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Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

3390402986

ENVIRONMENTAL MANAGEMENT **0680/11**

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.

This document consists of **12** printed pages.

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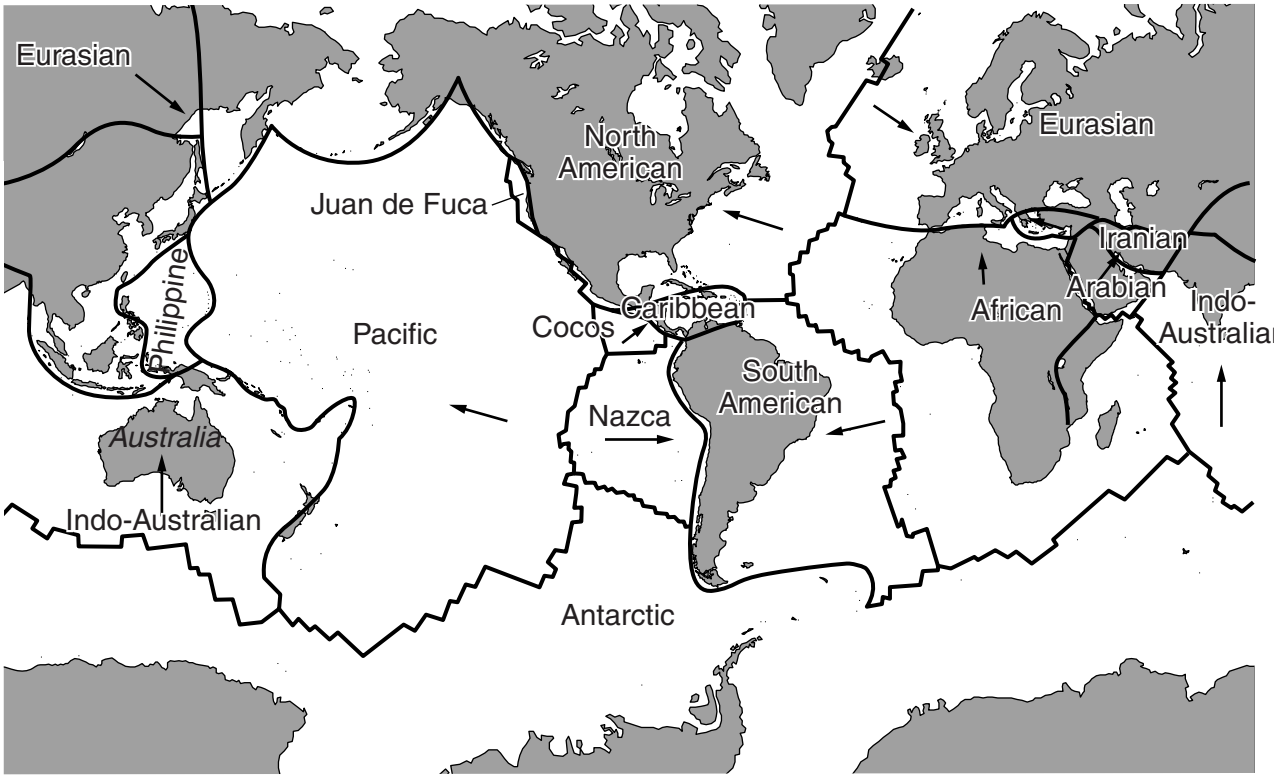
1 Study the map below showing the Earth's tectonic plates and their directions of movement.



(a) (i) Name **one** plate that is moving north and **one** oceanic plate.

plate moving north .....

oceanic plate .....

[2]

(ii) Suggest why there are no active volcanoes in Australia.

.....

.....[1]

(iii) A city is located 30° south of the equator and is on a plate which is moving at 10 cm a year.

If 1° = 440 km, how many years would it take for the city to end up on the equator?

Show your working.

..... years [3]

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(b) Suggest and explain reasons why some people choose to live near a volcano.

