**Plant nutrition – 2020 IGCSE 0610**

**1.** March/2020/Paper_12/No.12

A student drew a diagram to show the substances used and produced in photosynthesis in a leaf.

1 + 2 are used by the leaf

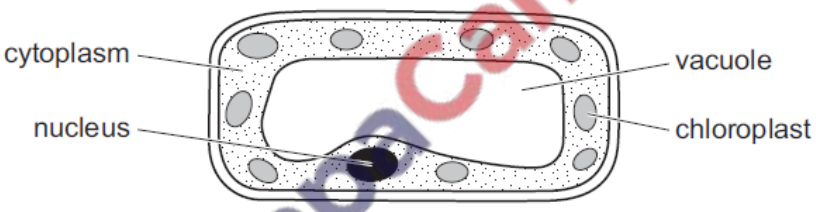
3 + 4 are produced by the leaf

Which row shows the correct labels for the diagram?

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **A** | carbon dioxide | glucose | oxygen | water |
| **B** | water | carbon dioxide | glucose | oxygen |
| **C** | oxygen | water | carbon dioxide | glucose |
| **D** | glucose | oxygen | water | carbon dioxide |

**2.** March/2020/Paper_12/No.13

The diagram shows a type of plant cell.




In which tissue is this cell found?

**A** leaf epidermis

**B** palisade mesophyll

**C** root epidermis

**D** xylem

**3.** March/2020/Paper_22/No.12

A student drew a diagram to show the substances used and produced in photosynthesis in a leaf.

1 + 2 are used by the leaf

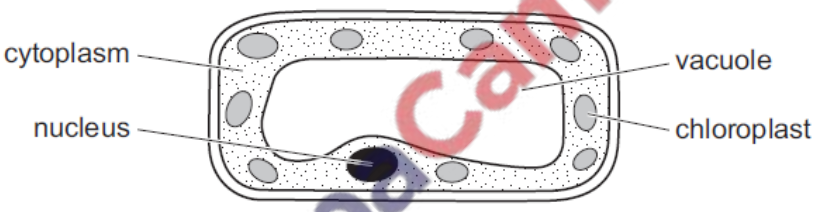
3 + 4 are produced by the leaf

Which row shows the correct labels for the diagram?

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **A** | carbon dioxide | glucose | oxygen | water |
| **B** | water | carbon dioxide | glucose | oxygen |
| **C** | oxygen | water | carbon dioxide | glucose |
| **D** | glucose | oxygen | water | carbon dioxide |

**4.** March/2020/Paper_22/No.13

The diagram shows a type of plant cell.




In which tissue is this cell found?

**A** leaf epidermis

**B** palisade mesophyll

**C** root epidermis

**D** xylem

**5.** June/2020/Paper_13/No.10

Why do plants need nitrate ions?

**A** to make amino acids

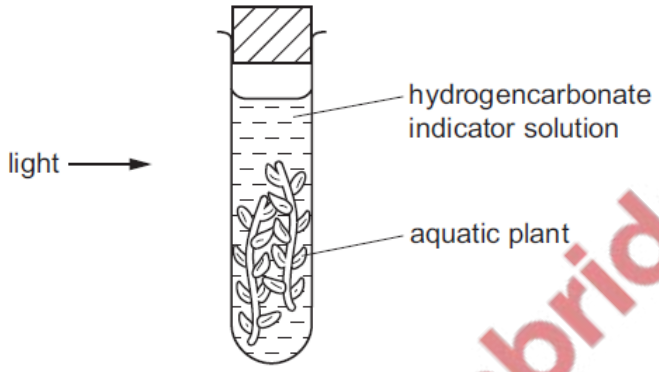
**B** to make fats

**C** to make glucose

**D** to make starch

**6.** June/2020/Paper_21/No.10

An experiment is set up to investigate gas exchange in aquatic plants.




The hydrogencarbonate indicator solution is orange at the start.

Which colour is it after three hours?

