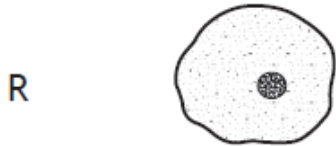
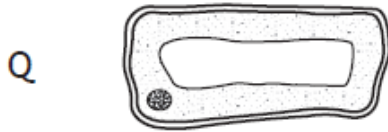
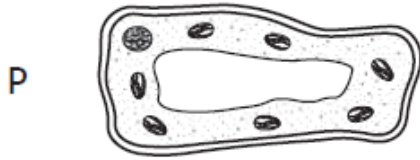


Unit 1 Cell Biology Revision Questions

Key Area 1 Cell Ultra Structure

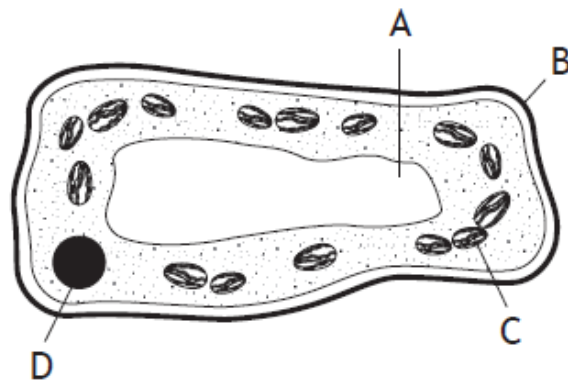
1. The following diagrams represent three different cells.



Identify the plant cell(s).

- A P and R only
- B P and Q only
- C P only
- D R only

2. The diagram below shows parts of a plant cell.



Which part of this cell is composed of cellulose?

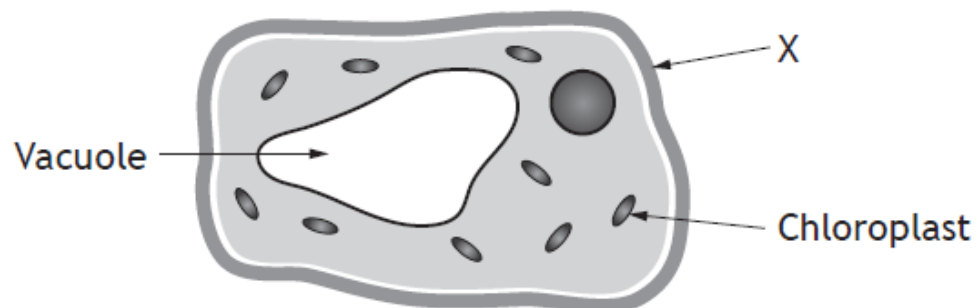
3.

Which structural feature is found in a plant cell and not in an animal cell?

- A Nucleus
- B Cell wall
- C Cell membrane
- D Cytoplasm

4.

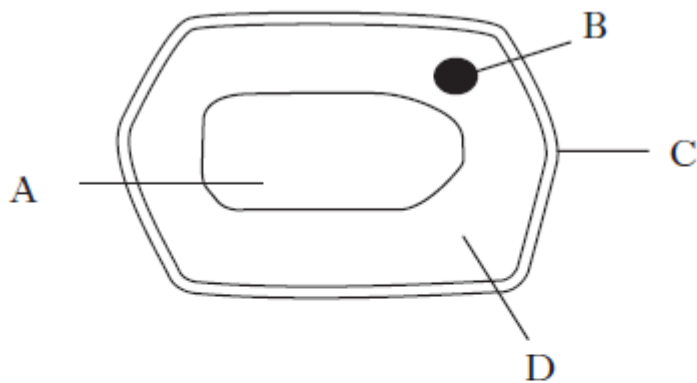
The diagram shows a single cell.



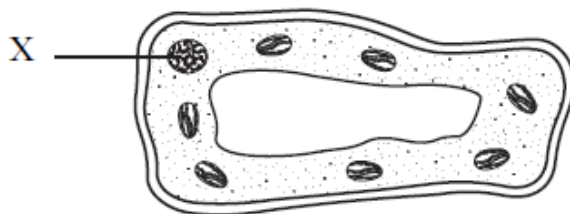
The structure labelled X is made of

- A starch
 - B cellulose
 - C protein
 - D phospholipid.
5. Which structural feature is found in a plant cell and not in an animal cell?
- A Nucleus
 - B Cell wall
 - C Cell membrane
 - D Cytoplasm

Questions 6 & 7 refer to the plant cell diagram below.



6. Which of the plant cell components shown above is made from a structural carbohydrate?
7. Which labelled part controls cell activities?
8. The diagram below shows a cell.



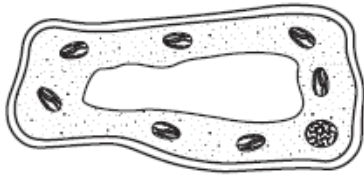
The function of structure X is to

- A control cell activities
- B keep the cell turgid
- C control entry and exit of material
- D release energy from glucose.

