Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

0744552551

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 **October/November 2014**

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler

READ THESE INSTRUCTIONS FIRST

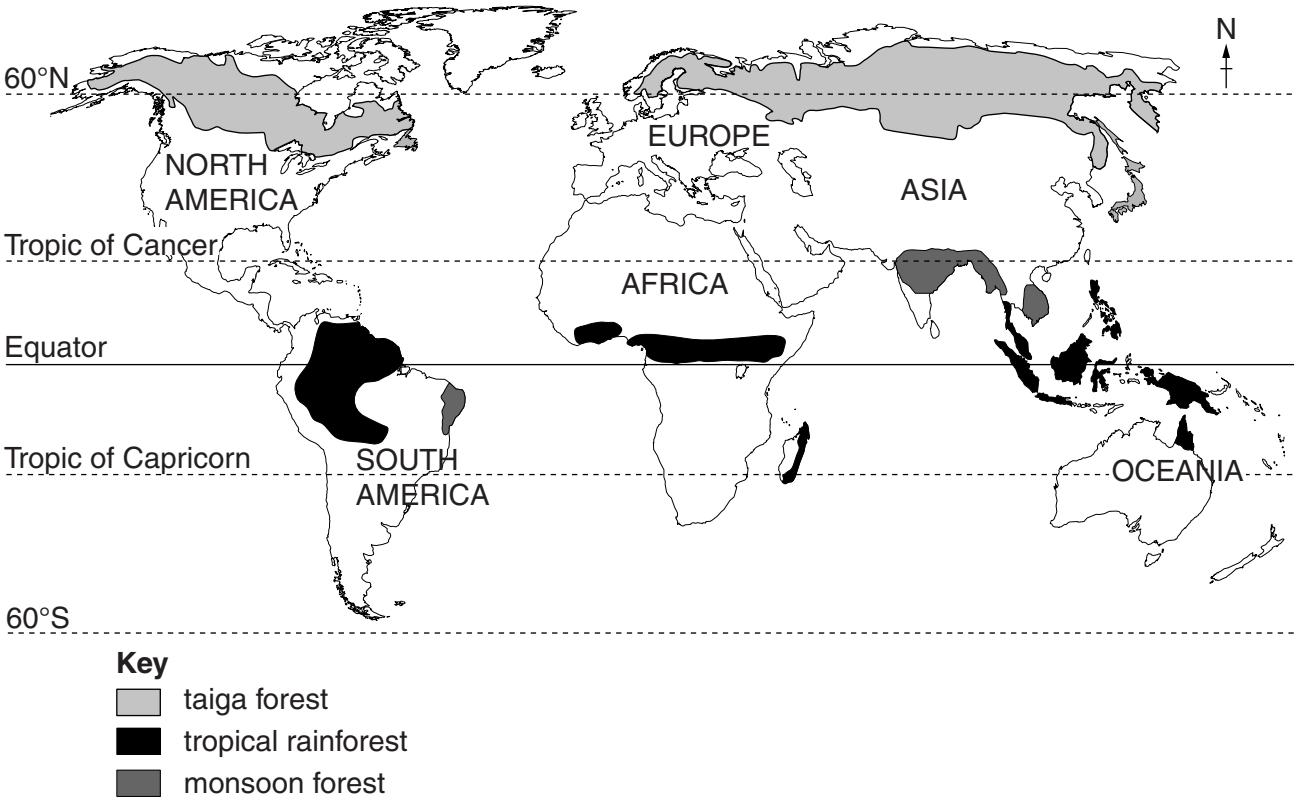
Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

1 Look at the map below, which shows the distribution of three forest biomes.



(a) (i) Describe the distribution of these three forest biomes, shown on the map above.

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.....[3]

(ii) State **two** characteristics of a coniferous tree in the taiga forest.

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.....[2]

(b) (i) Deforestation is a major problem in forest biomes. State **two** causes of deforestation.

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.....[2]

(ii) Explain **two** ways forests can be managed sustainably.

