1 The immune system responds to infection using white blood cells. A phagocyte is one type of white blood cell.

(a) (i) Draw and label a phagocyte.

(3)

(ii) Give one way that the structure of this cell differs from a red blood cell.

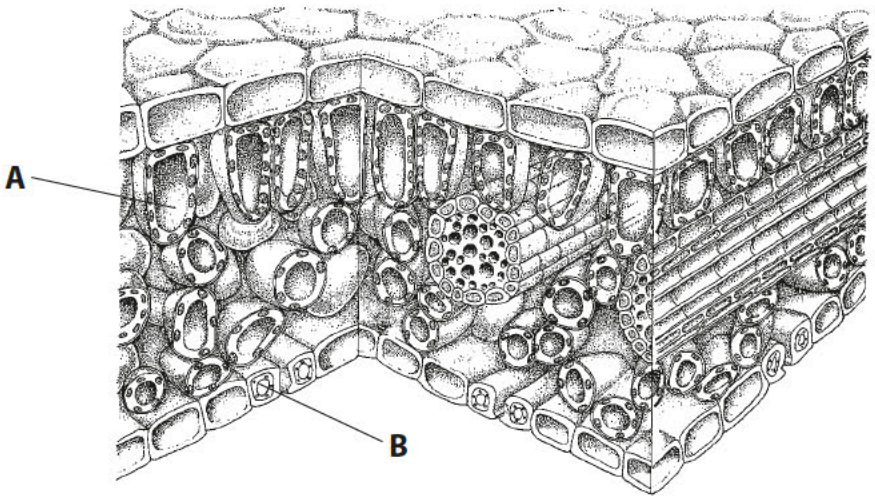
(1)

(b) Describe how white blood cells are used by the body to defend against infection.

(5)

(Total for Question = 9 marks)

2 (a) The diagram shows a section through a leaf.



(i) Name the structures labelled **A** and **B**.

(2)

A .....

B .....

(ii) Give the function of the waxy cuticle.

(1)

.....

.....

(iii) Some of the leaf cells carry out photosynthesis. Write a word equation for this process.

(2)

.....

(iv) Plants, like all living organisms, need to excrete waste products.
Explain how the excretory product of photosynthesis is removed from the leaf.

(2)

.....

.....

.....

(b) Some plants lose their leaves in cooler months. This can be described as an excretory mechanism. Suggest **two** other reasons why some plants lose their leaves in cooler months.

(2)

1 .....

.....

2 .....

.....

(c) Name **one** excretory organ in humans and name the substance it excretes.

(2)

organ .....

substance .....

(Total for Question = 11 marks)

3 All organisms share common basic characteristics. Some of these are given below with a simple description.

(a) Complete the table by adding the missing characteristics and the missing descriptions.

(4)

Characteristic	Description
nutrition	
	releasing energy in cells
	producing offspring
growth and development	

(b) Organisms can be classified into different groups depending on their structure.

State **two** ways in which

(i) a typical plant cell differs from a typical animal cell

(2)

1 .....

.....

2 .....

.....

(ii) a bacterium differs from a virus

(2)

1 .....

.....

2 .....

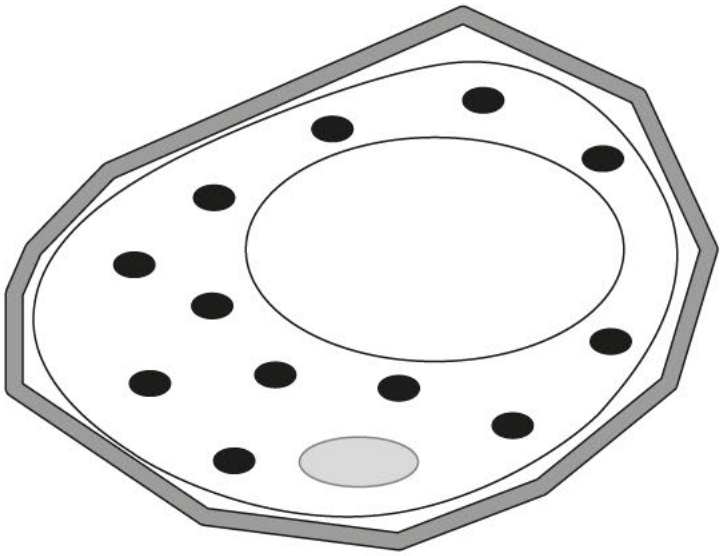
.....

(Total for Question = 8 marks)

4 (a) The diagram shows a plant cell drawn by a student.

(i) Label the diagram to show the selectively permeable membrane.

(1)



(ii) Name three parts of a typical plant cell that are not found in an animal cell.

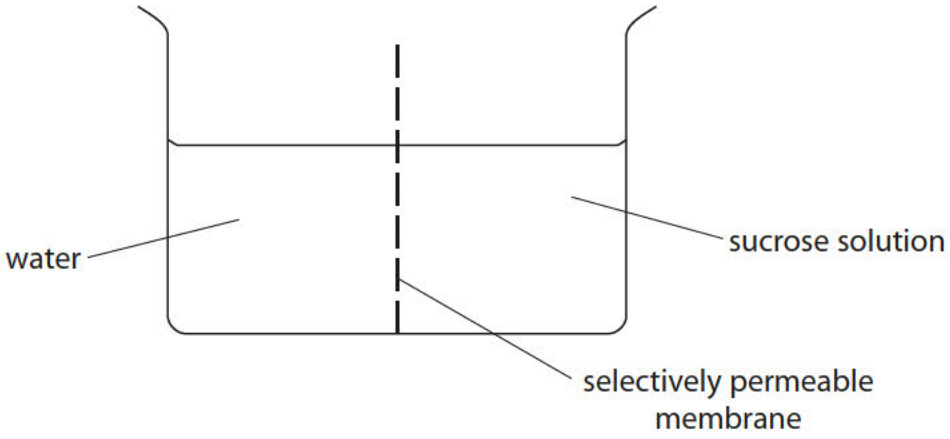
(3)

1 .....

2 .....

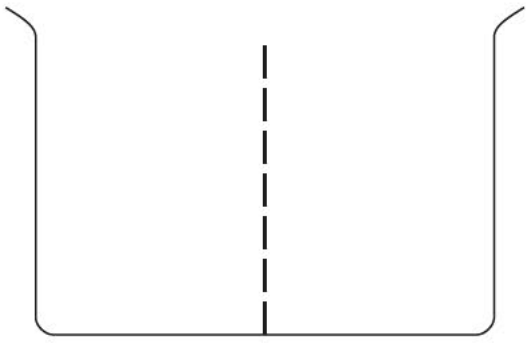
3 .....

(b) The diagram shows a glass container divided in half by a selectively permeable membrane. One half contains water and the other half contains sucrose solution.



(i) Complete the diagram below to show the change to the level of the water and the level of the sucrose solution after one hour.

(1)



(ii) Name the process that causes the change in the level of the water and the level of the sucrose solution.

(1)

.....

(Total for Question = 6 marks)