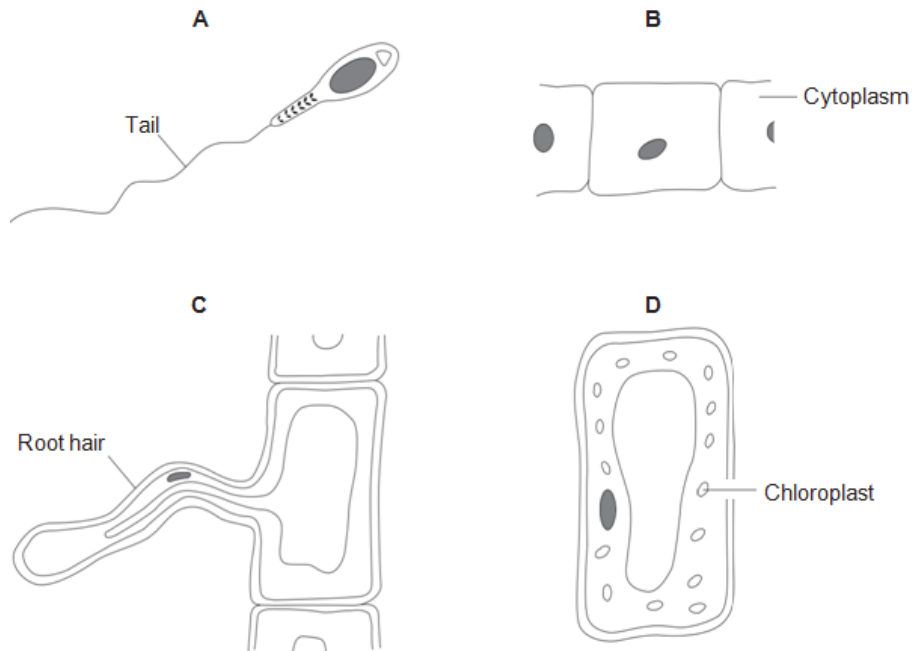


# Cell Structure and Cell Organisation

**Q:1** The diagrams show four types of cell, A, B, C and D. Two of the cells are plant cells and two are animal cells.



**(a) (i)** Which two of the cells are plant cells?

Tick (☑) one box.

A and B

A and D

C and D

**(1 mark)**

**(a) (ii)** Which part is found only in plant cells?

Draw a ring around one answer.

cell membrane      cell wall      nucleus

**(1 mark)**

**(b) (i)** Which cell, A, B, C or D, is adapted for swimming?

**(1 mark)**



**(b) (ii)** Which cell, A, B, C or D, can produce glucose by photosynthesis?

**(1 mark)**



**(c)** Cells A, B, C and D all use oxygen.

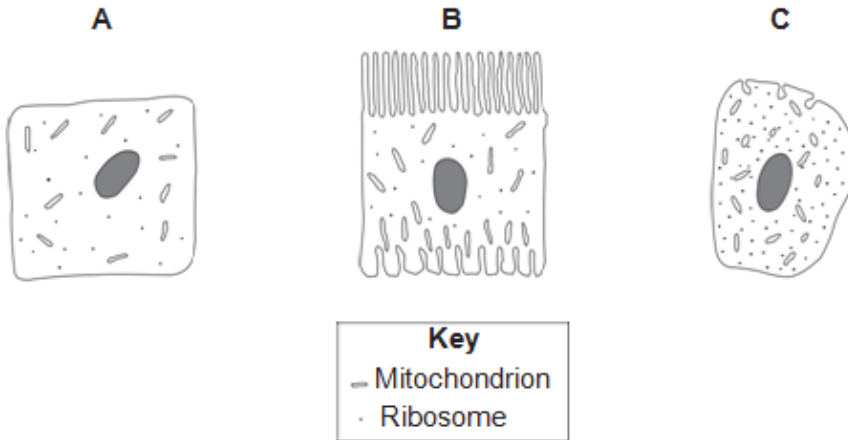
For what process do cells use oxygen?

Draw a ring around one answer.

osmosis      photosynthesis      respiration

**(1 mark)**

**Q:2** Diagrams A, B and C show cells from different parts of the human body, all drawn to the same scale.



**(a)** Which cell, A, B or C, appears to have adaptations to increase diffusion into or out of the cell?

Give one reason for your choice.