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.....[4]

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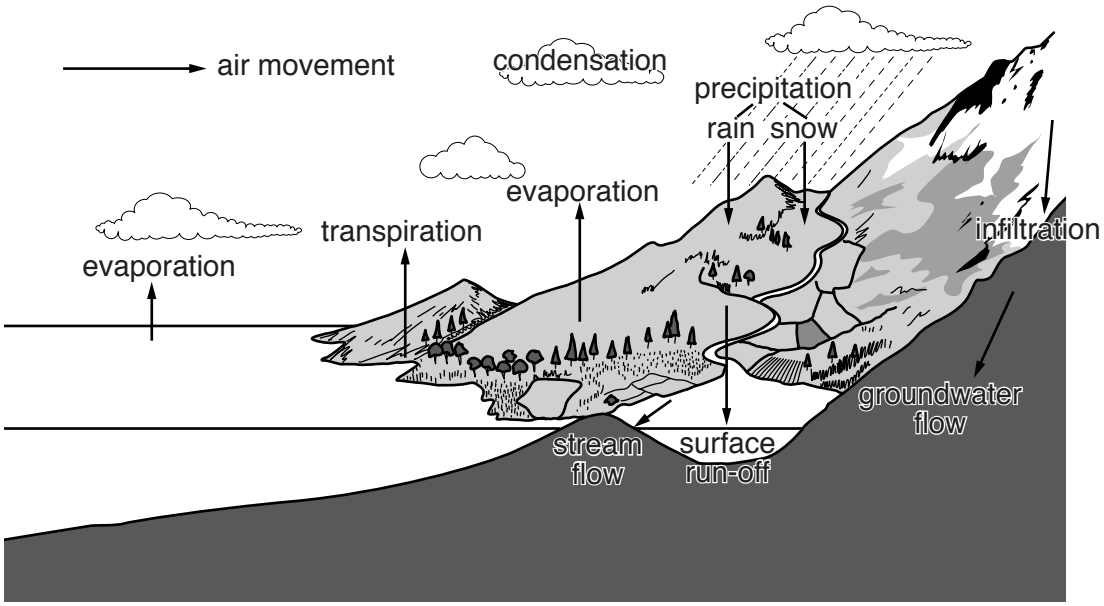
2 **(a)** Over 70% of the Earth's surface is water. Most of the water is salty and is not suitable for drinking by humans. Salt water is made into fresh water by the action of the sun in the water cycle.

With the aid of the diagram below explain how salt water is made into fresh water in the water cycle.



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.....[3]

(b) Ghana is a developing country in West Africa with a population of 25 million. Seven million people in Ghana do not have access to clean safe water.

(i) What percentage (%) of the population of Ghana does not have access to clean safe water?

Show your working.

..... % [2]

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(ii) Explain **two** ways in which fresh water might not be safe to drink.

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.....[3]

(iii) Suggest how water that is safe to drink might be supplied to a village in Ghana.

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.....[2]

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3 (a) (i) Complete the following passage about the gases which make up the Earth's atmosphere, by filling in the missing words.

The Earth's atmosphere is a mixture of gases. The most abundant gas is ..... , followed by ..... . A gas which makes up less than 0.04% of the atmosphere but from which plants make food is ....

High up in the atmosphere is the ..... layer which absorbs UV radiation from the Sun. [2]

(ii) Explain why it is important for life on Earth that most UV light is screened out at the top of the atmosphere.

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.....[2]

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(b) Look at the photograph below of a sign on a fuel pump at a petrol (gasoline) station.



(i) Why is it important that petrol is unleaded?

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.....[2]

(ii) The ethanol in the fuel is made from organic materials.

Explain the environmental benefits of using ethanol rather than petrol.

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.....[4]

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4 In 1937 an area of agricultural land around Machakos in Kenya was described like this:

'The Machakos Reserve is a large area of land on which uncontrolled agricultural development has occurred. The local people have misused the land and this has caused hopeless and miserable poverty. Their farmland is turning into a desert of rocks, stones and sand.'

(i) Describe how the land could have been misused.

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.....[4]

(ii) In 1937 the population of the area was about 250 000, by 1990 it was 1 500 000. How many times bigger was the population in 1990 than it was in 1937?

