



Rewarding Learning

General Certificate of Secondary Education
2011–2012

Science: Double Award (Modular)

Living Organisms and the Processes of Life

End of Module Test

Foundation Tier

A

[GDA01]

TUESDAY 8 NOVEMBER 2011

1.30 pm–2.15 pm



Centre Number

71	
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Candidate Number

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TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all fifteen** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 50.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Total Marks	
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Examiner Only	
Marks	Remark

1 Abuse of drugs can harm individuals and society.

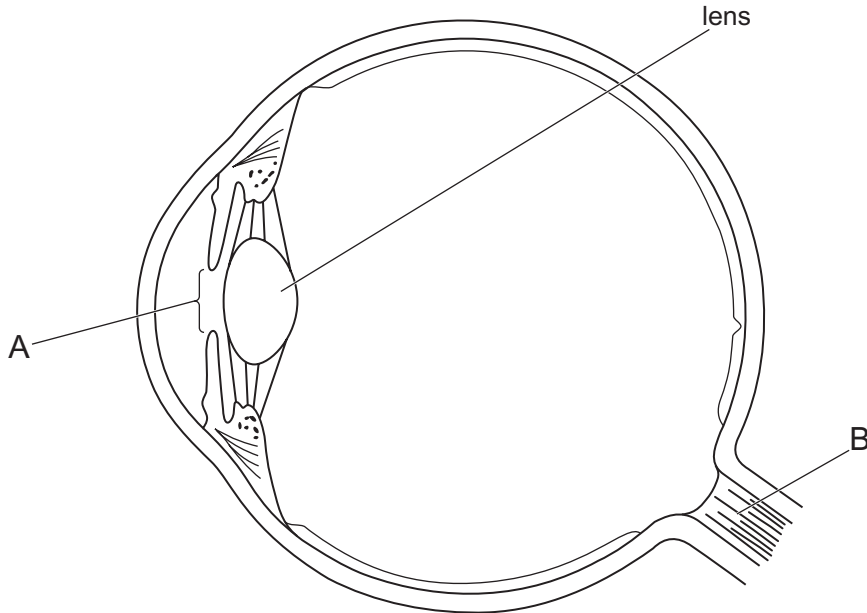
(a) Describe **two** ways in which excessive alcohol use over a long time can cause harm to an **individual's** health.

_____ [2]

(b) Describe the effects of a hallucinogen on a person.

_____ [1]

2 The diagram shows a section through an eye.



(a) Name the parts labelled A and B.

A _____

B _____

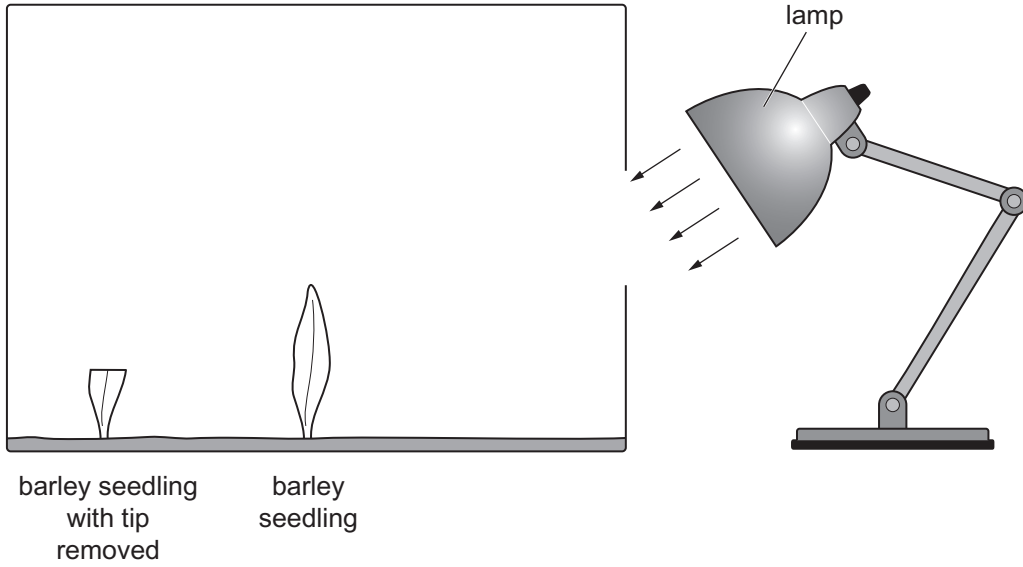
[2]

(b) What is the function of the lens?

