UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME	
CENTRE NUMBER	
CANDIDATE NUMBER	

2801707504

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 **October/November 2011**

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 a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

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.

For Examiner's Use	
1	
2	
3	
4	
5	
6	
Total	

This document consists of **10** printed pages and **2** blank pages.

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1 **(a)** **(i)** The Earth's atmosphere consists of a mixture of gases.

Which gas in the atmosphere is used in respiration?

.....[1]

(ii) Which atmospheric gas can fall to the ground in the form of precipitation?

.....[1]

The poster below shows a slogan in a shop window.

Climate Change Costs Lives



(b) **(i)** What is meant by 'Climate Change' in the slogan?

.....[1]

(ii) Explain how humans, by their use of fossil fuels, may be causing climate change.

.....

.....

.....

.....

.....[3]

(iii) State **two** ways in which people could reduce their use of fossil fuels.

.....

.....[2]

(iv) Suggest how climate change might 'cost lives'.

.....

.....

.....[2]

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2 The photographs below show two early stages in a process called vegetational succession on the bare rock surface of a wall.

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A



B



(a) (i) Which photograph shows the earlier stage in the vegetational succession?

photograph ..... [1]

(ii) What vegetation types can be seen in the photographs?

.....

.....[1]

(iii) Describe how and why the vegetation would change on a rock surface in a warm, wet climate over many years.

.....

.....

.....

.....

.....

.....[4]

(iv) When different plant species share the same habitat they are said to be in competition. What does this mean?

.....[1]

(b) Farming has led to the removal of natural vegetation from an area. The vegetation is replaced with crops for human or animal use.

Describe the consequences for wildlife when vegetation is removed for farming.

.....

.....

.....[3]

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3 The table below shows the location and relative sizes of all the known oil reserves around the world.

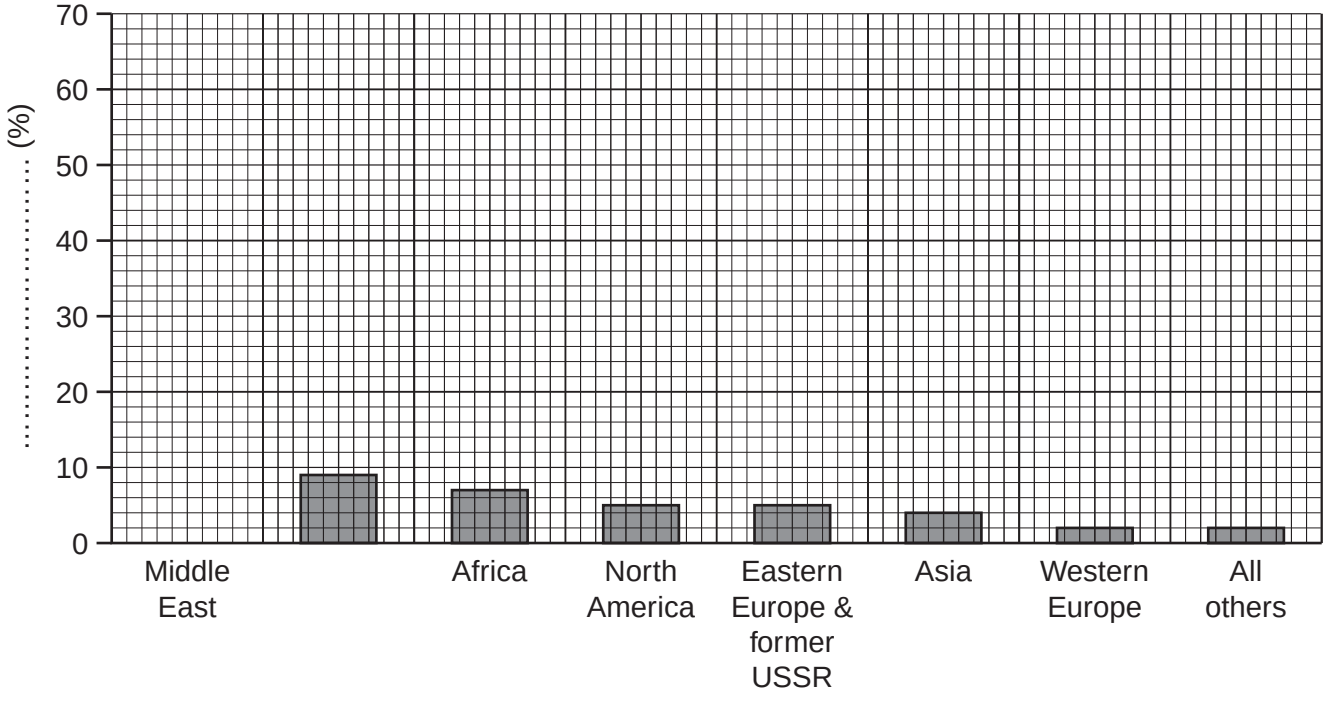
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region	percentage of total world oil reserve
Middle East	
Central and South America	9
Africa	7
North America	5
Eastern Europe and former USSR	5
Asia	4
Western Europe	2
All others	2

(a) (i) Calculate the percentage of world oil reserves in the Middle East.