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**(1 mark)**

**(b) (i)** Cell C is found in the pancreas.

Name one useful substance produced by the pancreas.

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**(1 mark)**

**(b) (ii)** Use information from the diagram to explain how cell C is adapted for producing this substance.

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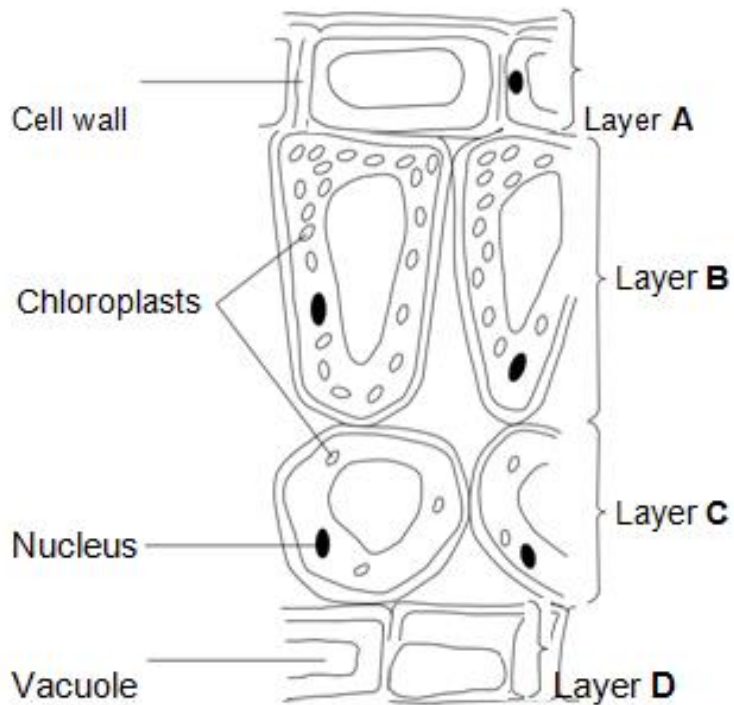
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**(2 marks)**

**Q:3** Leaves are made from layers of cells.

The diagram shows a section through part of a leaf.



**(a) (i)** Which word in the table describes layer A?

Tick (☑) one box.

Layer A Tick

Tissue

Organ

Cell

**(1 mark)**

**(a) (ii)** Which word describes a whole leaf?

Draw a ring around one answer.

organ   tissue   organism

**(1 mark)**

**(b) (i)** Which two layers of cells, A, B, C and D, can photosynthesise?

Use information from the diagram to help you.

Tick (☑) two boxes.

Layer A

Layer B

Layer C

Layer D

**(2 marks)**

**(b) (ii)** Give one reason for your answer.

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**(1 mark)**

**(c)** List X gives the names of two parts of a cell. List Y gives information about parts of a cell.

Draw one line between each part of the cell in list X and information about it in list Y.



**List X**  
**Part of a cell**

Vacuole

Nucleus

**List Y**  
**Information**

Controls the passage of substances into the cell

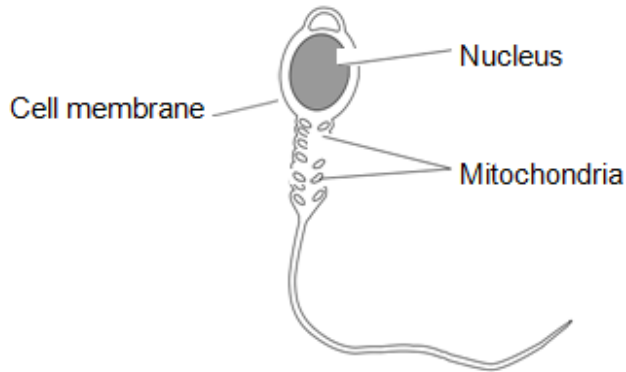
Contains the cell sap

Controls the activities of the whole cell

**(2 marks)**

**Q:4** Cells in the human body are specialised to carry out their particular function.

**(a)** The diagram shows a sperm cell.



The sperm cell is adapted for travelling to, then fertilising, an egg.

**(a) (i)** How do the mitochondria help the sperm to carry out its function?

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**(1 mark)**

**(a) (ii)** The nucleus of the sperm cell is different from the nucleus of body cells.

Give one way in which the nucleus is different.

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**(1 mark)**

**(b)** Stem cells from human embryos are used to treat some diseases in humans.

Explain why.