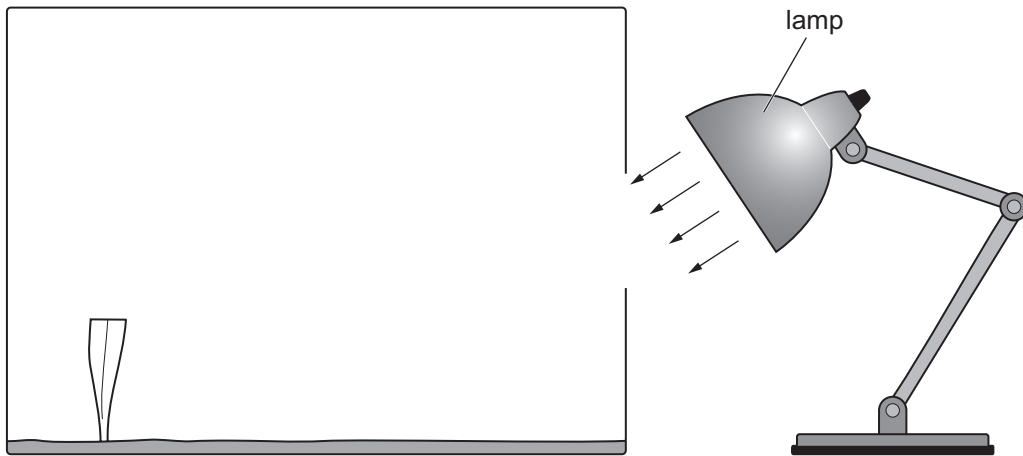
_____ [1]

3 This experiment was set up to investigate how barley seedlings respond to light coming from one side.

at start



after 3 days



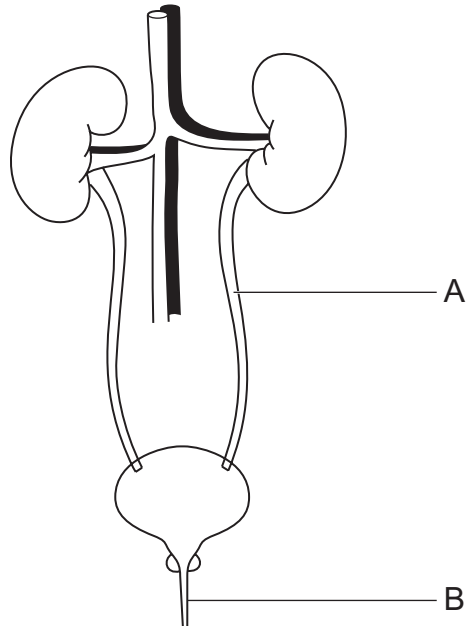
(a) In the bottom diagram, sketch the result you would expect for the barley seedling nearest the lamp. [1]

(b) What is the name of this growth response? [1]

(c) Name the type of substance involved in this growth response. [1]

Examiner Only	
Marks	Remark

4 The diagram shows part of the human excretory system.



(a) Name parts A and B.

