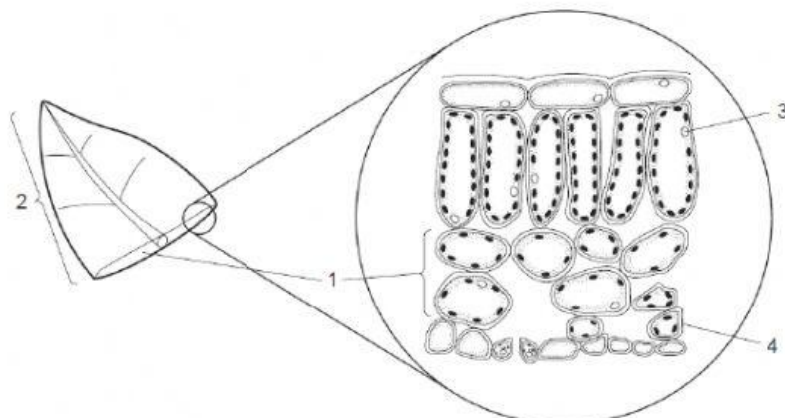


TOPIC: CELL STRUCTURE & ORGANISATION

Multiple Choice Questions:

1. The diagram shows the structure of a leaf. [Nov 2008, Q1]

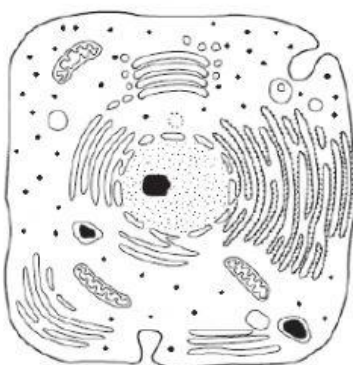


Which letter identifies a cell, a tissue and an organ?

	Cell	Tissue	Organ
A	3	2	4
B	1	4	3
C	4	1	2
D	2	3	1

2. The diagram represents a cell as seen under the electron microscope.

[Nov 2009, Q2]



What type of cell is this?

	Type of cell	Reason
A	Animal cell	Outer layer is the cell membrane
B	Bacterium	No chromosomes are visible
C	Plant cell	Cytoplasm is visible
D	Plant cell	Cell wall is visible

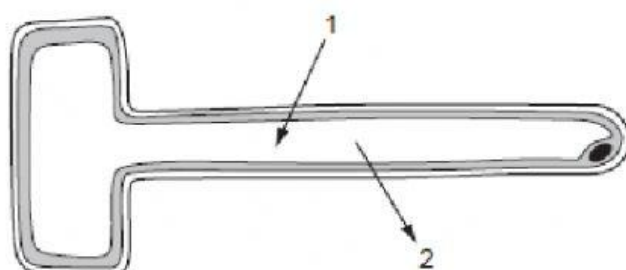
3. Which adaptations of a root hair cell make it suitable for water uptake?

[Nov 2010, Q7]

	Partially permeable cell membrane	Surface area to volume ratio of the cell
A	Absent	High
B	Absent	Low
C	Present	High
D	Present	Low

4. The diagram shows a root hair.

[Nov 2010, Q8]



Which arrows show the direction in which it is **possible** for nitrate ions and water molecules to move?

	Nitrate ions	Water molecules
A	1 only	1 and 2
B	1 and 2	1 and 2
C	1 and 2	2 only
D	2 only	1 only

5. A human cheek cell and a spongy mesophyll cell from a leaf are examined under a microscope.

Which structures are seen in both cells?

[Nov 2011, Q1]

- A Cell membrane, nucleus and cytoplasm
- B Cell wall, cell membrane and nucleus
- C Cytoplasm, cell wall and cell membrane
- D Nucleus, cytoplasm and cell wall

6. Some processes which occur in flowering plants are listed.

[Nov 2012, Q1]

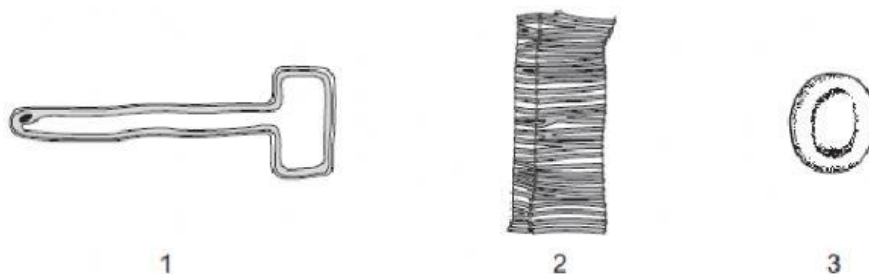
- 1 ion uptake by root hairs
- 2 water uptake by root hairs
- 3 ion movement up the xylem in the stem
- 4 water vapour loss by the mesophyll cells of the leaves

Which processes are controlled by cell surface membranes?

