

Organisation of the Organism

Question Paper 1

Level	IGCSE
Subject	Biology (0610/0970)
Exam Board	Cambridge International Examinations (CIE)
Topic	Organisation of the organism
Sub-Topic	Organisation of the organism
Booklet	Question Paper 1

Time Allowed: 47 minutes

Score: /39

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	68%	60%	53%	48%	40%	33%	<25%

1. Which row matches the cell membrane and cell wall of a palisade cell to their functions?

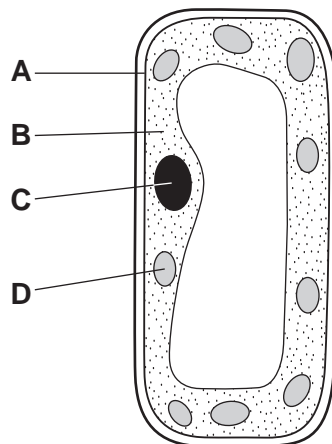
	cell membrane	cell wall
A	active transport	active transport
B	active transport	support
C	support	active transport
D	support	support

2. In a plant, what is formed by a group of xylem vessels?

- A** a cell
- B** a tissue
- C** an organ
- D** an organ system

3. The diagram shows a palisade mesophyll cell.

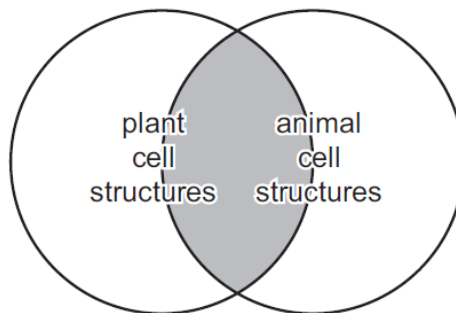
Which structure is **not** found in an animal cell?



4. What is the correct order of increasing size of the following structures, from smallest to largest?

- A chromosome → liver → white blood cell
- B chromosome → white blood cell → liver
- C liver → chromosome → white blood cell
- D white blood cell → liver → chromosome

5. The shaded area of the diagram represents structures found in both plant and animal cells.



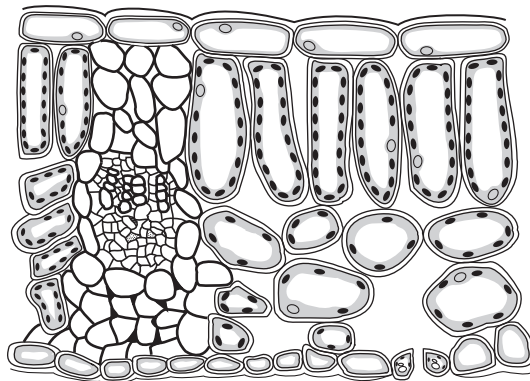
Which cell structure is from the shaded area?

- A cell membrane
- B cell wall
- C chloroplast
- D large vacuole

6. Which organelles are present in large numbers in cells that produce insulin?

- A nuclei and mitochondria
- B ribosomes and mitochondria
- C rough endoplasmic reticulum and cell walls
- D vesicles and nuclei

7. The actual thickness of the leaf shown in the diagram is $2000\ \mu\text{m}$, but its thickness in the diagram is $50\ \text{mm}$.



What is the magnification of the diagram?

- A $\times 0.025$
- B $\times 25$
- C $\times 100$
- D $\times 100\,000$

8. Which structures are present in a bacterial cell?

	cell wall	nucleus
A	✓	✓
B	✓	x
C	x	✓
D	x	x

9. In which part of the cell is oxygen used to release energy from nutrient molecules?

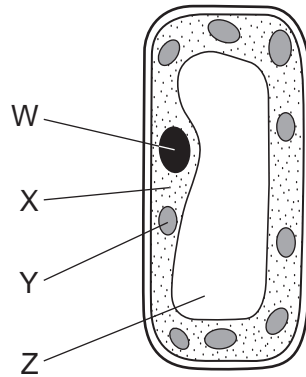
- A** mitochondrion
- B** ribosome
- C** rough endoplasmic reticulum
- D** vesicle

10. A palisade cell and a nerve cell are observed under a light microscope.

Only the palisade cell has a

- A** cell membrane.
- B** cytoplasm.
- C** nucleus.
- D** vacuole.

