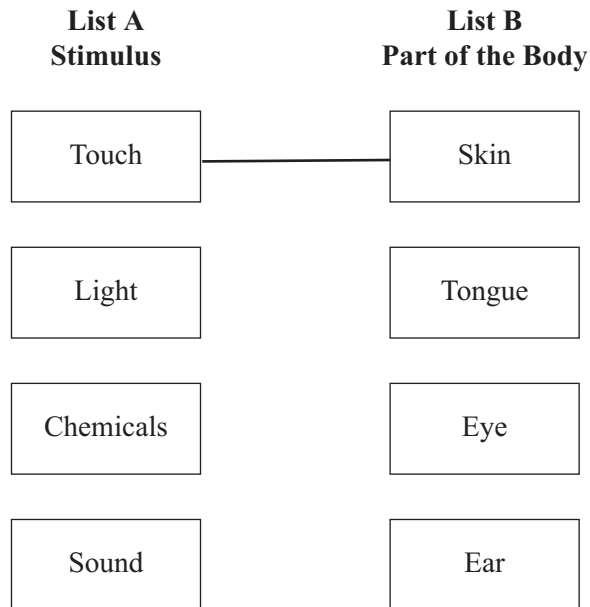


Answer **all** questions in the spaces provided.

- 1 (a) List **A** gives the names of four stimuli. List **B** gives four parts of the human body.

Draw a straight line from each stimulus in List **A** to the part of the body in List **B** which has receptors for that stimulus.

(One has been done for you.)



(3 marks)

- (b) Complete the following sentence by choosing the correct words from the box.

brain	glands	motor	sensory
--------------	---------------	--------------	----------------

To make us aware of a stimulus, impulses are sent along a neurone
to the

(2 marks)

5

2 In recent years, trees have been cut down to create more farm land. More cattle are kept and more rice is grown.

(a) (i) Which gas has increased in the air as a result of trees being cut down?

Draw a ring around **one** answer.

carbon dioxide **oxygen** **sulphur dioxide**

(1 mark)

(ii) Which gas has increased in the air as a result of keeping more cattle and growing more rice?

Draw a ring around **one** answer.

carbon monoxide **hydrogen** **methane**

(1 mark)

(b) What effect may increases in these gases have on global temperatures?

Draw a ring around **one** answer.

decrease **increase** **stay the same**

(1 mark)

(c) List **three** ways in which humans have destroyed the habitats of other animals.
Do **not** include cutting down trees in your answer.

1

.....

2

.....

3

.....

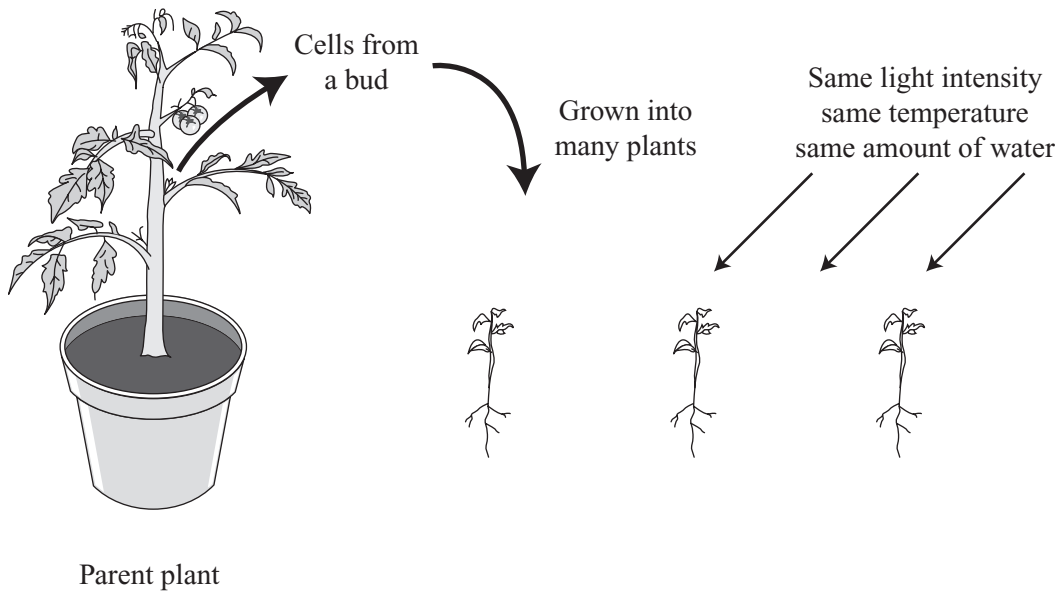
(3 marks)

6

TURN OVER FOR THE NEXT QUESTION

Turn over ►

3 The diagram shows a method of producing a large number of plants which all look the same. Cells taken from the bud can be split into many groups. Each group of cells is then grown under the same conditions.