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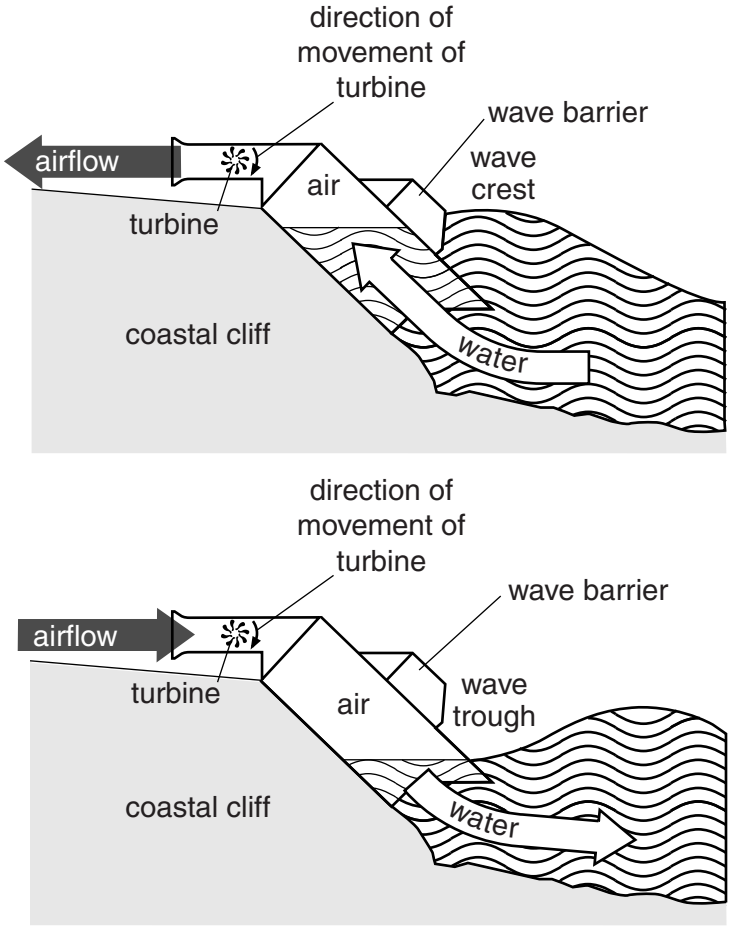
2 **(a)** Look at the diagram below, which shows the limpet; a device installed on a coastal cliff in Western Europe. It is used to generate electricity.



(i) State the energy source being used in the diagram to generate electricity.

.....[1]

(ii) Using the information in the diagram, suggest how electricity is generated in the limpet.

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.....[3]

(iii) Electricity can be generated in hydro-electric power stations (HEP).
State **two** advantages and **two** disadvantages of HEP.

advantages .....

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disadvantages .....

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.....[4]

(b) The limpet and HEP are described as sustainable ways of generating electricity. State what this means.

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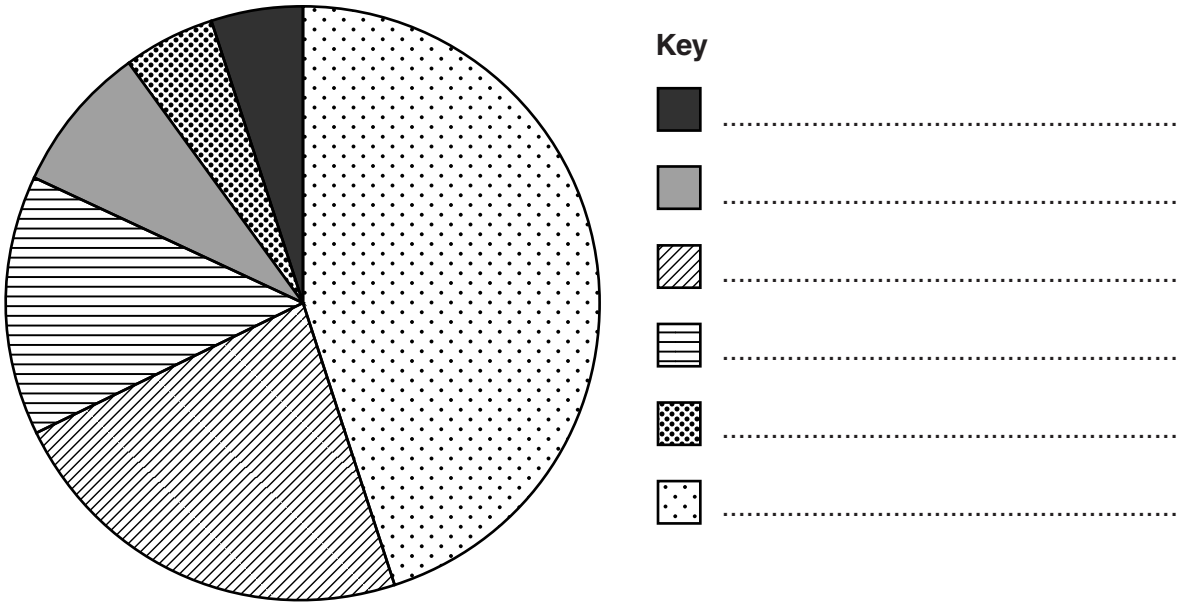
.....[2]