Show your working.

..... times [2]

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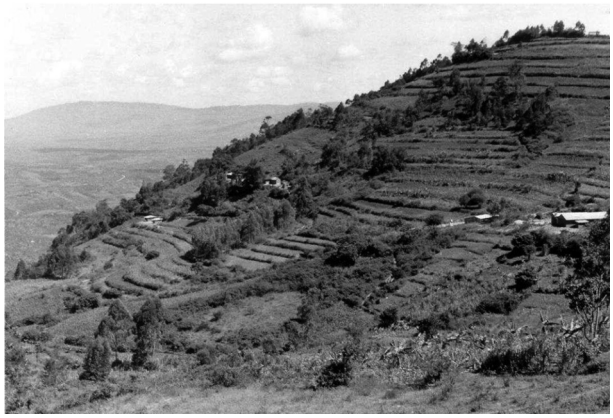
(iii) Although the population has increased, the soil is now much better for farming than it was in 1937.

Look at the photographs below showing the same area in 1937 and 1990. Describe the changes in the photographs that show how the soil has been conserved. Explain how these changes have conserved the soil.



1937



1990

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5 **(a)** The table shows crop yields in a developing and a developed country.

	developing world country	developed world country
yield of cereals per hectare / tonnes	2.2	3.9
yield of roots and tubers per hectare / tonnes	13.8	29.2

(i) How much more total crop yield is produced in the developed world country than in the developing world country?

Show your working.

..... tonnes [2]

(ii) Suggest reasons for the low total crop yield in the developing country.

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.....[3]

(iii) Describe ways in which a developing country might increase its agricultural yields.

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(b) What are the disadvantages of farmland in a developing country being used to grow biomass for fuel?

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.....[2]

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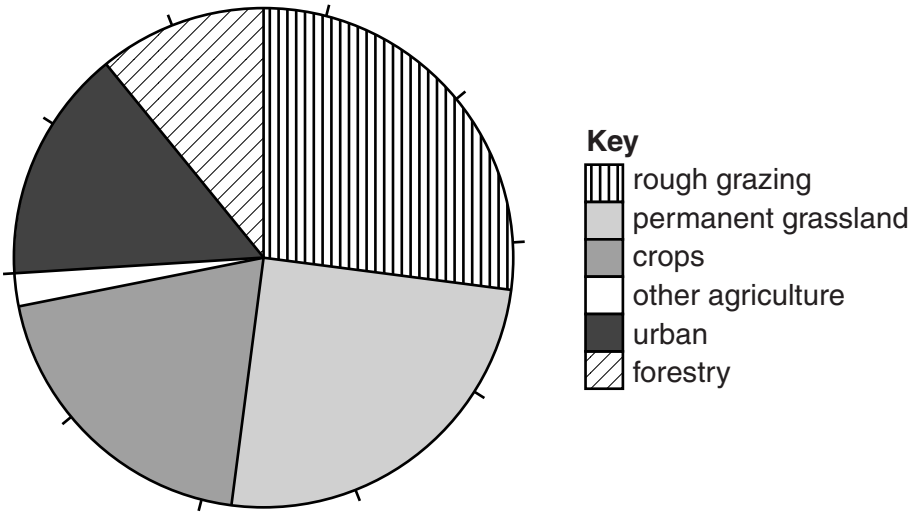
6 The pie graph shows land use in a developed country in 2009.



(a) (i) What percentage of this land was urban in 2009?

..... [1]

(ii) Extensive and intensive are two systems of farming. The following are some of the impacts that farming may have:

- overuse of pesticides and inorganic fertilisers
- crops requiring irrigation
- traditional crop varieties disappearing
- overproduction and waste in developed countries
- concentration of land owned by fewer people
- environmental damage, such as pollution and soil erosion
- habitat loss

Which system of farming, extensive or intensive, contributes most to such impacts? Explain your choice.

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(b) Human uses of the natural environment often lead to habitat destruction. Describe how conservation organisations such as UNEP, IUCN, WWF and CITES might help to reduce habitat destruction and its effects.

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.....[4]

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