

## Biology unit 1 homework - Cell biology

For each of the questions below: -

Highlight the command word if there is one & annotate what the command word means. - Answer the question!

**Q1.** Living organisms are made of cells.

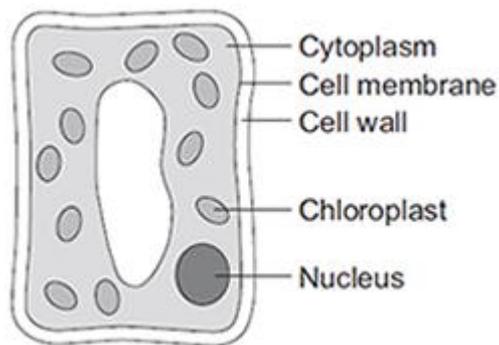
(a) Animal and plant cells have several parts. Each part has a different function.

Draw **one** line from each cell part to the correct function of that part.

Cell part	Function
Cell membrane	Where most energy is released in respiration
Mitochondria	Controls the movement of substances into and out of the cell
Nucleus	Controls the activities of the cell
	Where proteins are made

(3)

(b) The diagram below shows a cell from a plant leaf.



Which **two** parts in the diagram above are **not** found in an animal cell?

1. \_\_\_\_\_

2. \_\_\_\_\_

(2)

(Total 5 marks)

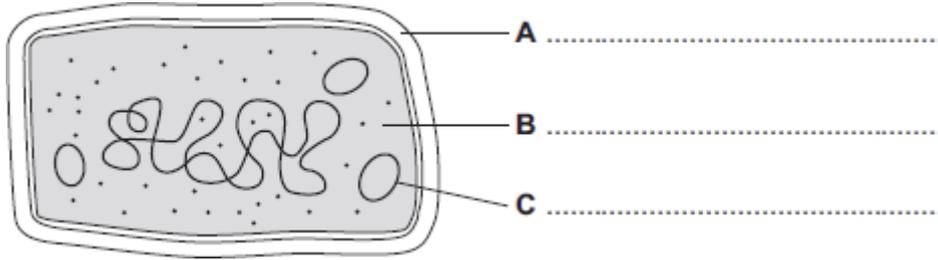
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**Q2.**

(a) The diagram shows the structure of a bacterial cell.



(i) On the diagram use words from the box to label structures **A**, **B** and **C**.

cell membrane	cell wall	chloroplast	cytoplasm	plasmid
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(3)

(ii) Give **one** difference between the structure of the bacterial cell and an animal cell.

\_\_\_\_\_

(1)

(iii) Name **one** structure that is found in a plant cell but is **not** found in a bacterial or an animal cell.

\_\_\_\_\_

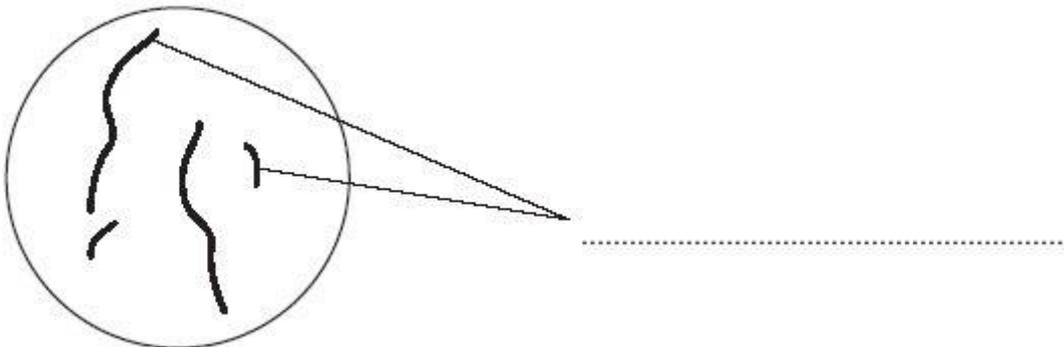
(1)

(Total 5 marks)

**Q3.**

**Diagram 1** shows the nucleus of a body cell as it begins to divide by mitosis.

**Diagram 1**



(a) Use a word from the box to label **Diagram 1**.

alleles	chromosomes	gametes
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(1)

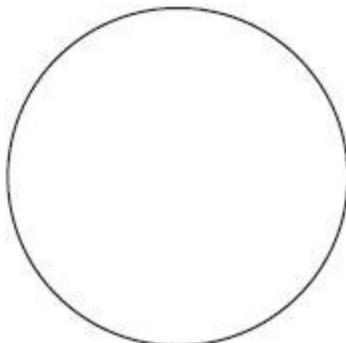
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- (b) Complete **Diagram 2** to show what the nucleus of one of the cells produced by this mitosis would look like.

**Diagram 2**

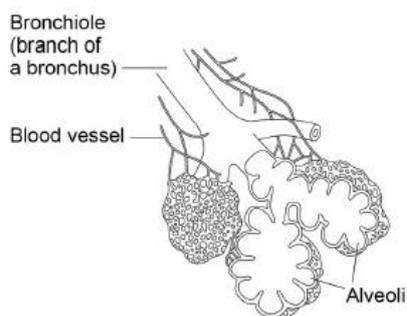


(1)

(Total 6 marks)

**Q4.** Figure 1 shows part of the lungs.

**Figure 1**



- (a) Give **two** ways the lungs are adapted for efficient exchange of gases.

Describe how each adaptation helps to maintain efficient gas exchange.

Adaptation 1 \_\_\_\_\_

\_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

Adaptation 2 \_\_\_\_\_

\_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

(4)

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### Q5.

Cells, tissues and organs are adapted to take in different substances and get rid of different substances.

The table shows the concentration of four ions outside cells and inside cells.

Ion	Concentration outside cells in mmol per dm <sup>3</sup>	Concentration inside cells in mmol per dm <sup>3</sup>
Sodium	140	9
Potassium	7	138
Calcium	2	27
Chloride	118	3

- (a) Use information from the table above to complete the following sentences.

Sodium ions will move into cells by the process

of \_\_\_\_\_ .

Potassium ions will move into cells by the process

of \_\_\_\_\_ .

(2)

### Q6.

A cell is usually found with similar cells.

Draw a ring around the correct answer to complete the sentence.

Scientists call a group of similar cells

an organ.

a system.

a tissue.

(1)