(a) (i) What do scientists call organisms which are all produced from one parent and which all look the same?

Draw a ring around **one** answer.

clones

communities

populations

(1 mark)

(ii) Give **two** reasons why plants produced by this method will all look the same.

1

.....

2

.....

(2 marks)

(b) Give **two** reasons why plants need roots.

1

.....

2

.....

(2 marks)

- 4 (a) Alleles are different forms of the same gene.

Why does a person usually inherit **two** alleles of each gene?

.....
(1 mark)

- (b) Some humans are albino (they have white hair and pale skin). This condition is caused by a recessive allele, **n**. The other allele, **N**, causes a coloured pigment to be made.

There are three possible combinations of these alleles:

NN Nn nn

- (i) Which **one** of these combinations will an albino person have?

.....
(1 mark)

- (ii) Two non-albino parents can sometimes have an albino child.

Which **one** of the following combinations of alleles must these two parents have?

Tick (✓) the box next to the correct answer. Tick **one** box only.

Parent 1	Parent 2	
NN	NN	<input type="checkbox"/>
NN	Nn	<input type="checkbox"/>
Nn	Nn	<input type="checkbox"/>
nn	nn	<input type="checkbox"/>

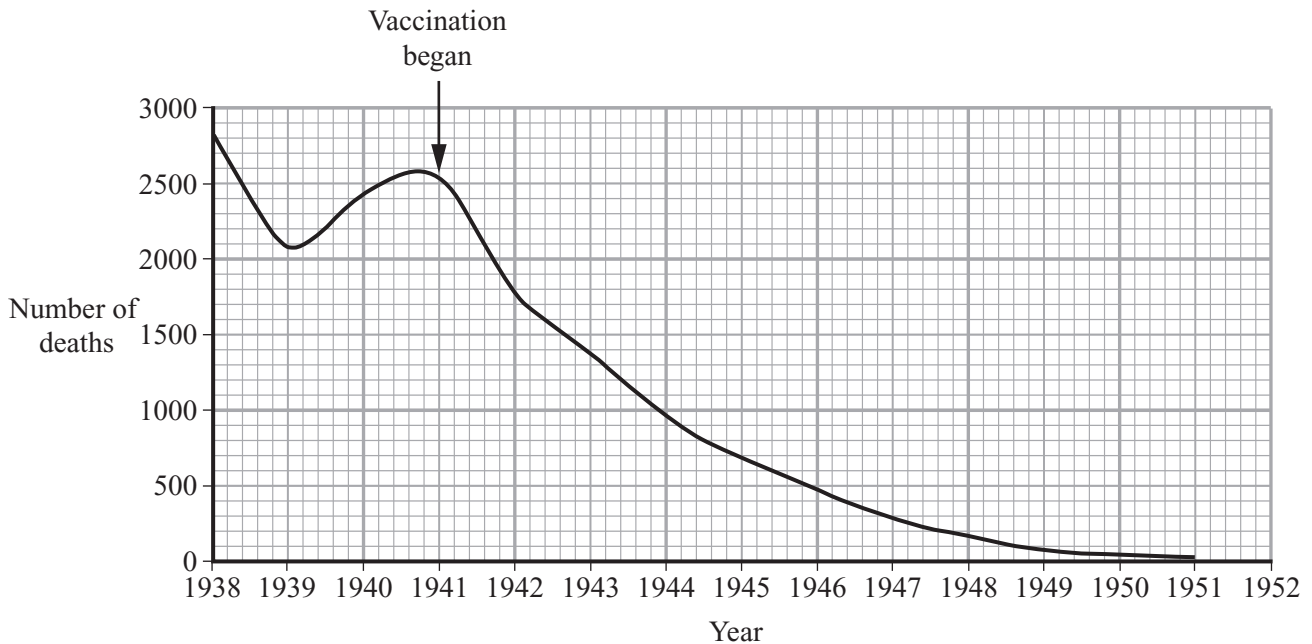
(1 mark)

3

TURN OVER FOR THE NEXT QUESTION

Turn over ►

- 5 Diphtheria is a disease of the human breathing system. The graph shows the number of deaths from diphtheria in the United Kingdom between 1938 and 1951. Vaccination against diphtheria was begun in 1941.