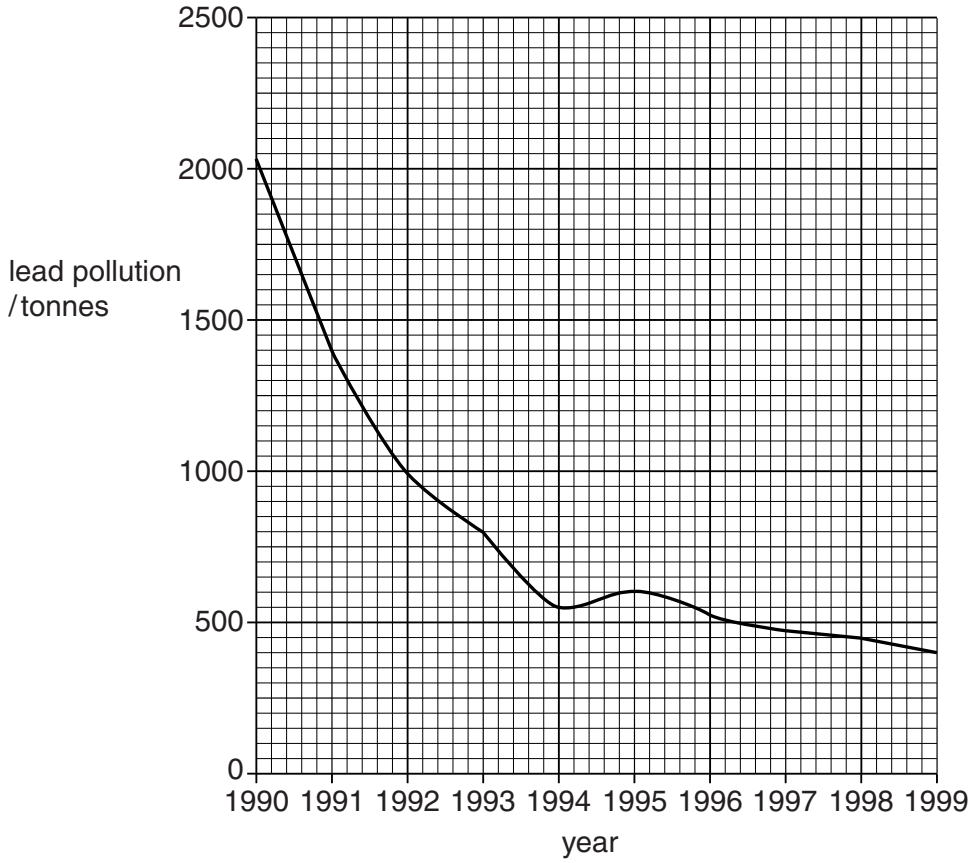
3 **(a)** Look at the pie graph and table, which show the sources of lead pollution in the air in a developed country.

source	percentage
leaded aviation gas	45
metal industries	23
manufacturing	14
waste incineration	8
boilers	5
other	5



(i) Using the information in the table, complete the key for the pie graph. [2]

(ii) Look at the graph, which shows the trend for lead pollution in the developed country from 1990 to 1999.