- A 1 only
- B 1 and 3
- C 2 only
- D 3 and 4

7. The diagram shows three cellular structures.

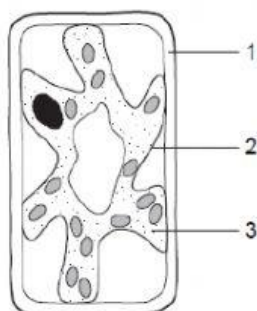
[Nov 2014, Q1]



Which statements about these cells are correct?

	1	2	3
A	Adapted to carry oxygen	Lacks a nucleus	Adapted to carry water
B	Adapted to carry water	Lacks a nucleus	Is in contact with the soil
C	Is in contact with the soil	Adapted to carry water	Adapted to carry oxygen
D	Is in contact with the soil	Is in contact with the soil	Lacks a nucleus

8. The diagram shows a typical plant cell after being placed in a concentrated salt solution for ten minutes.



Which numbered structures are partially permeable?

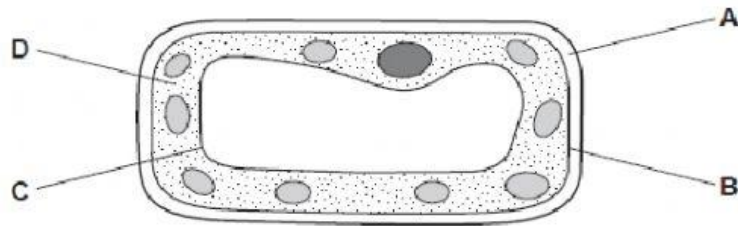
[June 2008, Q1]

- A 1 and 2 only
- B 1 and 3 only
- C 1 only
- D 2 only

9. The diagram shows a plant cell.

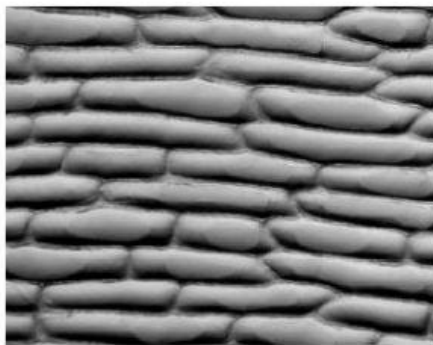
[June 2009, Q1]

Which structure controls the passage of substances into and out of the cell?



10. The photomicrograph shows onion epidermis.

[June 2010, Q11]



Which term describes this onion epidermis?

- A Cell
- B Organ
- C Organ system
- D Tissue

Structured Questions:

1. A student was asked to make a model of a plant cell. She took a length of tubing made from a substance that allows only water molecules to pass through and enclosed it in a flexible permeable membrane as shown in Fig. 1.1.

[Nov 2011, Q1]

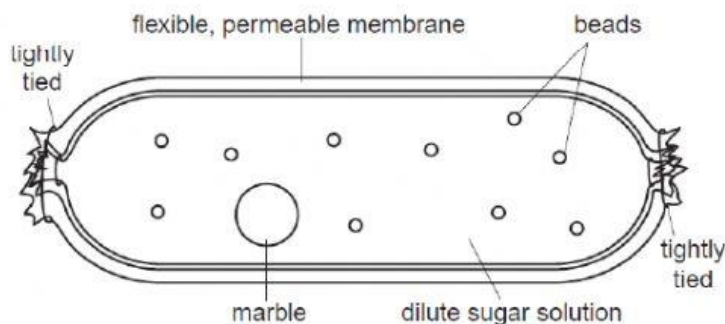


Fig. 1.1

- (a) Name the structures found in a plant mesophyll cell that are best represented by the following items used in her model:

the marble _____

the beads _____

the tubing _____ [3]

- (b) State a structure found in a plant cell that is **not** represented in the student's model.

_____ [1]

- (c) The student then placed her model into a concentrated sugar solution for half an hour.
State and explain the similarities between what might happen to her model during that time and what would happen to a plant cell placed in the same solution.

[6]

[Total: 10]

[Nov 2008, Q8]

[5]

[5]

This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper. There are no margins, text, or other markings on the page.