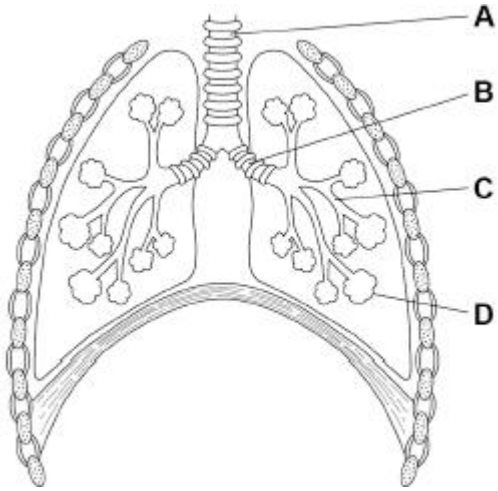
Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B1 Cell Biology

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Name of the Student:_____
Max. Marks : 27 Marks **Time : 27 Minutes**

Q1.

The figure below shows the human breathing system.



(a) Name parts **A** and **B**.

Choose answers from the box.

alveolus	**bronchus**	**capillary**	**trachea**

A _____

B _____

(2)

(b) Where does gas exchange happen in the breathing system?

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

(1)

(c) Give **two** ways that the lungs are adapted for efficient gas exchange.

1 _____

_____

2 _____

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(2)

The table below shows the percentage of gases in air breathed into the lungs and air breathed out of the lungs**.**

Gas	**Percentage (%) in air breathed in**	**Percentage (%) in air breathed out**
Oxygen	21	16
Carbon dioxide	0.04	4
Nitrogen	78	78

(d) Explain the **differences** in the air breathed into the lungs and the air breathed out of the lungs.

(4)

(e) The percentages given in each column of the table above do **not** add up to 100%.

Suggest **one** reason why.

(1)

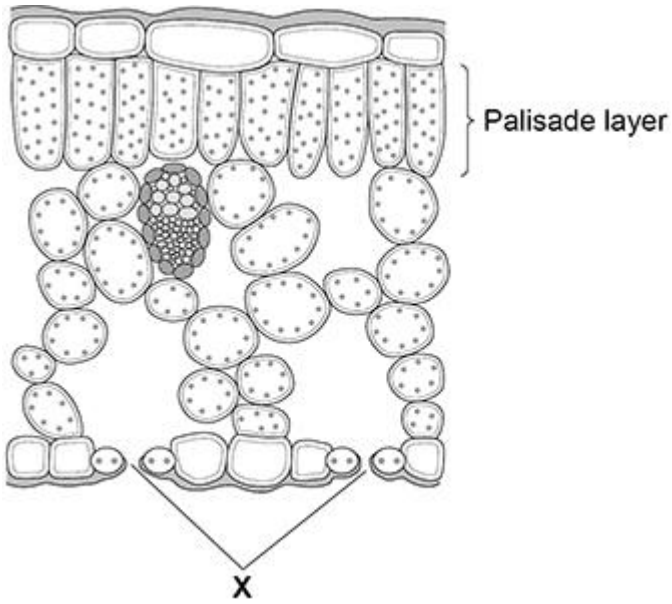
(Total 10 marks)

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Q2.

Figure 1 shows a section through a leaf.

Figure 1



(a) Give **one** way that the palisade layer is adapted for photosynthesis.

_____

_____

(1)

(b) Gases pass into and out of the leaf through small pores in the surface of the leaf.

What are the small pores labelled **X** called?

Tick (✓) **one** box.

Guard cells ☐

Stomata ☐

Xylem vessels ☐

(1)

(c) A student viewed a section of a leaf using a microscope.

The student measured the length of one of the palisade cells.

The cell image measured 28 mm in length when viewed at a magnification of ×400

Calculate the real length of the palisade cell in millimetres (mm).

Use the equation:

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real length = $\frac{\text{image length}}{\text{}}$

_____

_____

_____

Real length = _____ mm

Convert the real length of the cell from millimetres to micrometres (µm).

1 mm = 1000 µm

_____

_____

Real length = _____ µm

(3)

(d) Carbon dioxide can move into and out of cells.

What is the process by which carbon dioxide can move into and out of cells?

Tick (✓) **one** box.

Active transport ☐

Diffusion ☐

Osmosis ☐

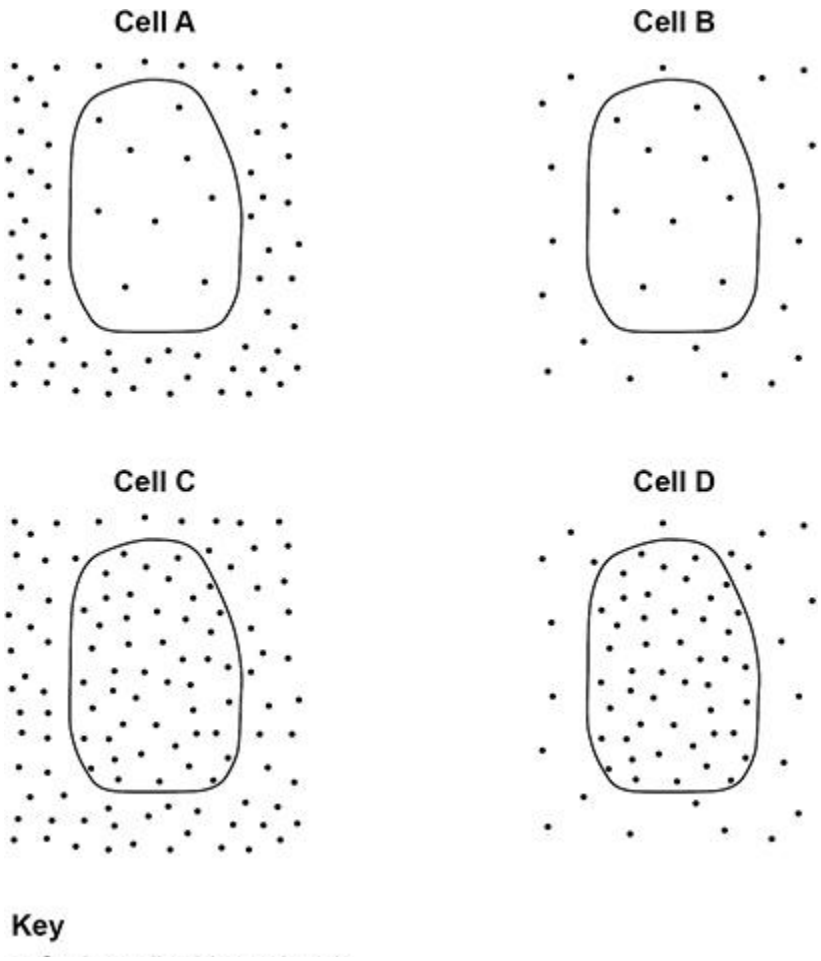
(1)