11. The diagram shows a palisade mesophyll cell from a green leaf.



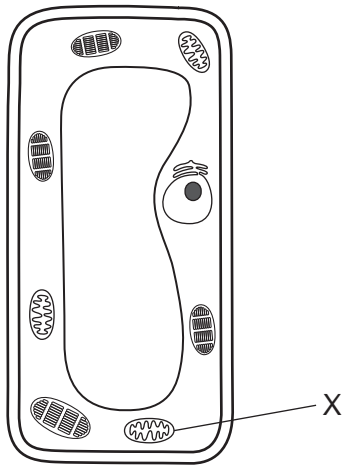
In which labelled part does photosynthesis occur and where is starch stored?

	photosynthesis occurs	starch is stored
A	X	W
B	X	Z
C	Y	X
D	Y	Y

12. Which row describes a root hair cell?

	allows water to pass into the plant	increases the surface area of the root	loses water by transpiration
A	✓	✓	✓
B	✓	✓	x
C	✓	x	✓
D	x	✓	✓

13. The diagram shows the detailed structure of a plant cell.



What is organelle X?

- A chloroplast
- B mitochondrion
- C nucleus
- D vacuole

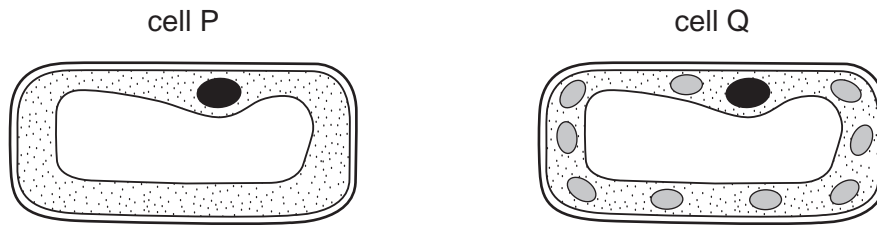
14. Three cell structures are listed.

- 1 cell wall
- 2 cytoplasm
- 3 nucleus

Which structures are found in palisade cells **and** in liver cells?

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

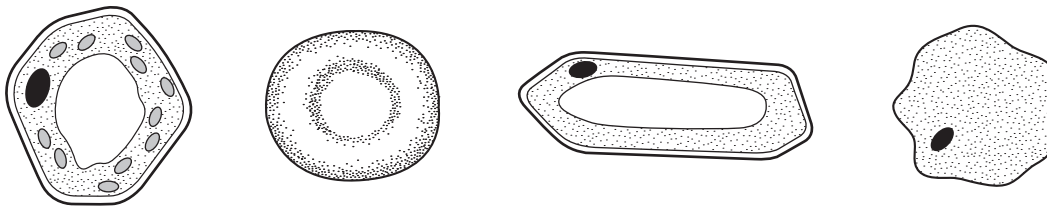
15. The diagram shows two plant cells, P and Q.



How does cell P differ from cell Q?

- A It has no cell wall.
- B It has no chloroplasts.
- C It has no nucleus.
- D It has no vacuole.

16. The diagram shows different types of cells.



Which structure do all these cells have?

- A cell membrane
- B cell wall
- C chloroplast
- D nucleus

17. The diagram shows a male gamete.



Which term describes the level of organisation of this gamete?

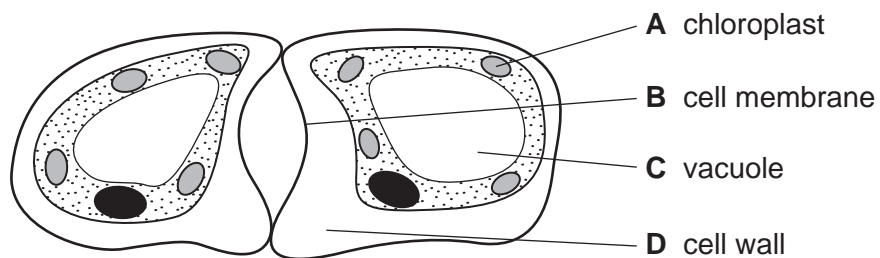
- A cell
- B organ
- C organism
- D tissue

18. Which description of xylem is correct?

- A a cell used for absorption
- B a tissue used for support
- C an organ system used for conduction
- D an organ used for transport