**A** blue-black

**B** orange

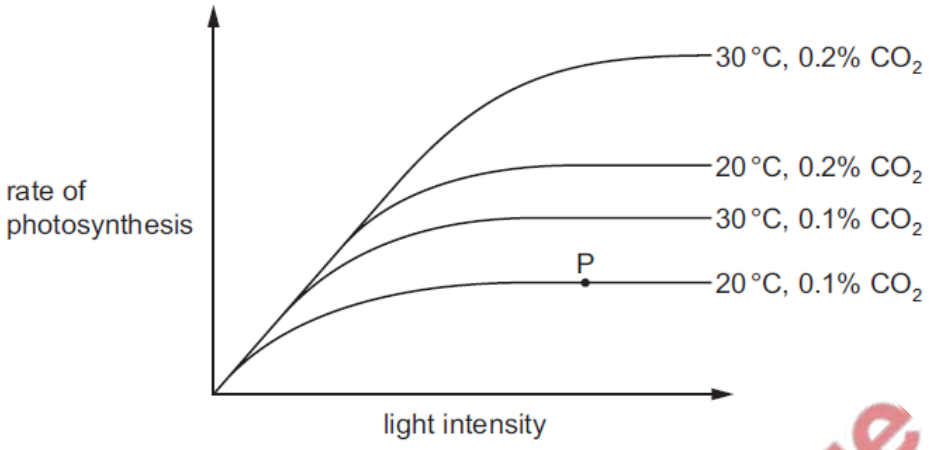
**C** purple

**D** yellow

**7.** June/2020/Paper_22/No.11

The diagram shows how the rate of photosynthesis varies with light intensity.

The four curves show different conditions of temperature and carbon dioxide concentration.




What limits the rate of photosynthesis at point P?

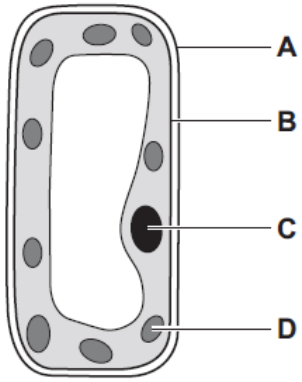
| | light intensity | carbon dioxide concentration | temperature |
|---|---|---|---|
| **A** | ✓ | ✓ | ✗ |
| **B** | ✓ | ✗ | ✗ |
| **C** | ✗ | ✓ | ✓ |
| **D** | ✗ | ✗ | ✓ |

key
✓ = yes
✗ = no

**8.** June/2020/Paper_22/No.12

The diagram shows a plant cell.

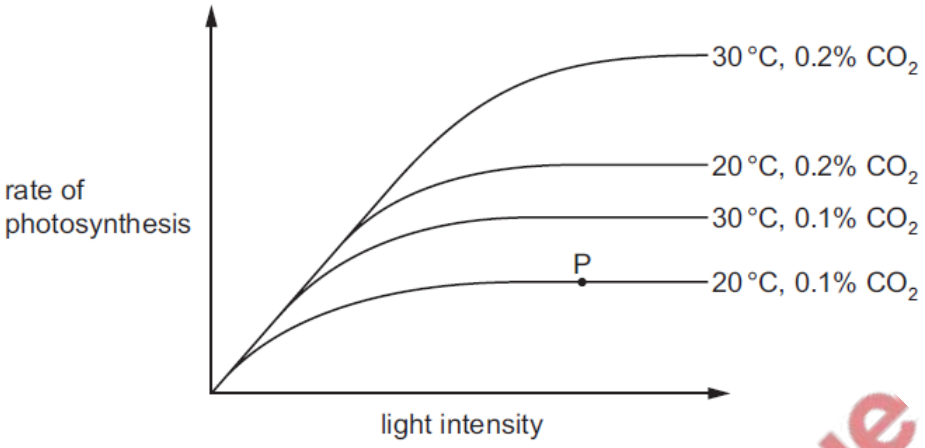
In which part of the cell does photosynthesis occur?