A _____

B _____

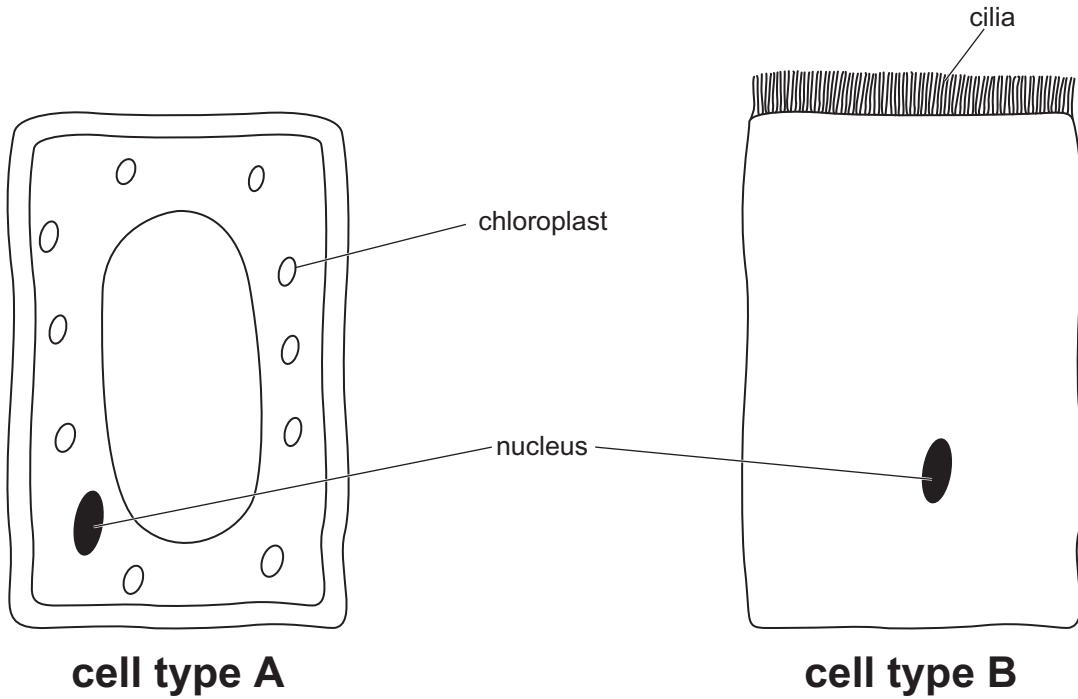
[2]

(b) As well as excretion, the kidney has another very important role in homeostasis. Name this other role.

[1]

Examiner Only	
Marks	Remark

5 The diagram shows two types of cell.



(a) Where would you expect to find cell type A in a plant?

_____ [1]

(b) Give one place where ciliated epithelium (cell type B) is found in animals.

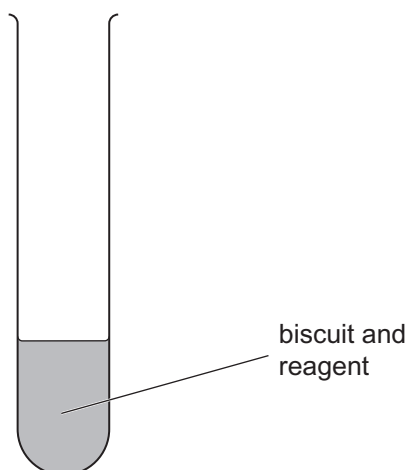
_____ [1]

(c) Name the genetic structures that are present in the nucleus of cells.

_____ [1]

Examiner Only	
Marks	Remark

- 6 A student carried out a food test to find out if a biscuit contains sugar. The biscuit was ground up into crumbs and a chemical reagent added.



- (a) Name the chemical reagent added to the biscuit to test for the presence of sugar.

_____ [1]

- (b) Describe what has to happen after adding the reagent to complete the test.

_____ [1]

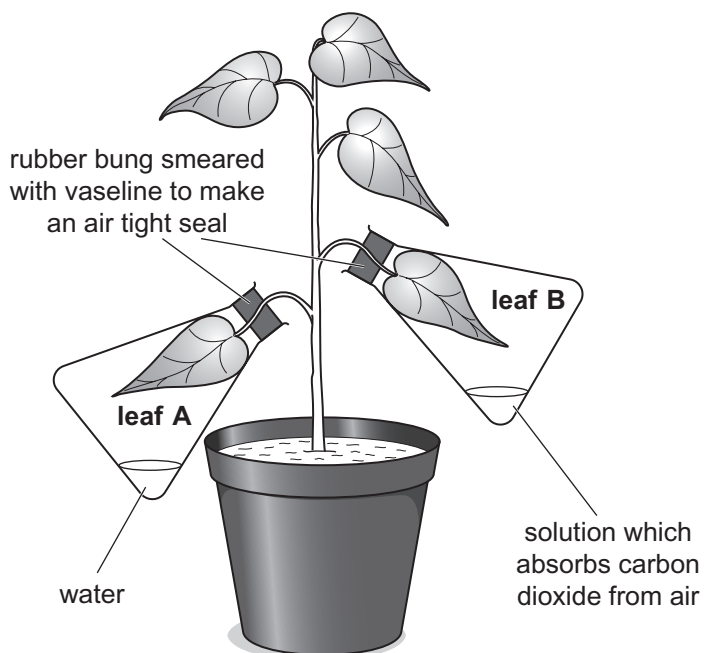
- (c) Describe the colour change that occurs if the biscuit contains sugar.