19. The diagram shows a student's drawing of two guard cells.

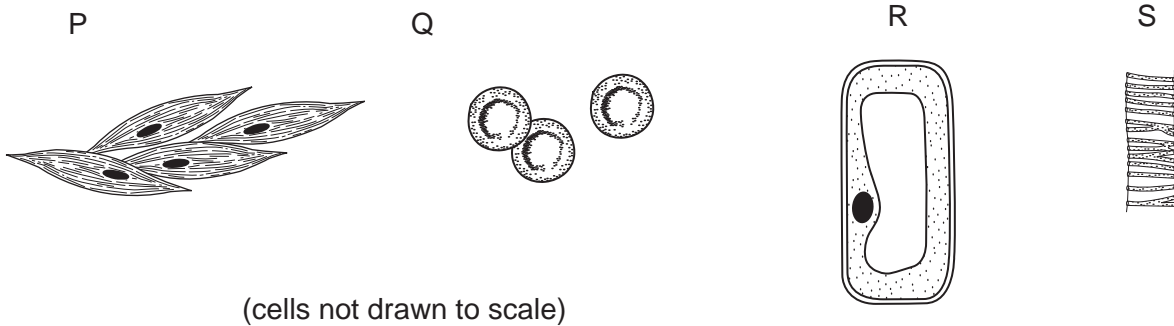
Which label line is **not** correct?



20. How does a liver cell differ from a palisade cell?

- A A liver cell has a membrane.
- B A liver cell has a vacuole.
- C A liver cell has no cell wall.
- D A liver cell has no cytoplasm.

21. The diagram shows structures taken from two different organisms.



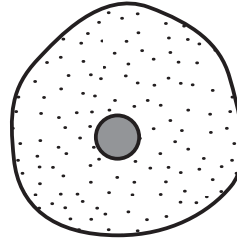
Which structures have the main function of transport?

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

22. At which level of organisation is a root?

- A organ
- B organ system
- C organism
- D tissue

23. The diagram shows a liver cell.



Which features are present in this cell and also in most plant cells?

- A cell membrane and cytoplasm
- B cell membrane and sap vacuole
- C cell wall and cytoplasm
- D cell wall and sap vacuole

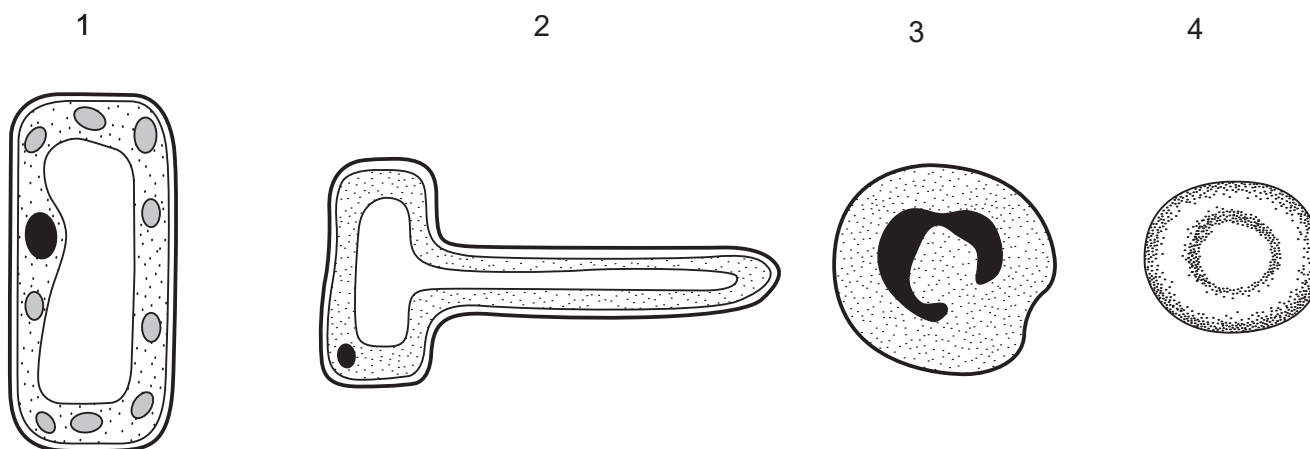
24. Which structure is present in a root hair cell but **not** in a liver cell?

- A cell wall
- B chloroplast
- C glycogen granule
- D nucleus

25. Which description of the heart is correct?

- A** The heart is an organ, containing several systems, which forms part of the circulatory tissue.
- B** The heart is an organ, containing several tissues, which forms part of the circulatory system.
- C** The heart is a system, containing several organs, which forms part of the circulatory tissue.
- D** The heart is a system, containing several tissues, which forms part of the circulatory organ.

