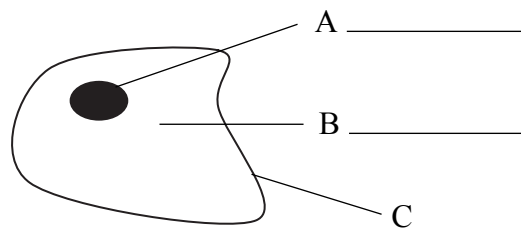




1. (a) (i) Choose the correct words from the box to label parts A and B of the animal cell.

chloroplast    cytoplasm    membrane    nucleus



(2)

(ii) Mark a cross (☒) next to the correct letter to complete the following sentence.

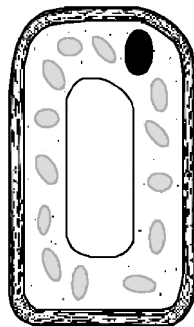
A ☒

Most DNA is found in part B ☒

C ☒

(1)

(b) The diagram shows a plant cell.



Mark a cross (☒) next to the correct word to complete the following sentence.

**nodule** ☒

Plant cells also have a cell **vacuum** ☒

**wall** ☒

(1)

Q1

(Total 4 marks)



Leave blank

2. Draw a straight line from each cell activity to its correct meaning.  
One has been done for you.

**cell activity**

division ●

growth ●

elongation ●

differentiation ●

**meaning**

● an increase in size, length, wet mass or dry mass

● when cells get longer

● when one cell splits into two

● when cells become specialised to do a particular job

(Total 3 marks)

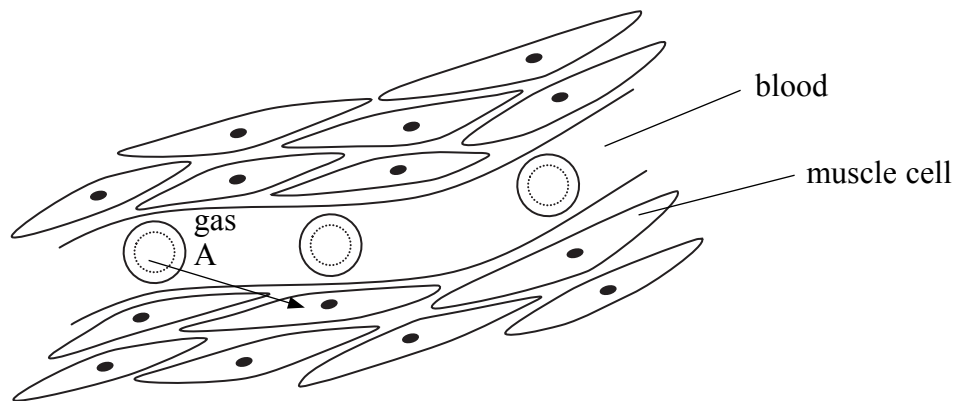
Q2

3

Turn over



3. The diagram shows a blood capillary passing through some muscle cells.



Gas A is passed to the muscle cells so that they can respire aerobically.

(a) Name gas A .....

(1)

(b) Use words from the box to complete the following sentences.

active transport	diffusion	osmosis
higher than	lower than	the same as

Carbon dioxide moves from the muscle cells into the blood by the process called .....

This is because the concentration of this gas in the muscle cells is ..... the concentration of this gas in the blood.

(2)



Leave  
blank

(c) Most respiration in muscle cells uses oxygen.  
When exercising, the muscle cells may produce extra energy by respiring without using oxygen.

(i) Name the type of respiration that does not use oxygen.

.....  
(1)

(ii) Suggest one problem that this might cause in the muscle cells.

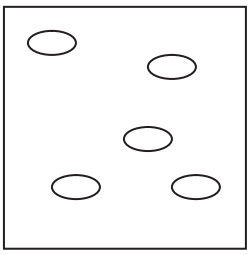
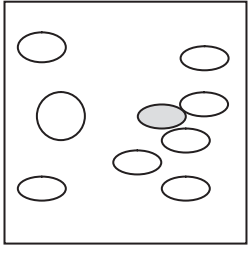
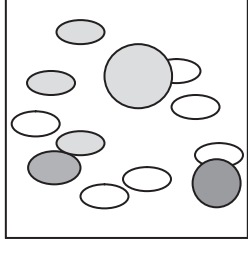
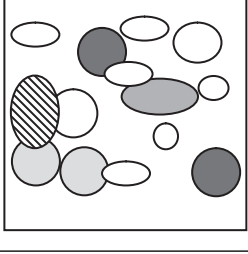
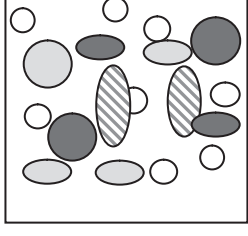
.....  
.....  
.....  
(1)

Q3

(Total 5 marks)



4. Lichens are organisms that grow on rocks and walls.  
 Jason is measuring how pollution from his local coal fired power station affects lichens.  
 Jason took pictures of one square metre of wall every 25 km from the power station.  
 Different types of lichen are different colours and different shapes.

distance from power station (km)	picture of 1 square metre of wall	number of lichens in 1 square metre	number of types of lichen in 1 square metre
0		5	1
25		9	3
50		12	5
75			6
100			



Leave  
blank

(a) Complete the table by filling in the number of lichens and types of lichens in the blank spaces.

(2)

(b) Jason describes the patterns that he can see in his data.  
Complete Jason's sentences.

The further away you get from the power station the .....

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(2)

(c) Suggest one feature of the walls that Jason selected which should be the same so that the numbers of lichens and types of lichens can be compared fairly.

.....  
.....

(1)

(Total 5 marks)

Q4



Leave  
blank

5. In 1859 rabbits were introduced to Australia for hunting.  
The rabbit population grew very quickly and they became serious pests.



