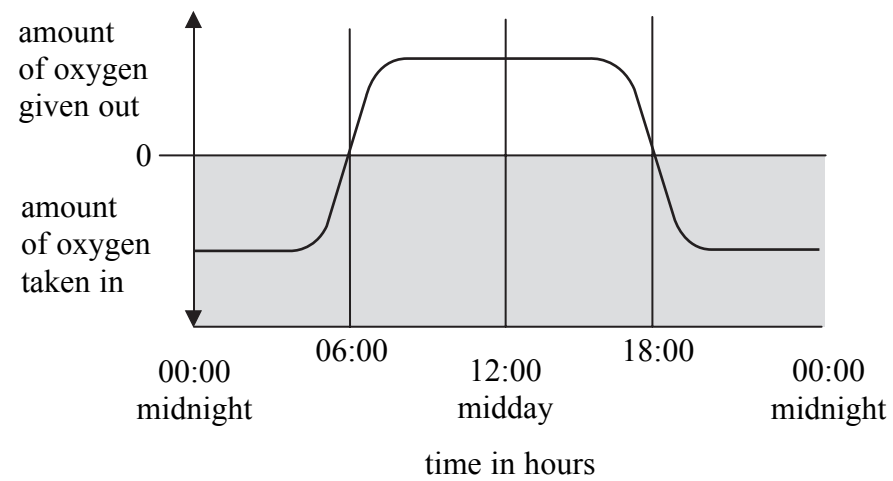


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1. The graph shows the average oxygen balance for grass plants in Britain over a 24 hour period (one day) in summer. It shows when oxygen is being given out or being taken in by the plant.



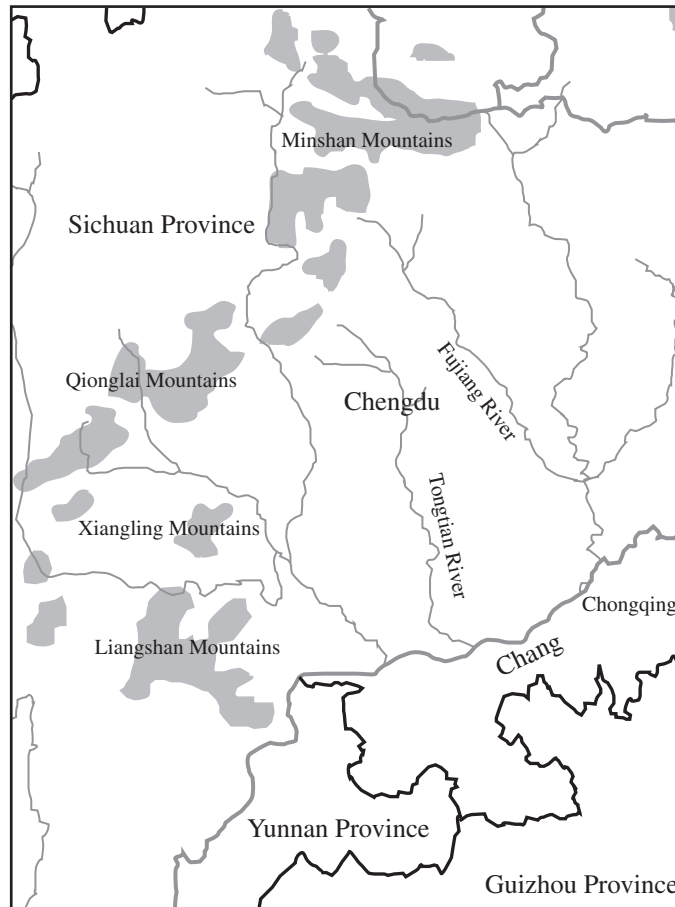
- (a) State a time when more oxygen is being produced than used by the plant.
..... (1)
- (b) Use the graph to estimate the time when photosynthesis started.
..... (1)
- (c) Grass is a living organism.
For how many hours of the day is grass respiring?
..... (1)
- (d) On the graph above draw another line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

(Total 5 marks)

Q1



2. 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)





<p>(c) What is meant by the term 'conservation'?</p> <p>.....</p> <p>.....</p> <p style="text-align: right;">(1)</p> <p>(d) Why is the protection of natural populations very important?</p> <p>.....</p> <p>.....</p> <p style="text-align: right;">(1)</p> <p style="text-align: right;">(Total 4 marks)</p>	<p>Leave blank</p> <p>Q2</p> <input data-bbox="1612 1038 1654 1113" type="text"/>



N 3 4 8 4 4 A 0 5 1 2



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3. The photo shows a growing plant.



(a) Name the type of cell division that results in growth.

..... (1)

(b) Most new cells develop and become specialised so they can perform a specific function.
What is this process called?

..... (1)

(c) One way in which plants grow is by a process called elongation.
What happens to the plant cells during elongation?

.....
.....
.....
.....
..... (2)

(d) Name one factor that can affect the rate at which plants grow.