_____ to _____ [1]

Examiner Only

Marks Remark

- 7 The apparatus below was set up to find out if carbon dioxide is needed for photosynthesis. The plant was destarched and then left in a warm, sunny place for a few days after which leaf A and leaf B were tested for starch with iodine.



- (a) Explain the function of leaf A.

_____ [1]

- (b) After testing with iodine, describe the colour you would expect for each leaf.

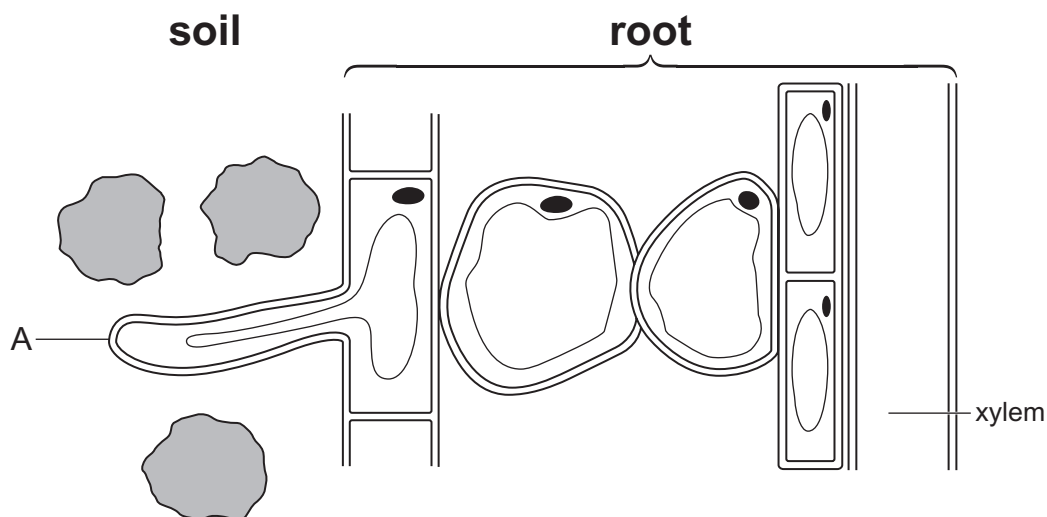
Leaf A _____

Leaf B _____

[2]

Examiner Only	
Marks	Remark

8 The diagram shows part of a root.



(a) Name cell type A.

_____ [1]

(b) Give the function of xylem.

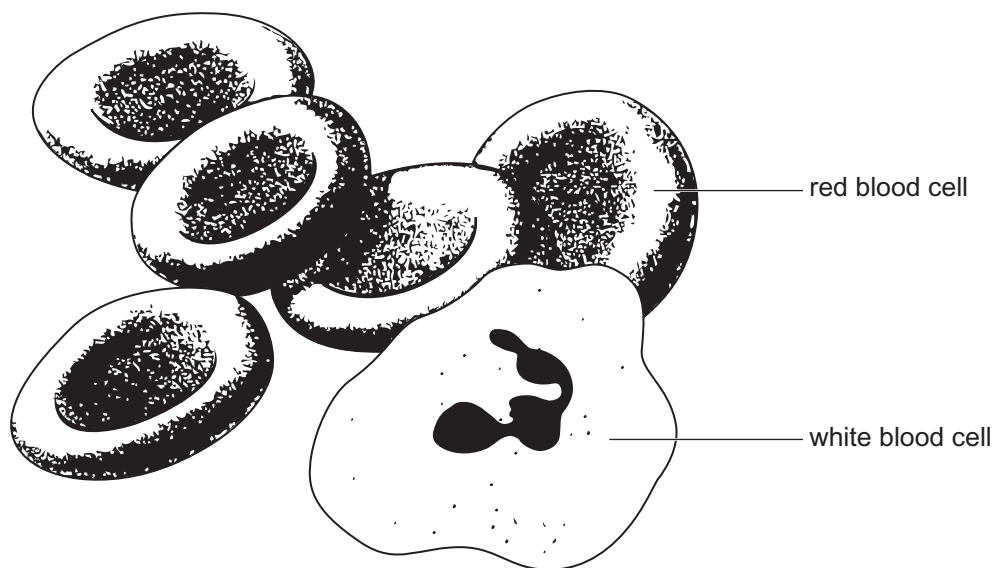
_____ [1]