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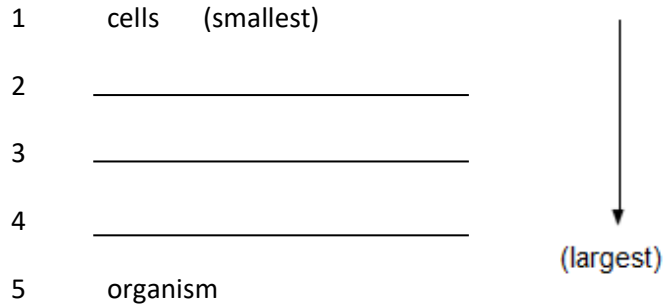
**(2 marks)**

**Q:5** In a living organism, the cells are organised into organs, systems and tissues.

**(a)** Use words from the box to complete the list of these structures in order of size.

organs systemstissues

The smallest structure is at the top of the list and the largest is at the bottom.



**(1 mark)**

**(b)** List A gives three tissues found in the human body.

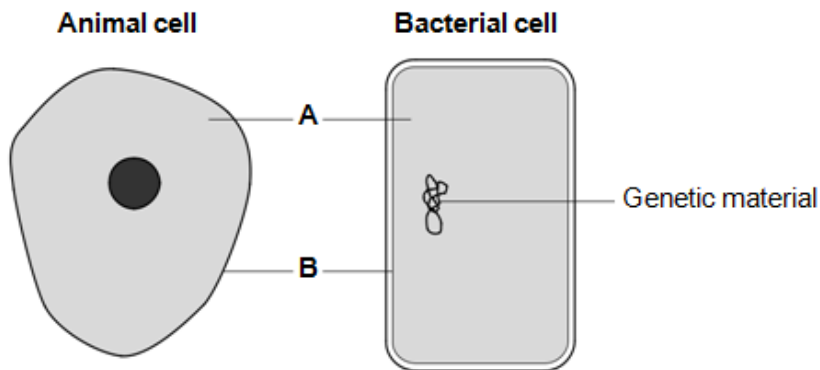
List B gives four functions of tissues.

Draw a straight line from each tissue in List A to its correct function in List B.

List A – Tissue	List B – Function
Muscular tissue	Covers many parts of the body
Glandular tissue	Contracts to cause movement
Epithelial tissue	Divides by meiosis
	Releases hormones or enzymes

**(3 marks)**

**Q:6** The diagrams show an animal cell and a bacterial cell.



**(a) (i)** Structures A and B are found in both the animal cell and the bacterial cell.

Use words from the box to name structures A and B.

cell membrane	chloroplast	cytoplasm	vacuole
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A \_\_\_\_\_

B \_\_\_\_\_

**(2 marks)**

**(a) (ii)** Both cells contain genetic material.

Name the structure in the animal cell that contains genetic material.

\_\_\_\_\_

**(1 mark)**

**(b)** List A gives three structures found in animal cells.

List B gives four functions of cell structures.

Draw one line from each structure in List A to its correct function in List B.



**List A – Structure**

**List B – Function**

Cell membrane

Mitochondrion

Ribosome

Controls what substances enter the cell

Photosynthesis

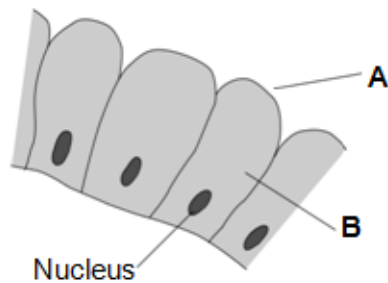
Protein synthesis

Respiration

**(3 marks)**

**Q:7** Figure 1 shows some cells in the lining of the stomach.

**Figure 1**



**(a) (i)** Use words from the box to name structures A and B.

cell membrane      chloroplast      cytoplasm      vacuole

A \_\_\_\_\_

B \_\_\_\_\_

[2 marks]

(a) (ii) What is the function of the nucleus?

Tick (☑) one box.