- (a) What evidence in the graph suggests that vaccination protects people from diphtheria?

.....
(1 mark)

- (b) Complete the passage by choosing the correct words from the box.

antibodies	bacteria	platelets
red blood cells	white blood cells	

During vaccination, harmless are injected into the body.

This causes to make which help to protect the body against diphtheria.

(3 marks)

4

6 (a) Fossils provide evidence for evolution.

(i) What is a fossil?

.....
(1 mark)

(ii) How do fossils provide evidence for evolution?

.....
.....
.....
.....
(2 marks)

(b) Doctors give antibiotics to patients to kill bacteria in their bodies.

Explain how the overuse of antibiotics has led to the evolution of antibiotic-resistant bacteria.

To gain full marks in this question you should write your ideas in good English. Put them into a sensible order and use the correct scientific words.

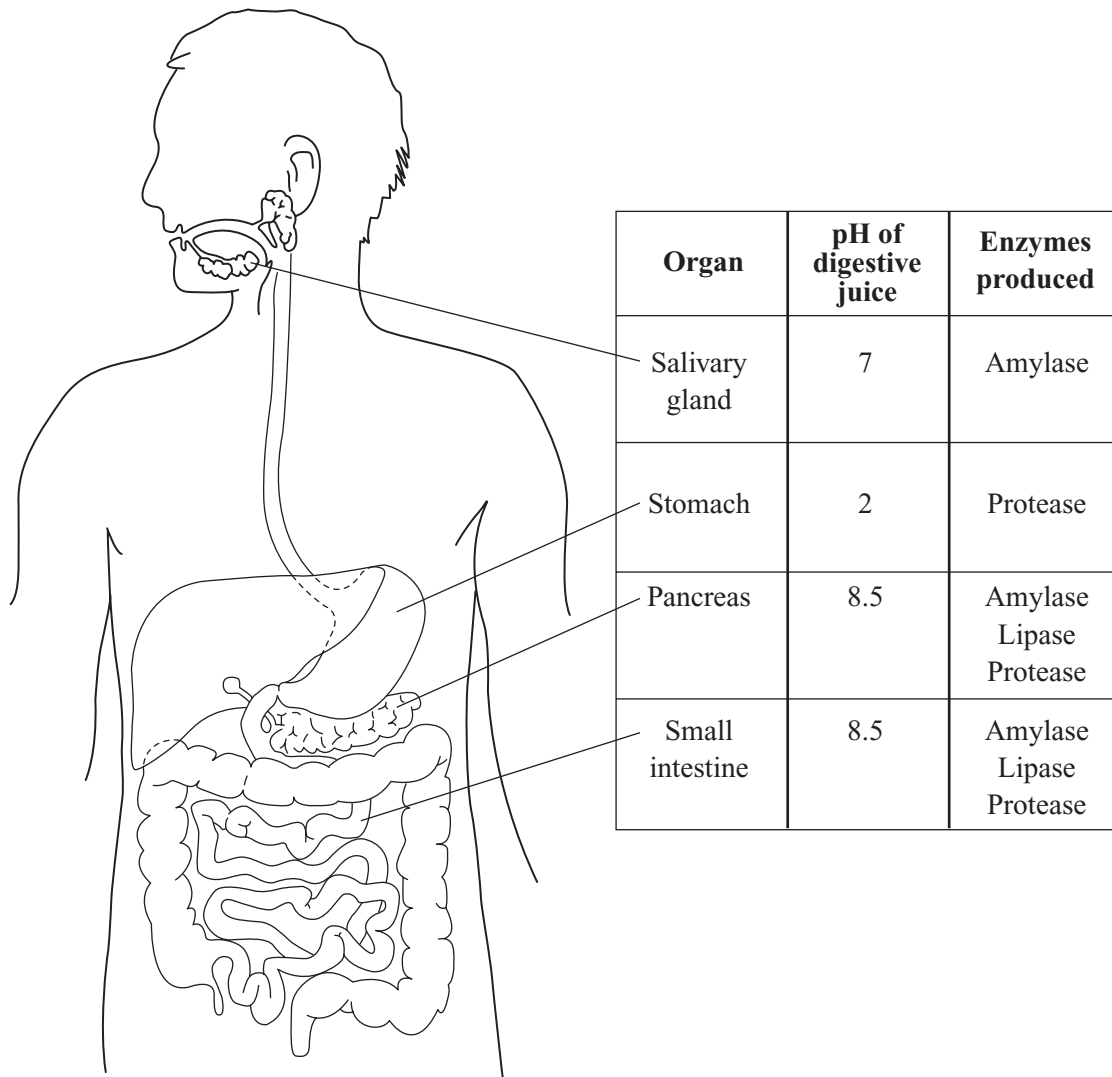
.....
.....
.....
.....
.....
.....
(3 marks)