Using the information in **(a)(i)** and the graph above, describe **and** explain the trend in lead pollution from 1990 to 1999.

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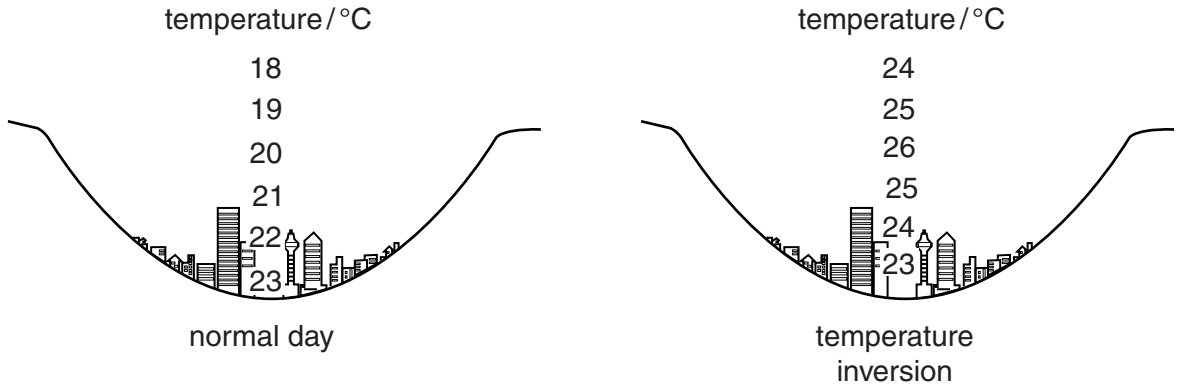
.....[4]

(b) Air pollution is made worse when there is a temperature inversion. Look at the diagram below, which shows the air temperature above a city on a normal day and during a temperature inversion.



(i) Use the diagram and your own knowledge to explain how a temperature inversion could make air pollution in the city worse.

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.....[2]

(ii) Suggest what strategies could be used to reduce air pollution in this city.

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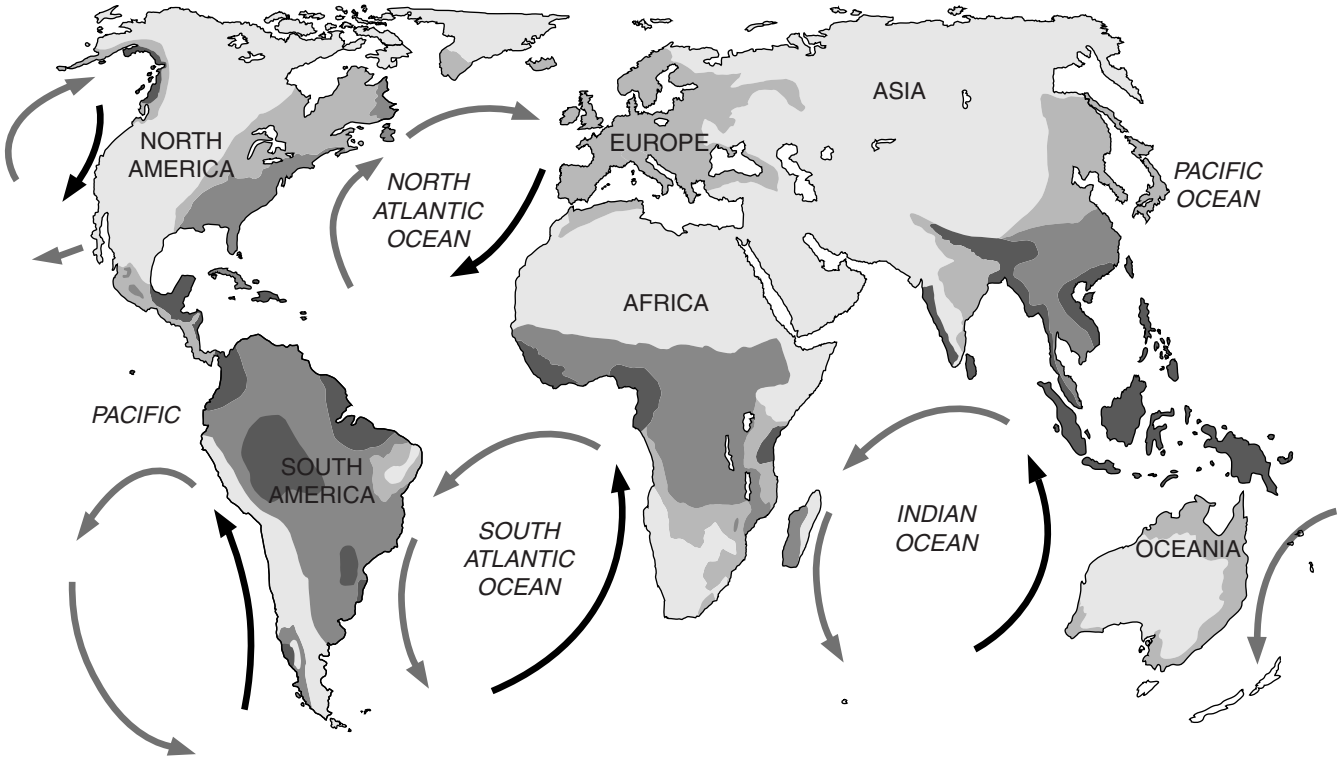
.....[2]