(c) If there is not enough nitrate in the soil, explain how this will affect the plant.

_____ [1]

Examiner Only	
Marks	Remark

9 The diagram shows two types of blood cell.



(a) Complete the table to give two differences shown in the diagram, between a white blood cell and a red blood cell.

Difference	White blood cell	Red blood cell
1		
2		

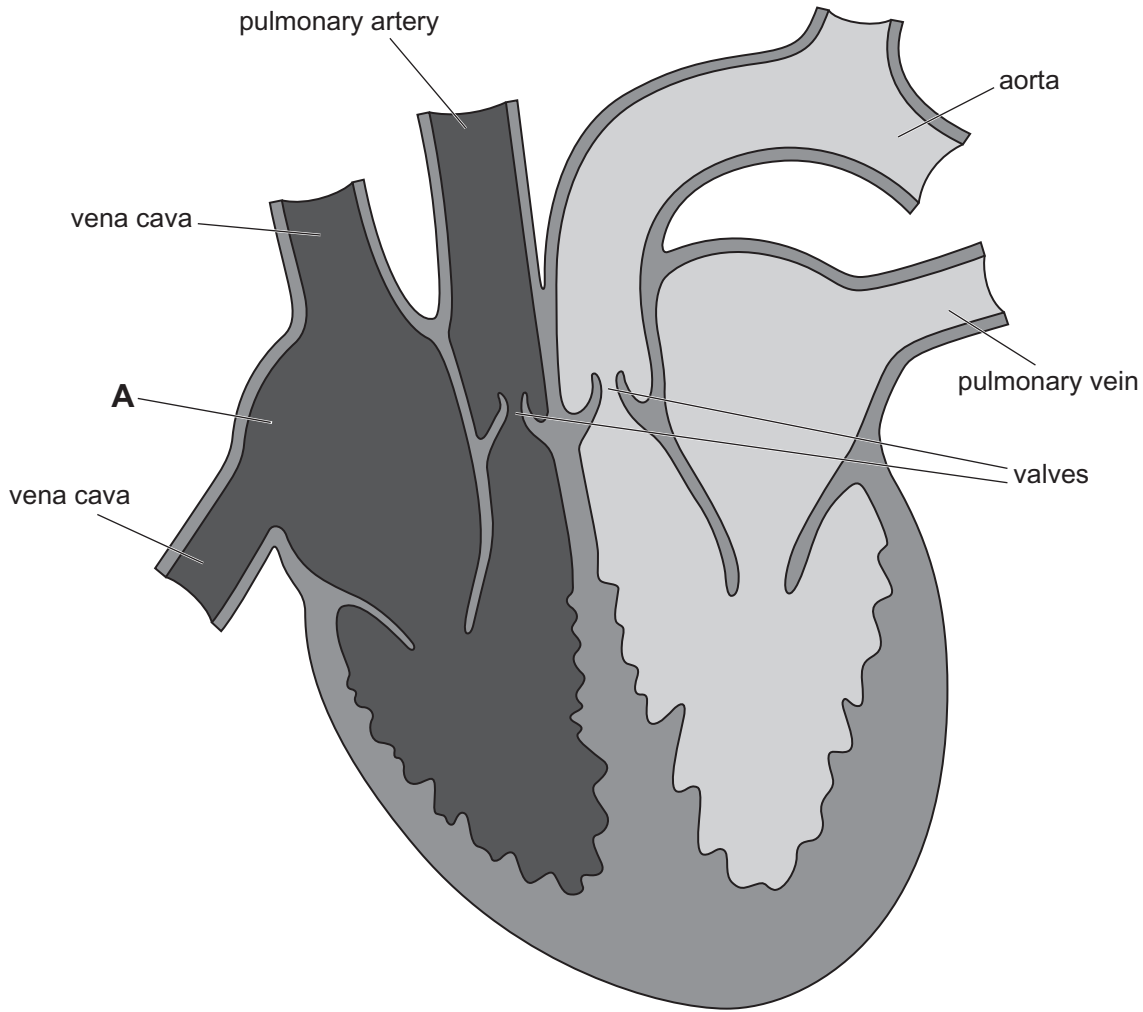
[2]

