Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

4390922908 7

ENVIRONMENTAL MANAGEMENT **0680/12**

Paper 1 **February/March 2015**

1 hour 30 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

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.

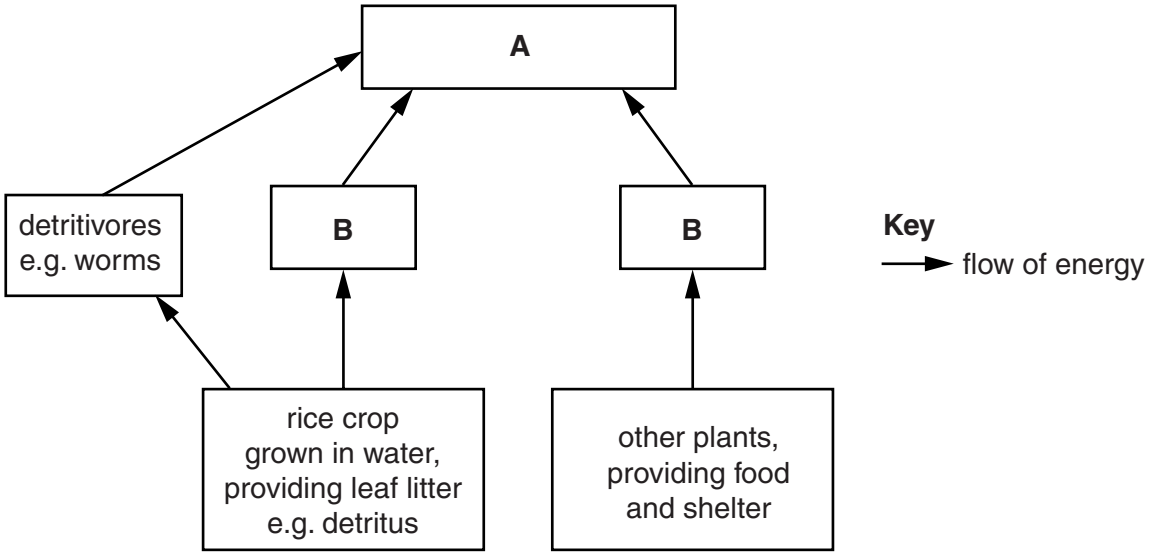
Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

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.

This document consists of **14** printed pages and **2** blank pages.

CAMBRIDGE International Examinations

1 **(a)** Look at the diagram below, which shows a food web in an ecosystem where rice is grown.



(i) Complete the diagram by naming the feeding type of the organisms found at feeding levels **A** and **B**.

A .....

B ..... [2]

(ii) State **one** advantage and **one** disadvantage for farmers of the presence of plants other than rice in the ecosystem.

advantage.....

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disadvantage.....

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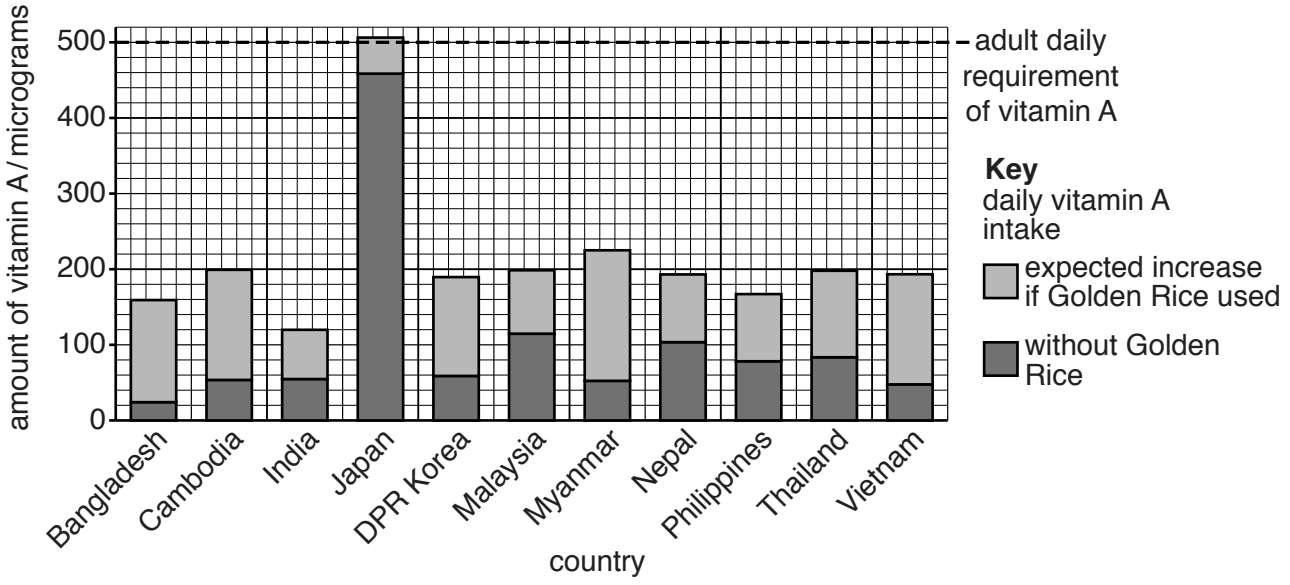
(b) People whose diet consists mostly of rice often do not get enough vitamin A. Genetic engineers have created a form of rice, called Golden Rice, which contains a substance that the body can make into vitamin A. The graph below shows the daily intake of vitamin A in certain countries where rice forms part of the diet and the expected increase if Golden Rice were used.