The table shows the average number of rabbits per hectare in Britain and Australia.

average population of rabbits per hectare in Britain	average population of rabbits per hectare in similar area of Australia
45	690

- (a) Suggest what prevents the population of rabbits per hectare in Britain from becoming as large as in Australia.

.....  
.....  
.....

(1)

- (b) Sometimes, the population of rabbits in a small area gets so large that it will suddenly 'crash'.  
A crash is when large numbers of the rabbits die so that the number of rabbits falls dramatically.

Suggest what may cause a crash to happen.

.....  
.....  
.....

(1)





<p>(c) By 1900, Australian sheep farmers were very worried about the large rabbit population.</p> <p>Explain how rabbits could affect sheep.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(Total 4 marks)</p>	<p>Leave blank</p> <p><b>Q5</b></p> <input data-bbox="1612 1032 1654 1113" type="text"/>

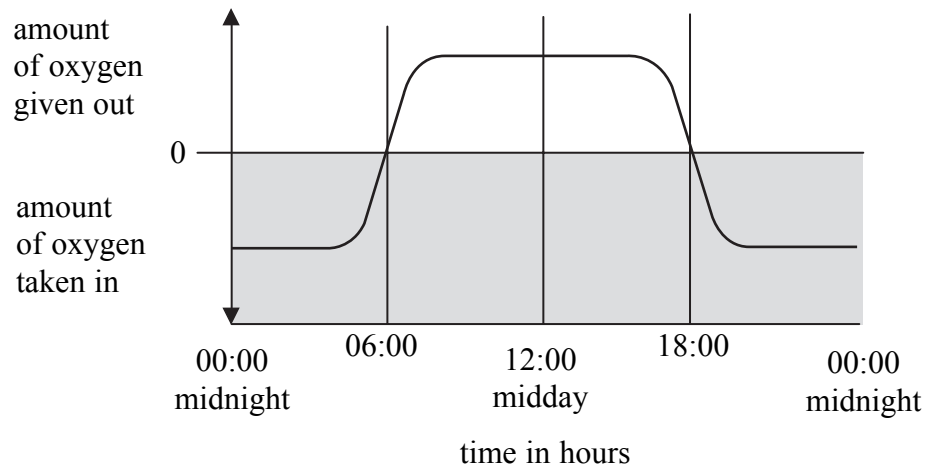


N 3 4 8 4 3 A 0 9 1 6



Leave blank

6. The graph shows the average oxygen balance for grass plants in Britain over a 24 hour period (one day) in summer. It shows when oxygen is being given out or being taken in by the plant.



- (a) State a time when more oxygen is being produced than used by the plant.  
..... (1)
- (b) Use the graph to estimate the time when photosynthesis started.  
..... (1)
- (c) Grass is a living organism.  
For how many hours of the day is grass respiring?  
..... (1)
- (d) On the graph above draw another line to show how the balance between oxygen given out and oxygen taken in would look on a winter's day. (2)

(Total 5 marks)

Q6

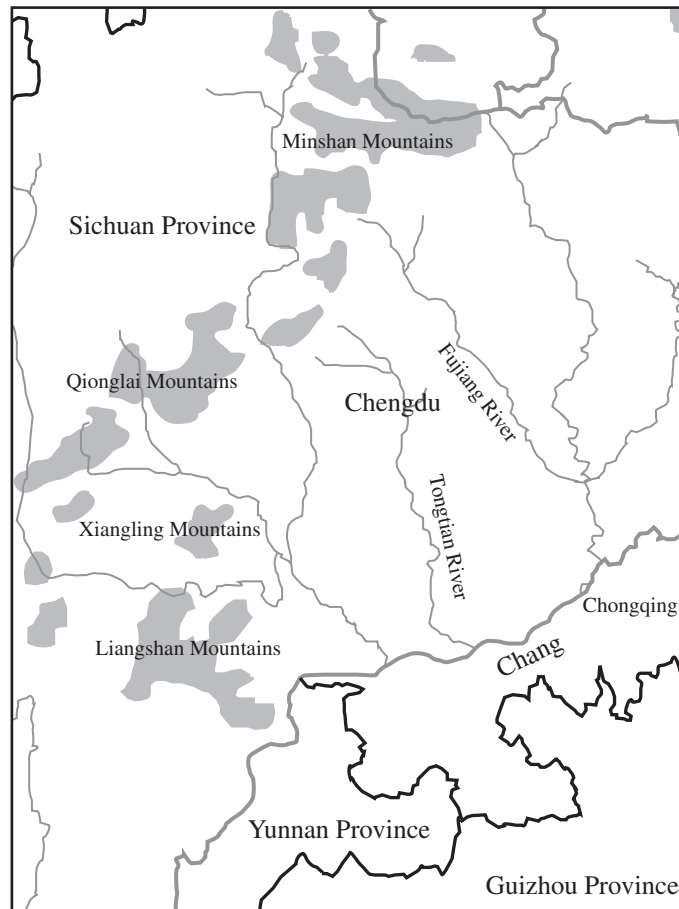


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7. The map shows the distribution of Giant Pandas in part of China. The shaded areas on the map show where Giant Pandas can be found.



- (a) The Giant Panda is an endangered species. Suggest one reason why pandas are endangered.

.....  
.....  
.....

(1)

- (b) Suggest what could be done to help increase the number of Giant Pandas in the wild. Information from the map may help you.

.....  
.....  
.....

(1)



Leave  
blank

(c) What is meant by the term 'conservation'?

.....

.....

(1)

(d) Why is the protection of **natural** populations very important?

.....

.....

(1)

Q7

(Total 4 marks)

**TOTAL FOR PAPER: 30 MARKS**

**END**



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