26. The diagram shows four cells.

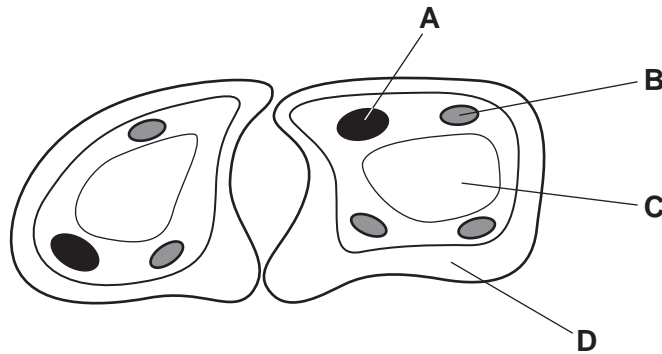


Which two cells contain cellulose and a vacuole?

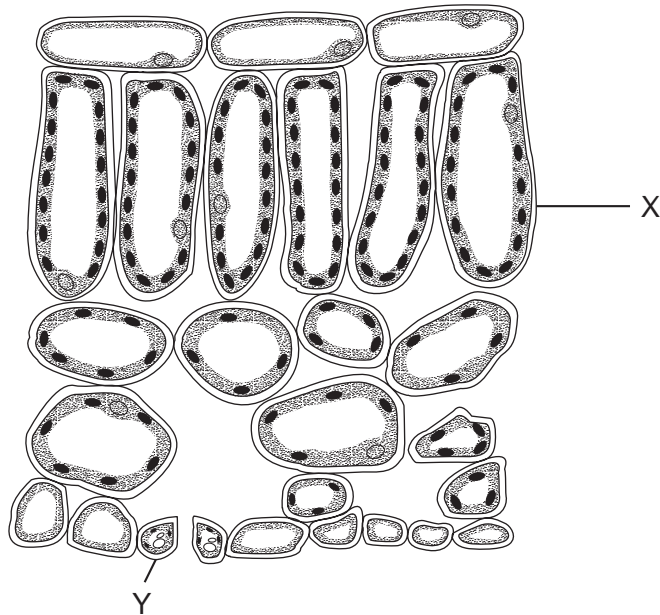
- A** 1 and 2
- B** 1 and 4
- C** 2 and 3
- D** 2 and 4

27. The diagram shows two guard cells from a leaf.

Which labelled part would also be found in liver cells?



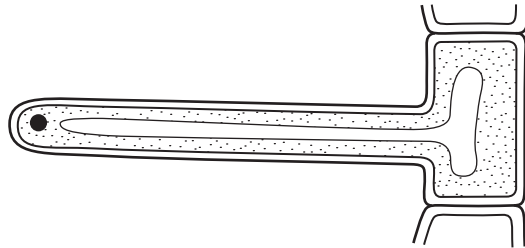
28. The diagram shows part of a leaf in cross-section.



Structures X and Y are both part of the same

- A cell.
- B organ.
- C tissue.
- D vessel.

29. The diagram shows a plant cell.



Which features show that it is a plant cell?

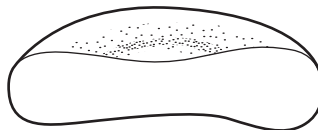
- A It has a cell wall and a vacuole.
- B It has a nucleus and cytoplasm.
- C It has a nucleus but no chloroplasts.
- D It has chloroplasts but no vacuole.

30. In a section through a plant, a student found a group of long, microscopic structures. The structures lacked end walls, cytoplasm and nuclei.

Which identification and reason best matches the student's observations?

	identification	reason
A	root hair cells	they do not contain a nucleus when mature
B	root hair cells	they do not contain cytoplasm to absorb water
C	xylem vessels	they can support the plant better without cytoplasm
D	xylem vessels	they need to be hollow to carry water efficiently