(i) State the name of the country where Golden Rice will give the highest and the lowest daily increase in vitamin A.

highest.....

lowest .....[1]

(ii) To what extent does this information support the view that Golden Rice should be used instead of traditional rice?

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(iii) Describe the protection that genetic engineering might give to plants.

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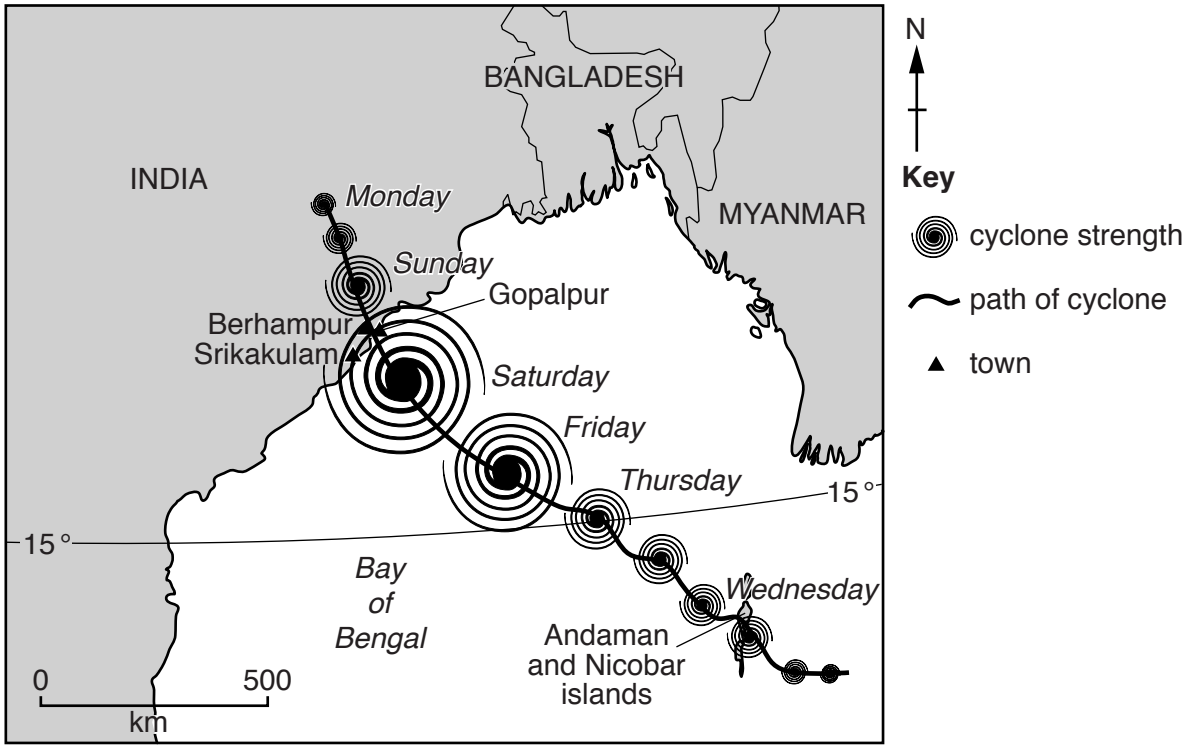
2 **(a)** Look at the map below, which shows the path of Cyclone Phailin. It reached the north east coast of India on Saturday, 12 October 2013.



(i) Describe the path **and** change in strength of Cyclone Phailin shown on the map.

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(ii) Explain how a cyclone forms.