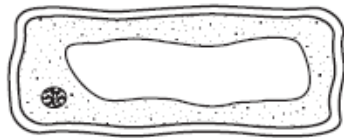
9. The diagrams below show four cells.

Which cell is a leaf mesophyll cell?

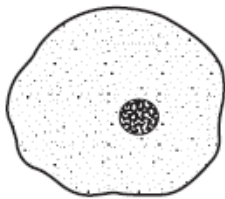
A



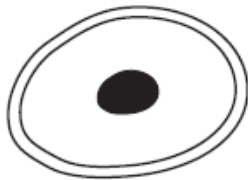
B



C

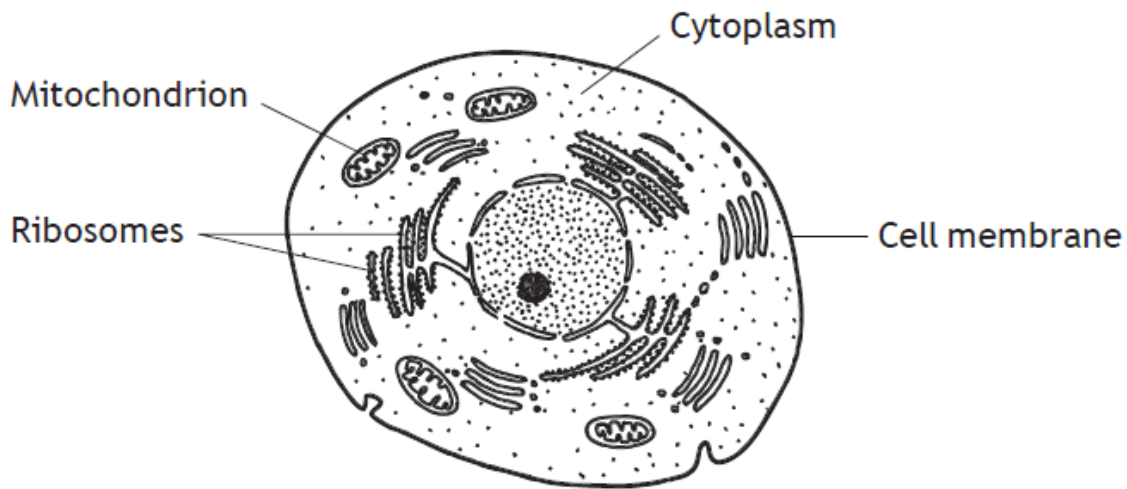


D



10.

(a) The diagram shows a typical animal cell and some of its structures.



Choose two of the structures labelled and state their functions.

2

1 Structure _____

Function _____

2 Structure _____

Function _____

(b) The field of view of a light microscope measures 2 mm in diameter.

20 plant cells were counted in a line across the diameter.

1 mm = 1000 micrometres

Calculate the average size of a cell in micrometres.

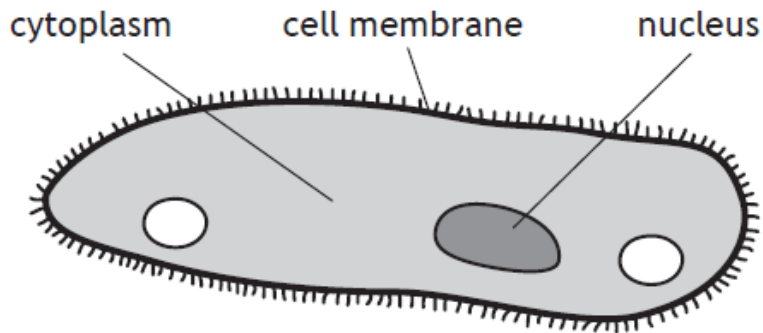
1

Space for calculation

_____ micrometres

11.

Paramecium is a single-celled organism which lives in fresh water.
The following diagram shows some of its structures.



- (a) (i) Choose one of the following structures by ticking (✓) one of the boxes and describe its function. 1

Cytoplasm Cell membrane Nucleus

Function _____

- (ii) The water concentration outside the paramecium is higher than the water concentration of the cytoplasm. This causes the diffusion of water into the cell.

Name this movement of water. 1

- (b) Name the structure present in a plant cell which prevents it from bursting when full of water. 1

12.

A group of students carried out an investigation into the variety of cell types.



The types of cell they examined are shown in the box below.

Animal	Plant	Bacterial	Fungal
--------	-------	-----------	--------

(a) (i) Identify the type(s) of cell which have a cell wall. 1

(ii) Identify the type(s) of cell which have a plasmid. 1

(iii) Some organelles are found in all cells.

Choose one of the following organelles and tick (✓) the appropriate box.