Figure 2 shows a diagram of four cells.

Each cell is surrounded by carbon dioxide molecules.

Figure 2

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(e) Which cell will carbon dioxide move into at the fastest rate?

Give a reason for your answer.

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

Reason _____

_____

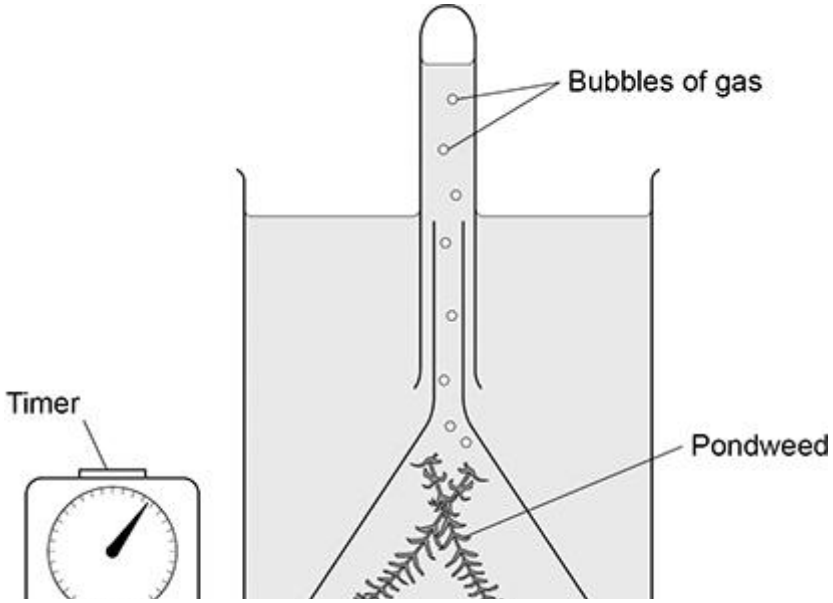
(2)

A student investigated the effect of different colours of light on the rate of photosynthesis.

Figure 3 shows some of the apparatus the student used.

Figure 3

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The student placed the apparatus in blue light, then in green light and then in red light.

The student measured the rate of photosynthesis in each colour of light.

(f) What **two** measurements should the student make to calculate the **rate** of photosynthesis?

1 _____

2 _____

(2)

(g) Give **two** variables the student should keep the same in this investigation.

1 _____

_____

2 _____

_____

(2)

The table below shows the results.

Colour of light	**Rate of photosynthesis in arbitrary units**
Blue	9
Green	1
Red	8

(h) Complete **Figure 4**.

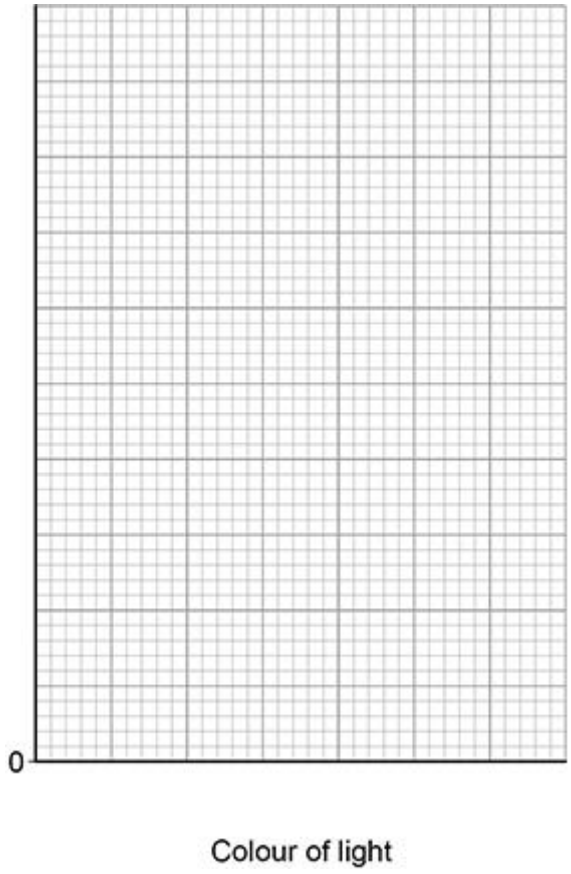
You should:

- label the y-axis
- use a suitable scale

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- plot the data from the table above as a bar chart
- label each bar.

Figure 4



(4)

(i) Look at the table above.

What colour of light should be used to grow plants in a greenhouse?

Tick (✓) **one** box.

Blue ☐ Green ☐ Red ☐

(1)

(Total 17 marks)

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