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(b) When Cyclone Paradip hit this same area of India in 1999, over 10 000 people died. Cyclone Phailin led to the deaths of fewer than 100 people. Suggest reasons for this difference in the number of deaths.

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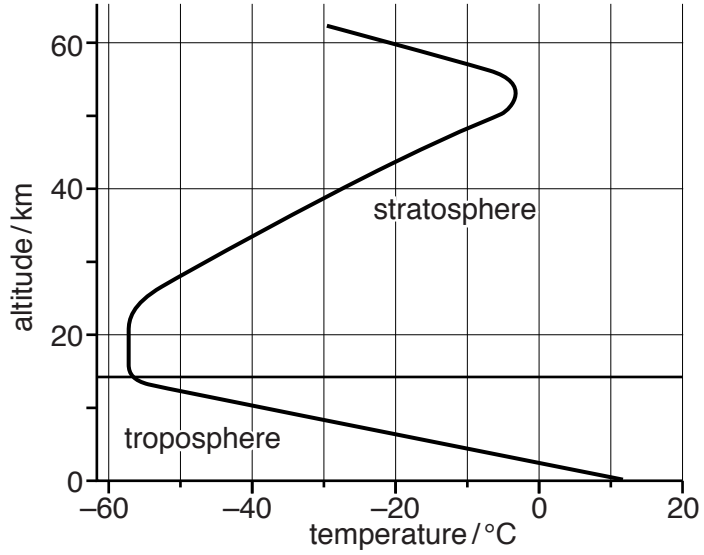
3 **(a)** Look at the diagram below, which shows the two lower layers of the atmosphere.



(i) State the name of the layer in which weather takes place.

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(ii) Describe how temperature changes with altitude between the surface of the Earth and the top of the stratosphere, as shown in the diagram.

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(b) **(i)** Ozone is a gas in the stratosphere which absorbs ultraviolet light. Explain how damage to this layer of ozone gas has been caused.

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(ii) Explain how ultraviolet light is harmful to people and the environment.

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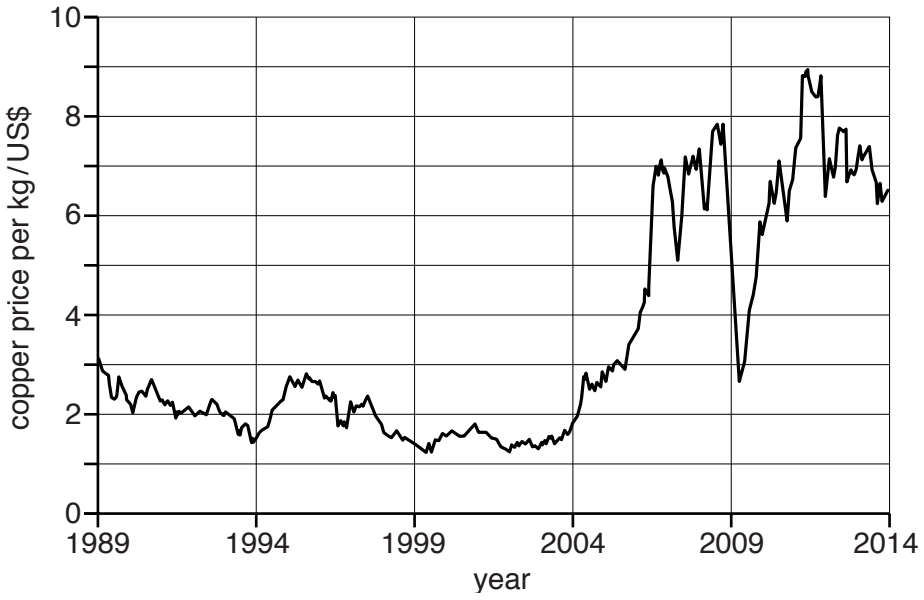
4 **(a)** Look at the graph below which shows world copper prices from 1989 until 2014.



(i) Describe how world copper prices changed between 1989 and 2014.

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(ii) Suggest what might have caused the changes in the price of copper.

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(iii) In late December 2008 the company Anvil stopped mining at their Dikulushi copper mine, in the Democratic Republic of Congo. Using information from the graph, suggest a reason why they did this.

.....[1]

(b) (i) The mining of minerals, such as copper, can cause environmental damage.
State **two** ways in which environments damaged by mining can be conserved.

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(ii) Suggest how quarries or large holes left after mining might be used.