Question 4 begins on page 10.

4 **(a)** Look at the map, which shows some of the world's major ocean currents and average annual precipitation by continent.



Key

..... ocean current

..... ocean current

average precipitation / mm per year.

3000mm

2000mm

1000mm

<500mm

(i) Complete the key to show which are cold and which are warm currents. [1]

(ii) Cold currents reduce agricultural production on land but increase fish catches at sea. Using the map, suggest an explanation for low agricultural production when a cold current is offshore.

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.....[2]

(iii) Explain why cold ocean currents can lead to very high fish catches.

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.....[3]

(b) Describe **and** explain reasons for overfishing.

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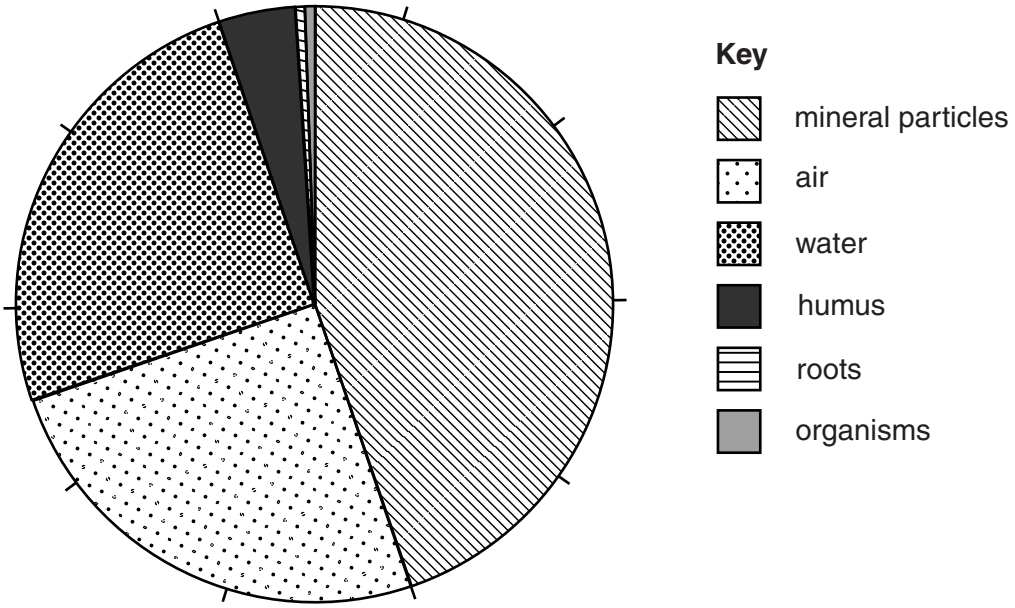
.....[4]

[Turn over

5 **(a)** Look at the pie graph below, which shows the composition of a soil sample.



(i) Calculate the percentage of the soil that is organic matter.