Describe the function of the chosen organelle. 1

Ribosome

Mitochondria

Function _____

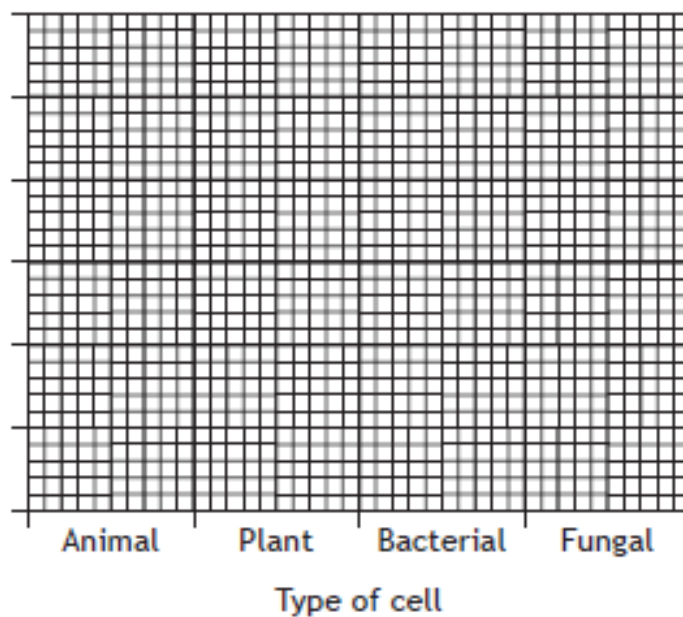
(b) The students then measured a number of cells and calculated the average cell sizes. The results are shown in the table below.

Type of cell	Average size of cell (μm)
Animal	24
Plant	48
Bacterial	3
Fungal	7

On the graph paper below, complete the vertical axis and draw a bar chart to show the average size of the cells shown in the table.

2

(Additional graph paper, if required, can be found on *Page twenty-six*)

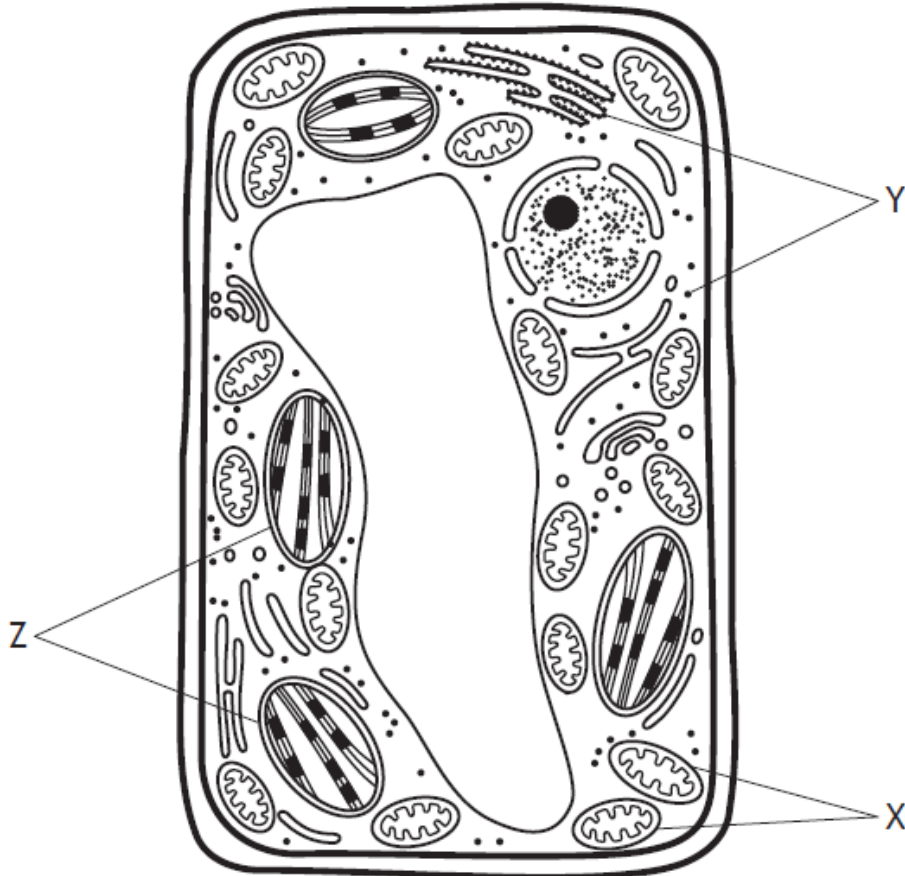


13.

A variegated leaf contains green areas and white areas.

A student investigated cells from both areas.

One of these cells is shown.



(a) Which letter identifies ribosomes?

1

(b) Give the evidence from the diagram which suggests that this cell produces large quantities of ATP.

1

(c) The student concluded that this cell is from the green area. Explain why this conclusion is correct.

2