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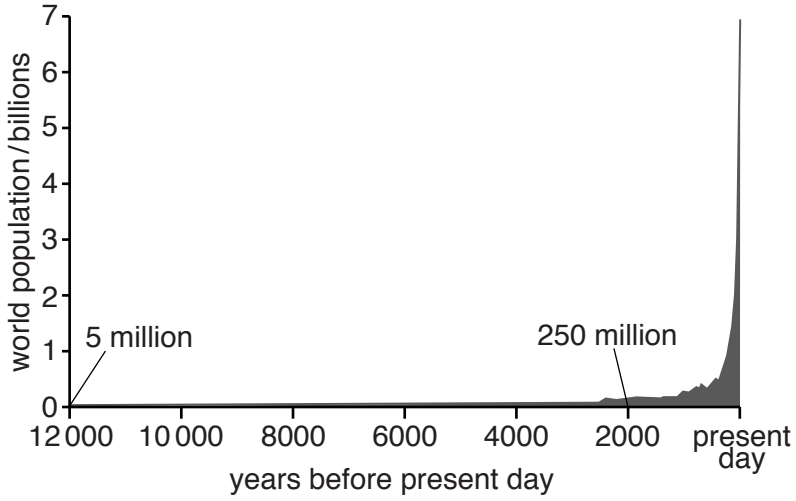
5 **(a)** Look at the graph below, which shows world population from 12 000 years ago until the present day.



(i) Describe the pattern shown on the graph.

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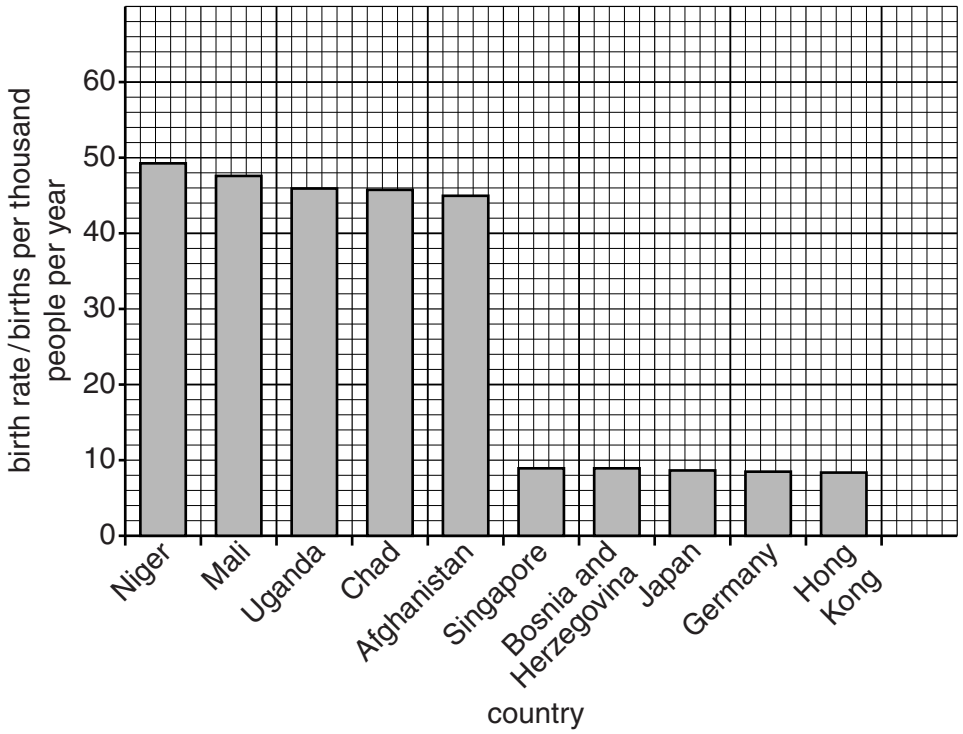
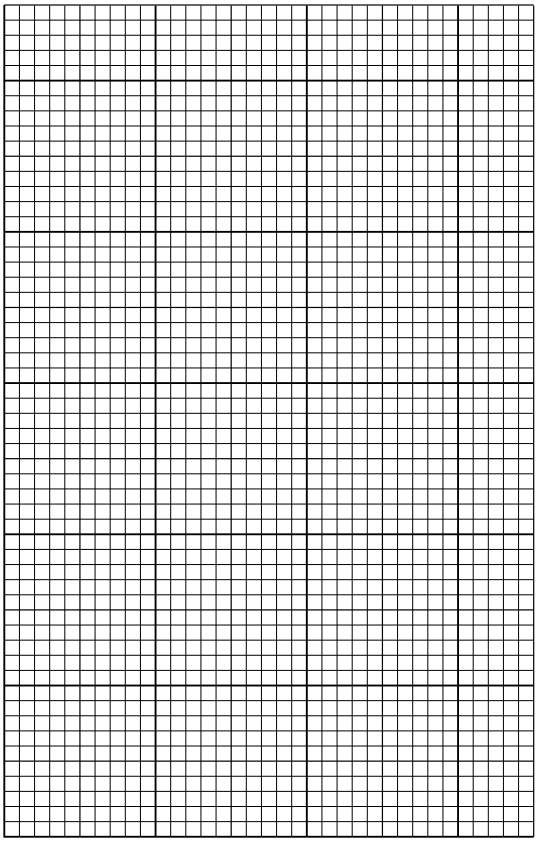
(ii) Birth rate is the number of births per thousand people per year. The graph shows the countries with the highest and lowest birth rates in the world in 2010.