Space for working.

..... % [1]

(ii) Name the component in the pie graph that plants get from the soil for use in photosynthesis.

.....[1]

(iii) Soils can be improved by farmers. Suggest **one** way in which each of the following soils could be improved.

desert soil.....

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overcultivated soil.....

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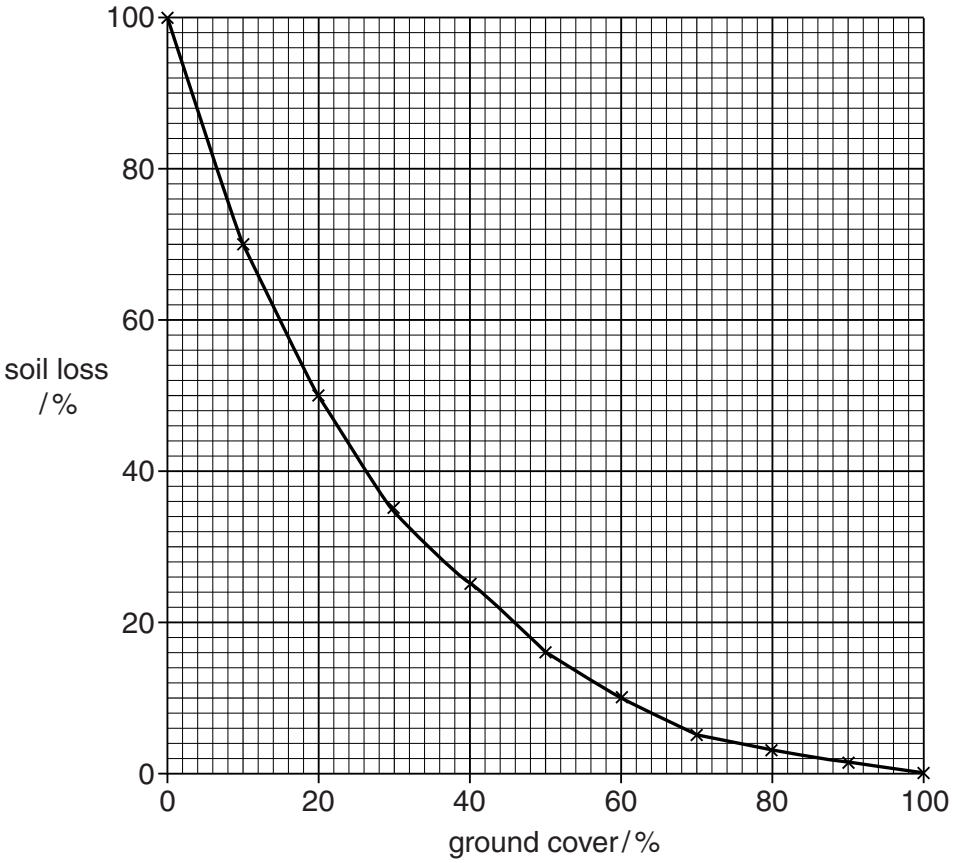
.....[4]

(b) Removal of vegetation causes increased loss of soil due to erosion. Look at the graph, which shows the relationship between ground cover and soil loss on some agricultural land.



Suggest **four** strategies for reducing soil erosion.