(b) The liquid that transports blood cells carries other substances around the body. Name this liquid and give one substance, apart from blood cells, that it transports.

_____ [2]

Examiner Only	
Marks	Remark

10 The diagram shows a section through the human heart.



(a) Name the heart chamber labelled **A**.

_____ [1]

(b) Use the diagram to name the two blood vessels that carry oxygenated blood.

1. _____

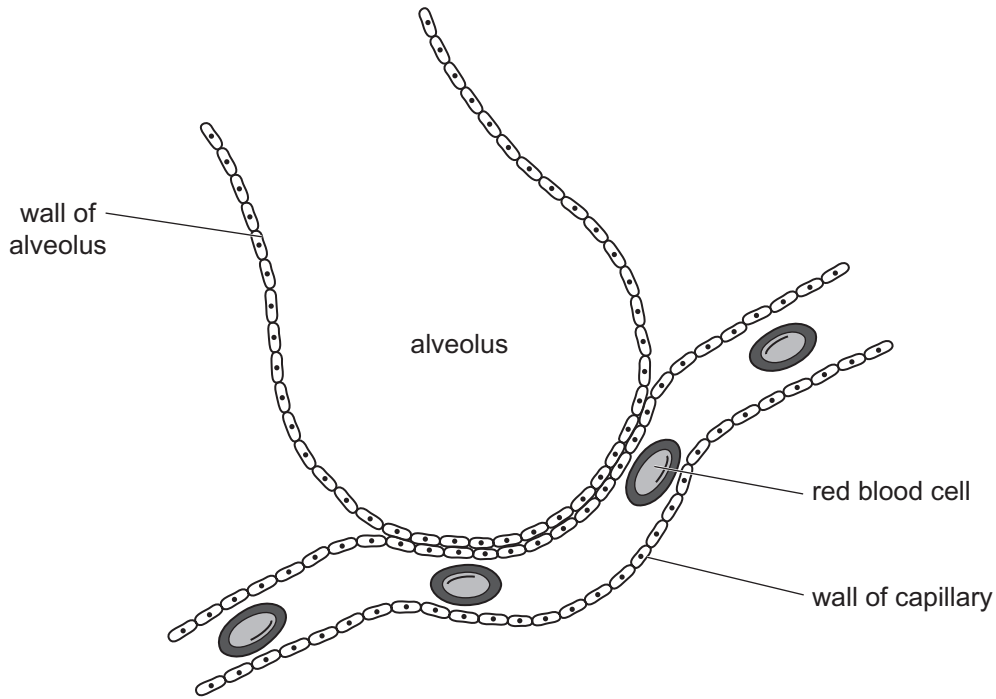
2. _____ [2]

(c) Suggest a function for the presence of the valves in the pulmonary artery and the aorta.

_____ [1]

Examiner Only	
Marks	Remark

11 The diagram shows an alveolus with its associated capillary.



(a) Use the diagram to state one feature about the wall of the alveolus that helps gas exchange.

_____ [1]

(b) Name the gas that diffuses from the alveolus into the red blood cells.

_____ [1]

(c) Explain how having millions of alveoli in the lung facilitates gas exchange.

_____ [1]

Examiner Only	
Marks	Remark

13 (a) Give an example of a disease caused by a fungus.

_____ [1]

(b) Complete the table below about active and passive immunity.