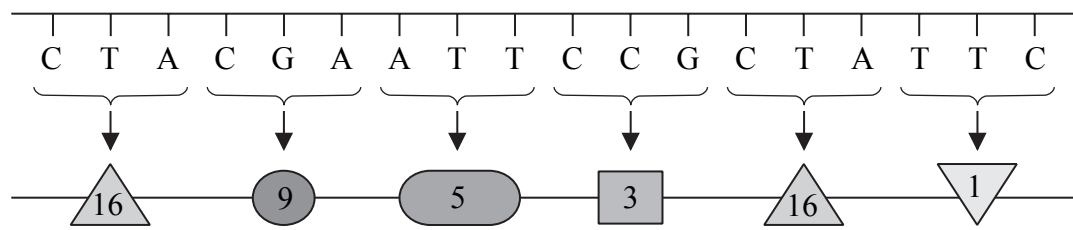
..... (1)

(Total 5 marks)

Q3



4. The diagram shows how bases on a length of DNA relate to the amino acids in the final protein produced.



(a) Use the diagram to help you explain how DNA controls the making of specific proteins in a cell.

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(3)

(b) (i) A section of human DNA coding for a specific protein can be transferred into a microorganism which is then used to make that protein. Name a useful protein that can be made in this way.

.....

(1)

(ii) Describe how large amounts of the useful protein are obtained.

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

(2)

(Total 6 marks)

Q4



5. A human body cell contains forty-six chromosomes.
Complete the table to show the differences between mitosis and meiosis

	mitosis	meiosis
number of chromosomes in each cell at end of process		
purpose of the process		

(Total 4 marks)

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blank

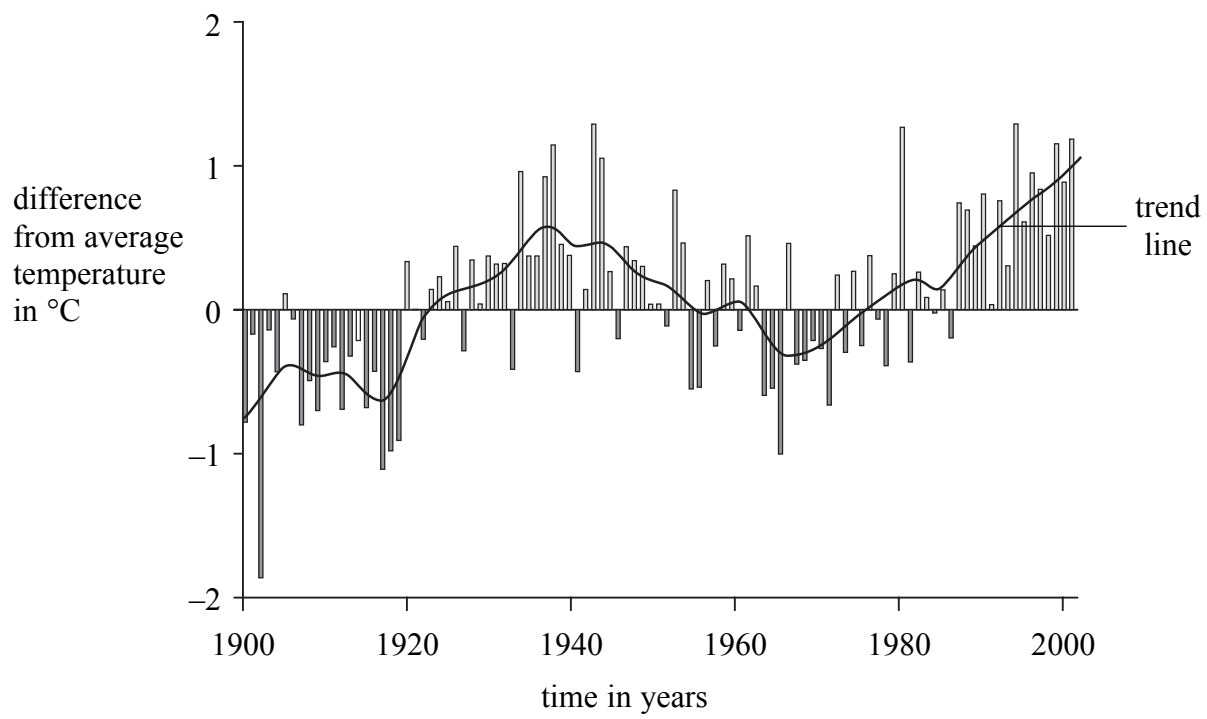
Q5



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6. Many people are concerned about changes in the environment. The graph shows measured Arctic temperatures between 1900 and 2000. An average temperature between 1960 and 1990 was calculated and used as the zero value. A trend line has been drawn to show the pattern of the observations.



- (a) Describe the pattern shown by the trend line.

.....

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(3)



(b) Suggest the environmental impacts that higher average air temperatures in the Arctic may have.

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(3)

(Total 6 marks)

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Q6

TOTAL FOR PAPER: 30 MARKS

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