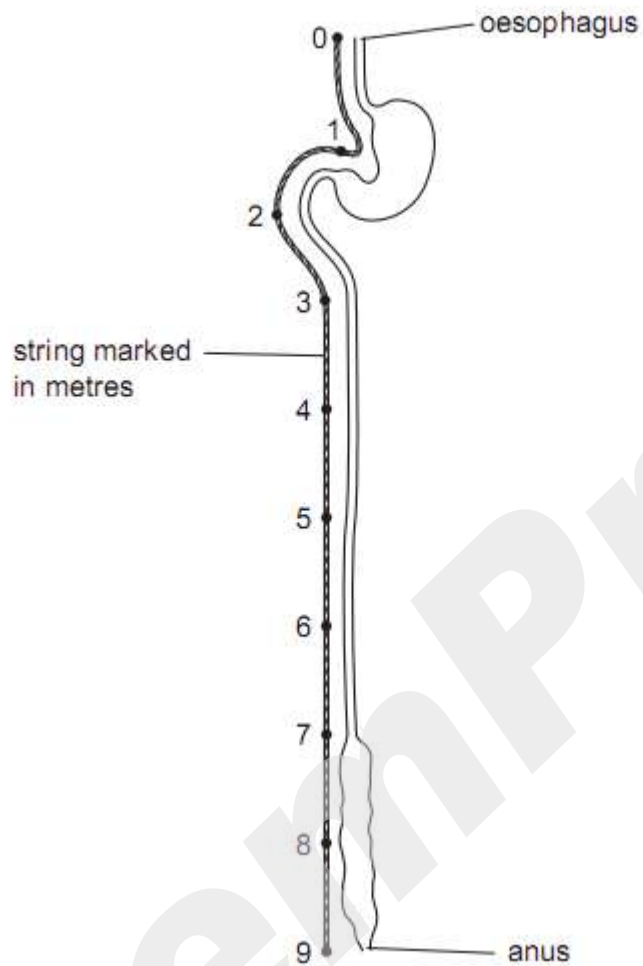
A	fat	3.0g
B	glucose	2.8g
C	protein	3.5g
D	starch	5.5g

16 By which process is food moved through the alimentary canal?

- A assimilation
- B digestion
- C ingestion
- D peristalsis

May/June 2007

15 The diagram shows the human alimentary canal, with a string marked in metres beside it.



How long is the small intestine?

A 2m

B 6m

C 8m

D 9m

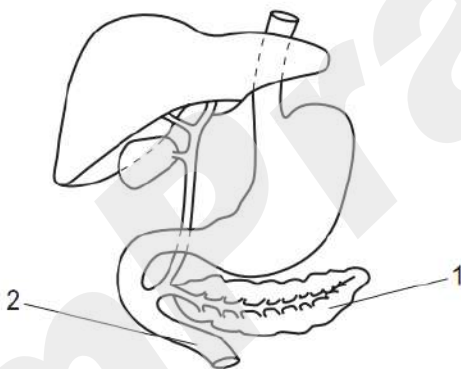
Oct/Nov 2007

13 What is the definition of *digestion*?

- A Large insoluble molecules are changed into faeces.
- B Large insoluble molecules are changed into smaller soluble molecules.
- C Small soluble molecules are carried to the liver.
- D Small soluble molecules are passed through the wall of the intestine.

May/June 2008

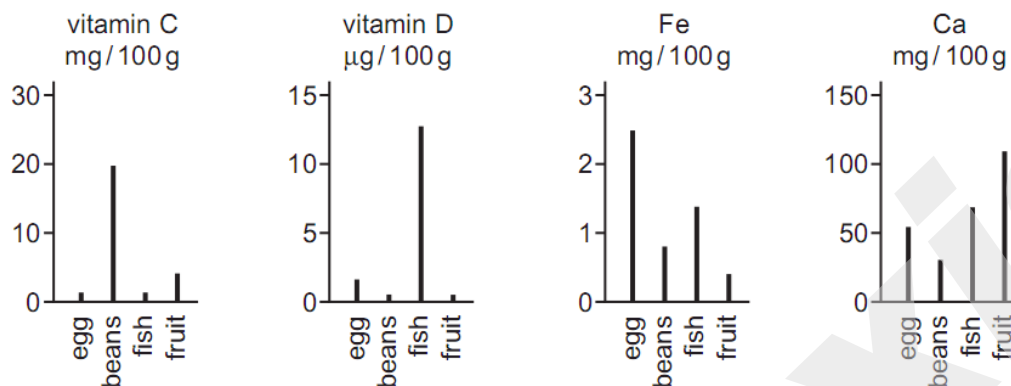
13 The diagram shows part of the digestive system.



What is a function of the liquid produced by part 1 and released into part 2?

- A to digest proteins to amino acids
- B to increase the surface area of fat droplets
- C to acidify the contents of part 2
- D to prevent further digestion of starch

14 The graphs show the quantities of selected vitamins and minerals in four foods.



Which food is the richest source of the vitamin or mineral essential for the transport of oxygen by the blood?

- A beans
- B eggs
- C fish
- D fruit

15 The table shows whether starch was still present after four different experiments.

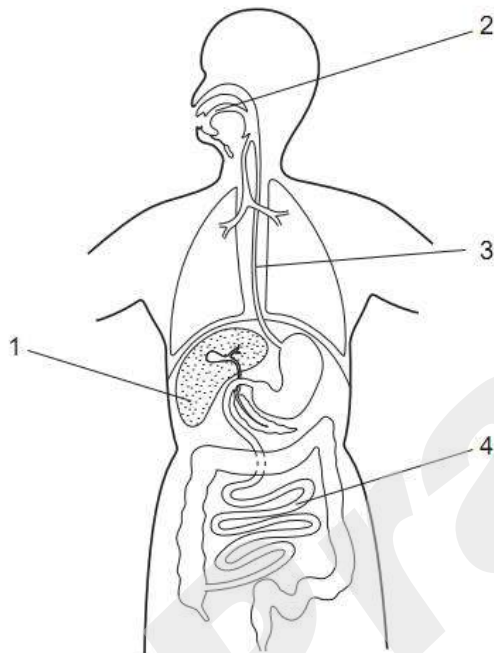
experiment	result	
starch + water at 20 °C	✓	key ✓ = starch present x = starch absent
starch + amylase at 20 °C	x	
starch + amylase at 30 °C	x	
starch + boiled amylase at 30 °C	✓	

What broke down the starch?

- A amylase
- B boiled amylase
- C heat
- D water

Oct/Nov 2008

13 The diagram shows the human alimentary canal.



In which parts does peristalsis take place?

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