To control the activities of the cell

To control movement of substances into and out of the cell

To release energy in respiration

[1 mark]

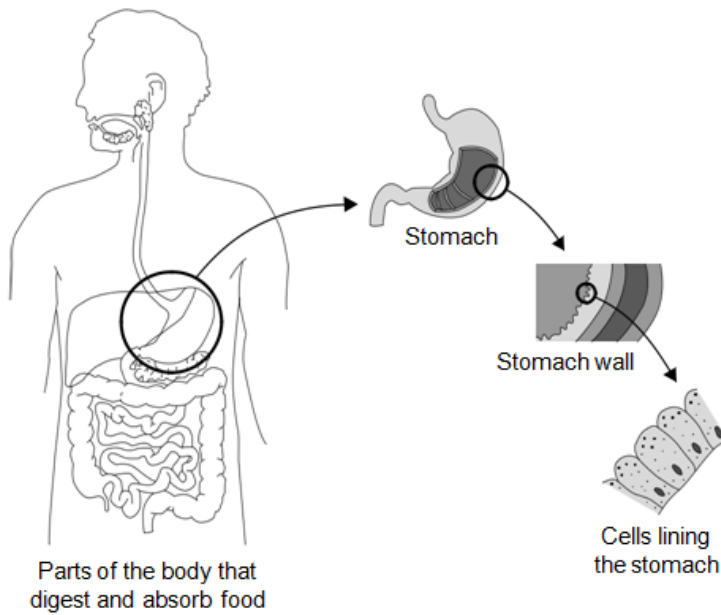
(b) Draw one line from each part of the human body to its correct scientific name.

Part of human body	Scientific name
Layer of cells lining the stomach	An organ
Stomach	An organism
Mouth, stomach, intestines, liver and pancreas	An organ system
	A tissue

[3 marks]

**Q:8** Figure 2 shows the parts of the body that digest and absorb food. Figure 2 also shows some details about the structure of the stomach.

**Figure 2**



**(a)** Complete Table 1 to show whether each structure is an organ, an organ system or a tissue.

For each structure, tick (☑) one box.

Structure	Organ	Organ system	Tissue
Stomach			
Cells lining the stomach			
Mouth, oesophagus, stomach, liver, pancreas, small and large intestine			

**[2 marks]**

**(b) (i)** The blood going to the stomach has a high concentration of oxygen.

The cells lining the stomach have a low concentration of oxygen.

Complete the following sentence.

Oxygen moves from the blood to the cells lining the stomach by

the process of \_\_\_\_\_

[1 mark]

**(b) (ii)** What other substance must move from the blood to the cells lining the stomach so that respiration can take place? Draw a ring around the correct answer.

glucose protein starch

[1 mark]

**(b) (iii)** In which part of a cell does aerobic respiration take place? Draw a ring around the correct answer.

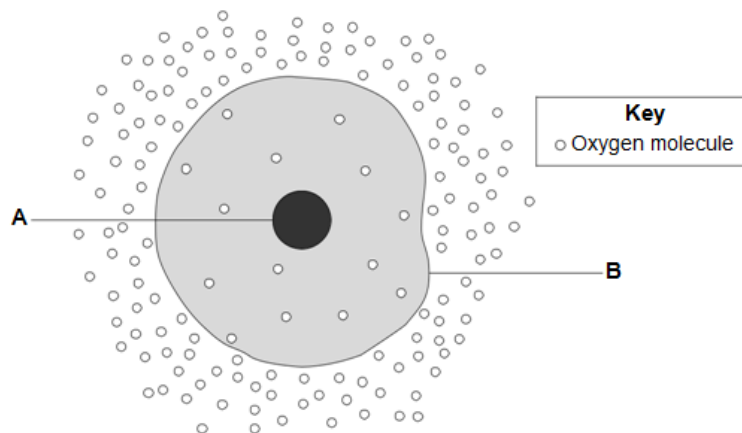
cell membrane

mitochondria

nucleus

[1 mark]

**Q:9** The diagram shows a cell.



**(a) (i)** Use words from the box to name the structures labelled A and B.

cell membrane	chloroplast	cytoplasm	nucleus
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A \_\_\_\_\_

B \_\_\_\_\_

**(2 marks)**

**(a) (ii)** The cell in the diagram is an animal cell.

How can you tell it is an animal cell and not a plant cell?

Give two reasons.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

**(2 marks)**

**(b)** Oxygen will diffuse into the cell in the diagram. Why?

Use information from the diagram.

\_\_\_\_\_

\_\_\_\_\_

**(1 mark)**

**(c)** The cell shown in the diagram is usually found with similar cells.

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

an organ.

Scientists call a group of similar cells a system.

a tissue.

**(1 mark)**