**9.** June/2020/Paper_23/No.11

The diagram shows how the rate of photosynthesis varies with light intensity.

The four curves show different conditions of temperature and carbon dioxide concentration.




What limits the rate of photosynthesis at point P?

| | light intensity | carbon dioxide concentration | temperature |
|---|---|---|---|
| **A** | ✓ | ✓ | ✗ |
| **B** | ✓ | ✗ | ✗ |
| **C** | ✗ | ✓ | ✓ |
| **D** | ✗ | ✗ | ✓ |

key
✓ = yes
✗ = no

**10.** June/2020/Paper_23/No.12

Why do plants need nitrate ions?

**A** to make amino acids

**B** to make fats

**C** to make glucose

**D** to make starch

**11.** June/2020/Paper_31/No.4

Fig. 4.1 shows a photomicrograph of a cross-section of part of a leaf.

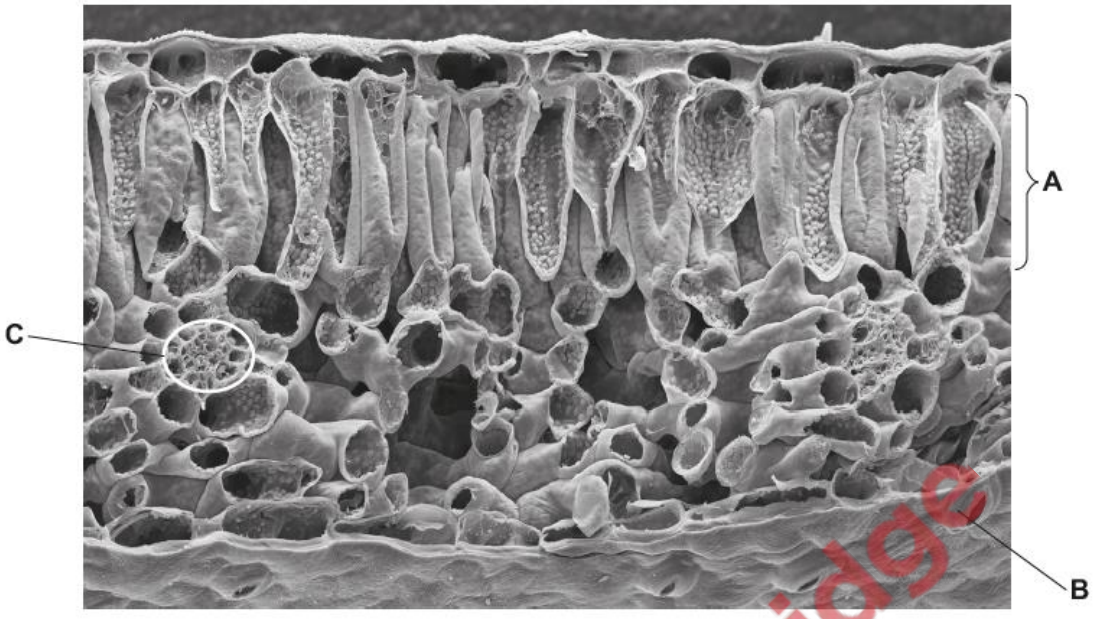



**Fig. 4.1**

**(a) (i)** Identify tissue **A** on Fig. 4.1 and state the name and function of this tissue.

name .....

function .....

.....

[2]

**(ii)** Structure **C** in Fig. 4.1 is part of the transport system in the leaf.

State the names of **two** tissues that structure **C** contains.

1 .....

2 .....

[2]

**(iii)** Identify and state the name of cell **B** in Fig. 4.1.

..... [1]

**(b)** A plant is in bright sunlight and has plenty of water.

Gases move into and out of its leaves.

Complete Table 4.1 to show the net direction of movement for the named gases.

Place a tick (✓) in each correct box.

**Table 4.1**

| name of gas | moves into leaves | moves out of leaves |
|---|---|---|
| carbon dioxide | | |
| oxygen | | |
| water vapour | | |

[3]

[Total: 8]