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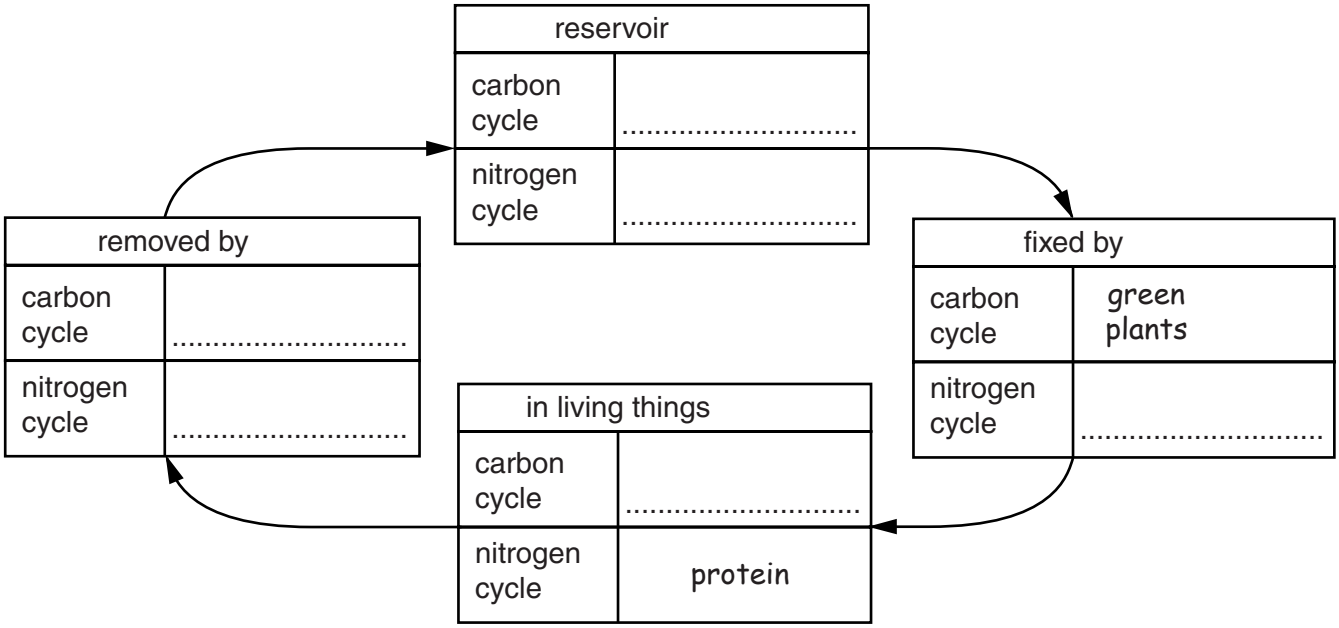
.....[4]

6 **(a)** Look at the diagram, which shows the nitrogen and carbon cycles.

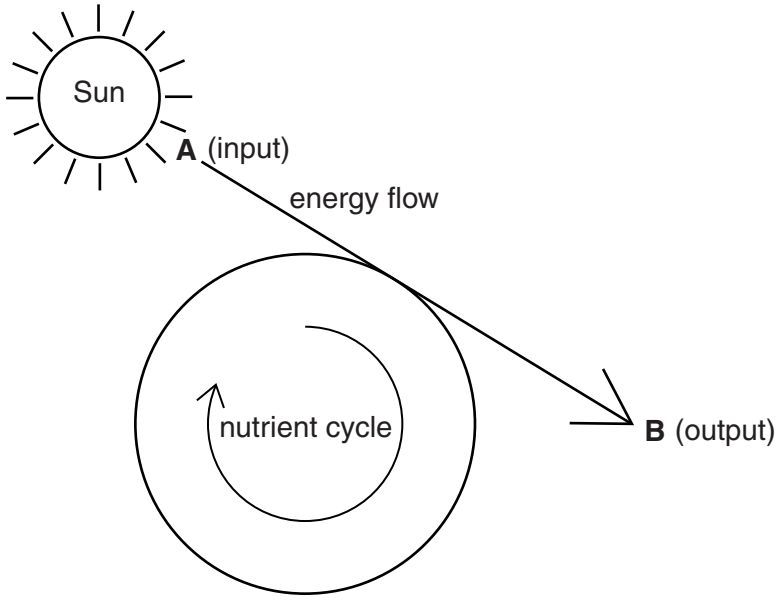
(i) Complete the diagram using the words below.

bacteria	**carbon dioxide gas**	**denitrification**	**nitrogen gas**	**respiration**	**starch**

[3]



(ii) Look at the diagram, which shows that nutrient cycles are driven by energy flow.



State what form the energy takes at **A** and at **B**.

A ……..

B ……..

[2]

(b) (i) Suggest how the draining of wetlands and deforestation can effect wildlife, food chains and people.

draining of wetlands .....

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deforestation.....

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.....[4]

(ii) Suggest **one** strategy for the conservation of wildlife.

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.....[1]

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