6

TURN OVER FOR THE NEXT QUESTION

Turn over ►

7 The diagram gives information about some parts of the human digestive system.



- (a) (i) Name the organ which **makes** bile.

.....
(1 mark)

- (ii) Label this organ with the letter **X** on the diagram.

(1 mark)

Information in the table may help you to answer parts (b) and (c).

(b) Name **two** parts of the digestive system where protein is digested.

1

2

(2 marks)

(c) Suggest **two** reasons why starch is not digested in the stomach.

1

.....

2

.....

(2 marks)

(d) The contents of the small intestine are liquid but the faeces are much more solid.

Explain what causes this to happen.

.....

.....

.....

.....

.....

.....

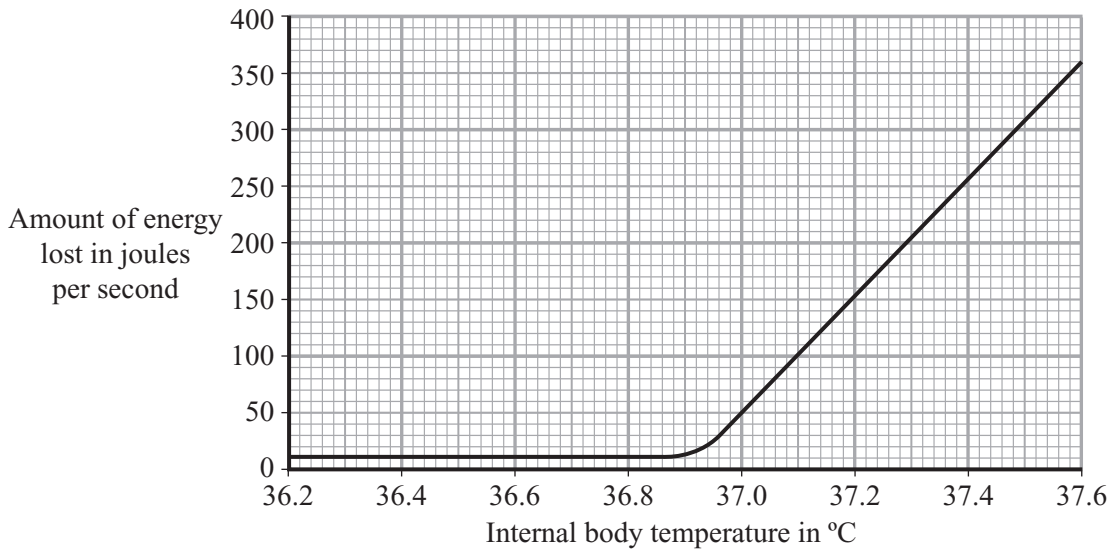
.....

(3 marks)

TURN OVER FOR THE NEXT QUESTION

Turn over ►

- 8 The internal body temperature determines how much a person sweats. The graph shows the effect of different internal body temperatures on a person’s rate of energy loss by sweating.



- (a) How much more energy was lost from the body each second by sweating when the body temperature was 37.6°C than when it was 36.6°C? Show clearly how you work out your final answer.

.....

Amount of energy = joules per second
 (2 marks)

- (b) Explain why a person would feel more thirsty when the body temperature was 37.6°C than when it was 36.6°C.

.....

(2 marks)

- (c) Explain how sweating helps to control body temperature.

.....

(3 marks)

END OF QUESTIONS

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