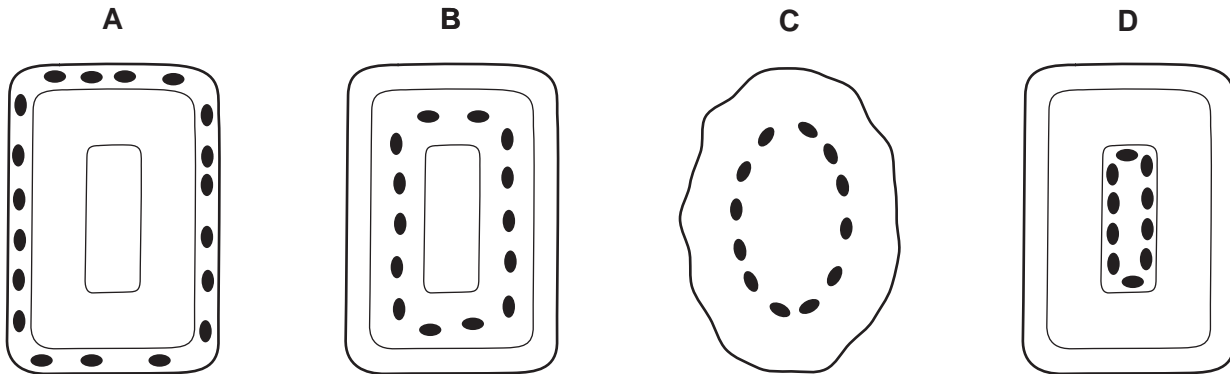
31. The diagram shows a specialised cell cut in half.



What does this diagram indicate about the structure of this cell?

- A The cell has a cell wall.
- B The cell is concave on each side.
- C The cell is long and thin.
- D The cell is red and carries oxygen.

32. Which diagram shows chloroplasts in their correct position in a plant cell?



33. Which is **not** an organ?

- A blood
- B heart
- C tooth
- D vein

34. The cell shown in the diagram has been magnified 3000 times. The diagram is 21 mm wide.



What is the actual diameter of the cell?

- A 21 mm
- B $\frac{21}{3000}$ mm
- C 21 x 3000 mm
- D $\frac{3000}{21}$ mm

35. Xylem is an example of

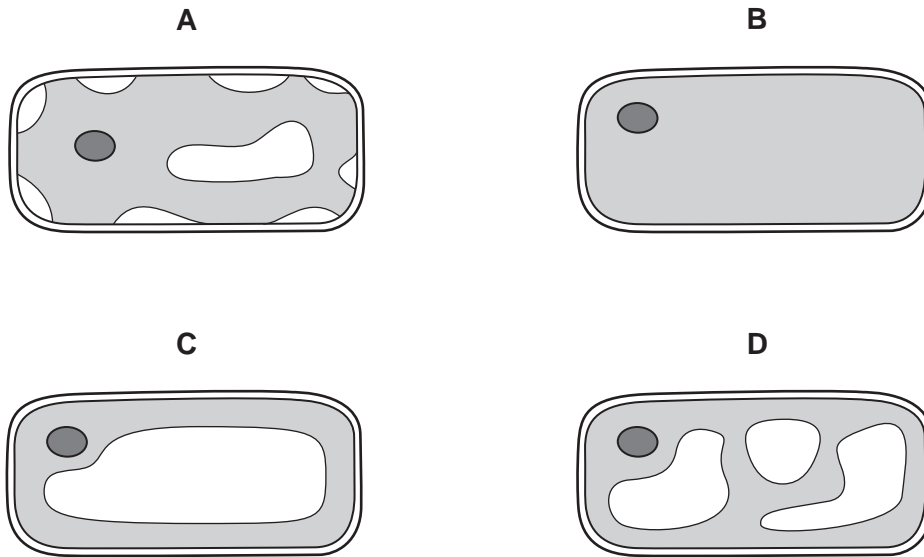
- A a cell.
- B a tissue.
- C an organ.
- D an organ system.

36. Plant cells are often green but animal cells are not usually green.

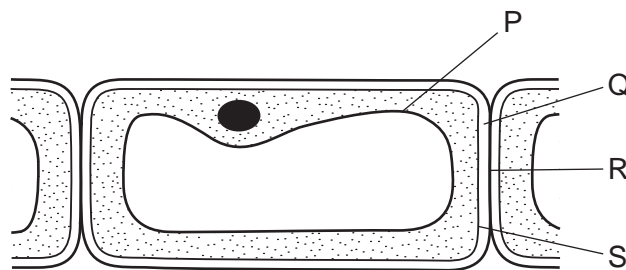
Which structure in plant cells makes them green?

- A cell wall
- B chloroplast
- C cytoplasm
- D vacuole

37. Which diagram shows the appearance of a plant cell several minutes after it has been placed in a concentrated solution of sugar?



38. The diagram shows cells from the epidermis of a leaf.



Which parts are partially permeable?

- A** P and Q **B** Q and R **C** R and S **D** P and S

39. The diagram shows a student's drawing of guard cells.

Which label line is **incorrect**?