Type of immunity	Source of antibodies
Active immunity	
Passive immunity	

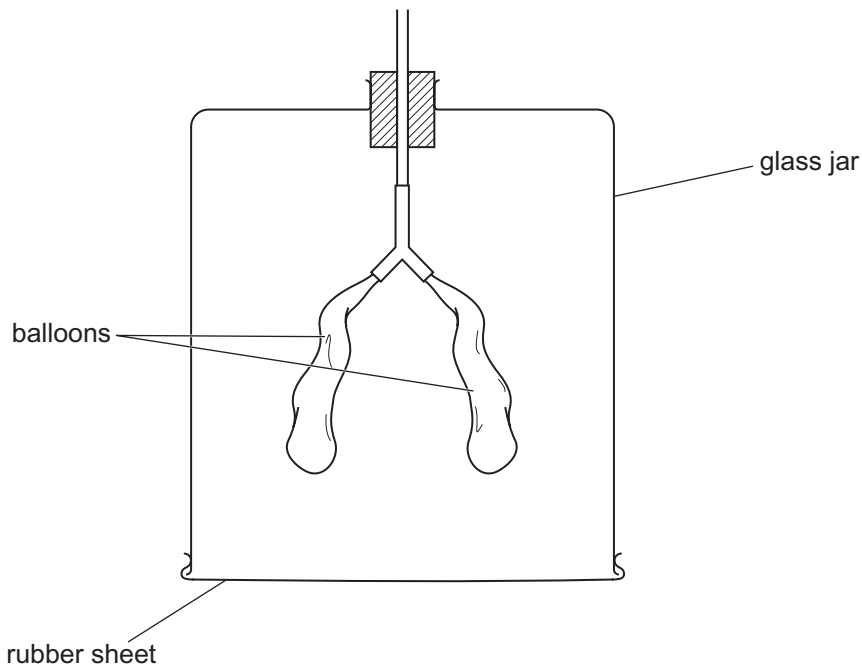
[2]

(c) Explain why active immunity is described as long-term, whereas passive immunity is only short-term.

_____ [1]

Examiner Only	
Marks	Remark

14 The diagram shows apparatus that can be used to demonstrate breathing in a human.



(a) What structure does the rubber sheet represent?

_____ [1]

(b) Explain why the balloons inflate when the rubber sheet is pulled down.

 _____ [2]

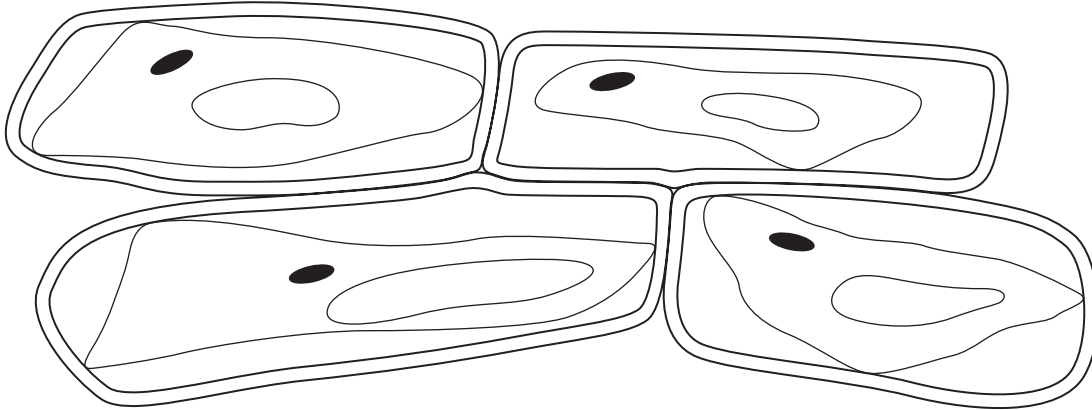
(c) Describe one way in which the balloons, shown in the diagram, do not accurately represent the structure of the lungs.

_____ [1]

Examiner Only	
Marks	Remark

15 Jenny placed onion epidermis cells in a 10% sugar solution and examined a section of them using a microscope.

Some of the cells are shown below.



Describe and explain the appearance of these cells.

[4]

THIS IS THE END OF THE QUESTION PAPER

Examiner Only	
Marks	Remark

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