The birth rates for the five countries with the lowest rates are shown below.

country	birth rate / births per thousand people per year
Singapore	8.9
Bosnia and Herzegovina	8.9
Japan	8.6
Germany	8.4
Hong Kong	8.2

Plot the values for the five low birth rate countries on the grid below, choosing an appropriate scale so that the differences between them are clearer.



[3]

(iii) Suggest **two** reasons to explain why some countries have very high birth rates and others have very low birth rates.

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(b) If birth rates are higher than death rates, populations will grow. Populations also change as a result of the movement of people (migration). State **two** push factors that explain why people might move from rural to urban areas.

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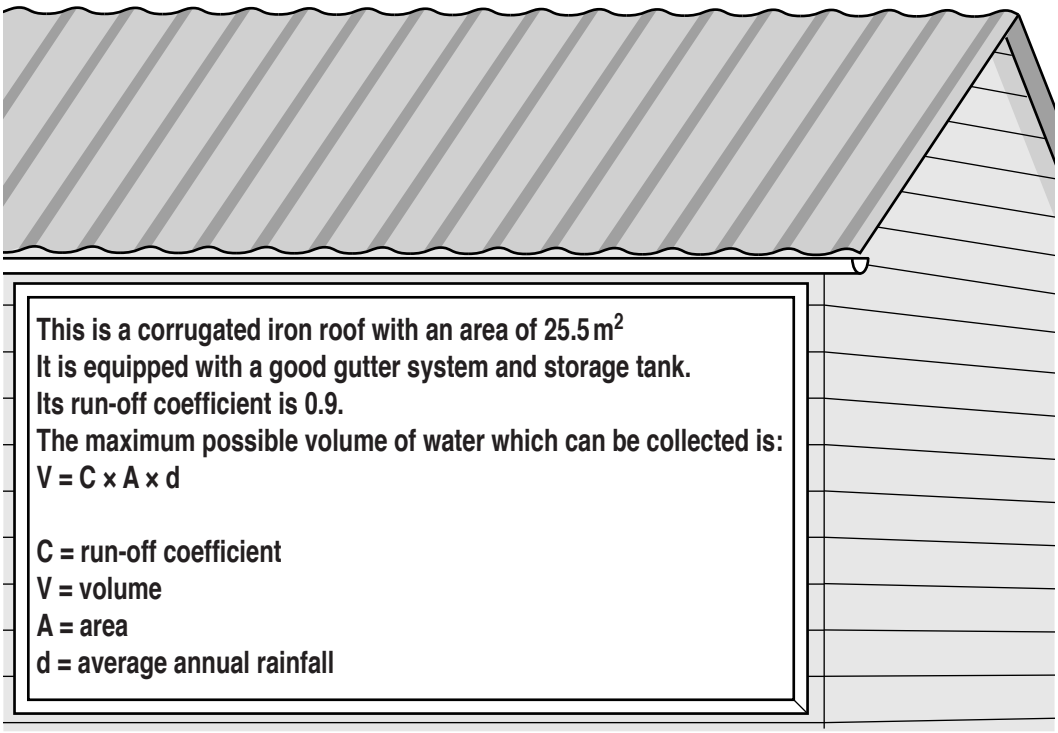
6 **(a)** Look at the sign below, which shows information about rainwater collection in a park in Zambia.



(i) Calculate the annual volume of water available (V) from this roof using the data on the sign. The average annual rainfall (d) in this region is 1 m per year.

The formula is $V = C \times A \times d$

Space for working.

..... m^3 per year [3]

(ii) Explain how water from oceans, seas and lakes falls on the Earth's surface as rain.

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(iii) Explain why people in some parts of the world should not use water from ponds and lakes for drinking or washing.

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(b) Oceans are a source of food. Explain why some of the world's most important fishing grounds are found on continental shelves.

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