..... % [1]

(ii) Complete the graph below by adding the data for the Middle East, a suitable title for the Y-axis and the missing region. [3]



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(iii) Give an advantage and a disadvantage of the majority of oil being located in the Middle East.

.....

.....

.....

.....[2]

(b) Oil and coal are both fossil fuels. The table below shows the percentage of electricity generated from coal in nine countries or regions.

country/region	percentage of electricity obtained from coal
South Africa	93
China	82
Australia	80
India	75
USA	51
South Korea	36
Europe	30
Russia	30
Japan	22

(i) What percentage of electricity is provided from sources **other** than coal in China?

.....[1]

(ii) Suggest why there is such variation in reliance on coal.

.....[1]

(iii) Suggest **two non-fossil fuel** alternatives to coal that these countries may use.

.....

.....

.....[2]

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4 (a) (i) What is an El Nino event?

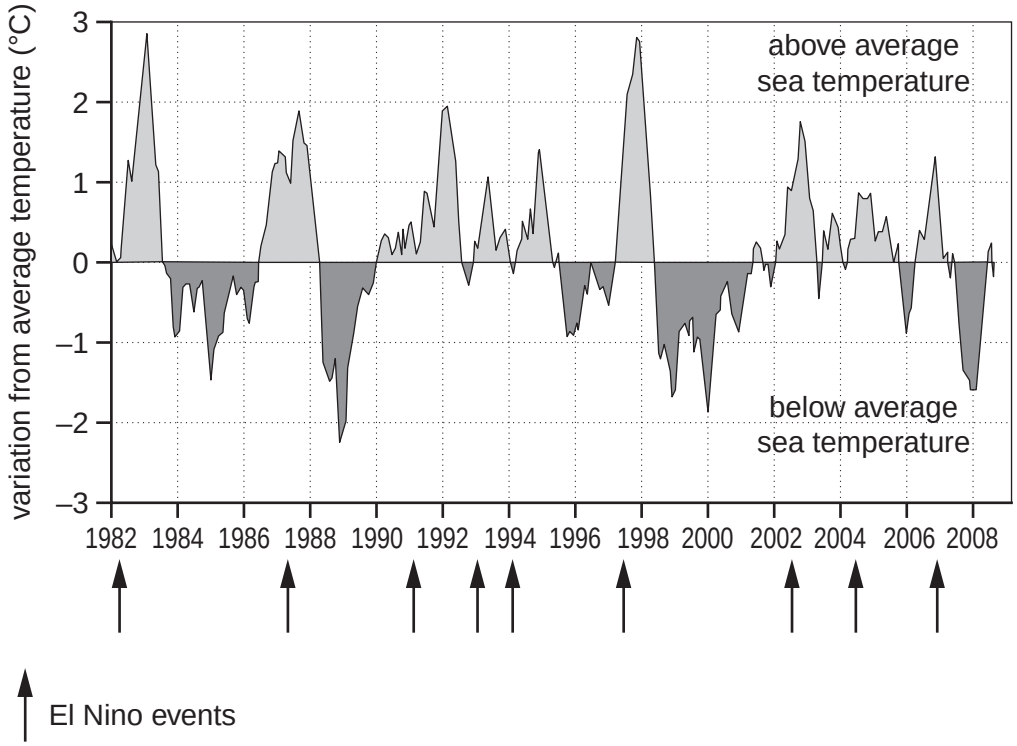
.....

.....

.....

.....[2]

The graph below shows variations in sea surface temperatures in the Pacific.



(ii) Using data from the graph describe how sea surface temperature and El Nino events are linked.

.....

.....

.....

.....[2]

(iii) During an El Nino event fisheries off the coast of Peru decline. Why?

.....

.....

.....

.....[3]

(b) An El Nino event in Peru brings torrential rainfall and floods to the normally desert areas.

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Describe the ways in which improved weather forecasting allows earlier warnings of an El Nino event.

.....

.....

.....

.....

.....

.....[3]

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5 Water is essential to life on Earth. It is one of the chemical substances from which plants can make food (sugar), with oxygen as a byproduct.

(a) (i) Complete this word equation which shows how plants make food.

using energy from .....

water + ... ⟶ sugar + oxygen [2]

(ii) What is the name of the process shown by the equation?

.....[1]

(iii) If crops have too little water, what technique can a farmer use to help to improve crop yield?

.....[1]

(b) People in households in some countries use a lot of water. Sometimes there may be shortages.

Read the following passage from a UK newspaper.

Water companies have said that a wet November and normal rainfall during December, January and February will refill reservoirs in Kent in South East England. Water conservation will only be needed if the winter is dry so reservoirs do not refill and if Kent experiences drought conditions like those of 2006.

Households in Kent can help by using water efficiently and conserving supplies using some simple measures.

(i) Explain what the newspaper means by drought.

.....

.....[2]

(ii) Suggest **two** simple measures that households could take to 'use water efficiently'.

.....

.....[2]

(iii) How could the water supply companies help to conserve water?

.....

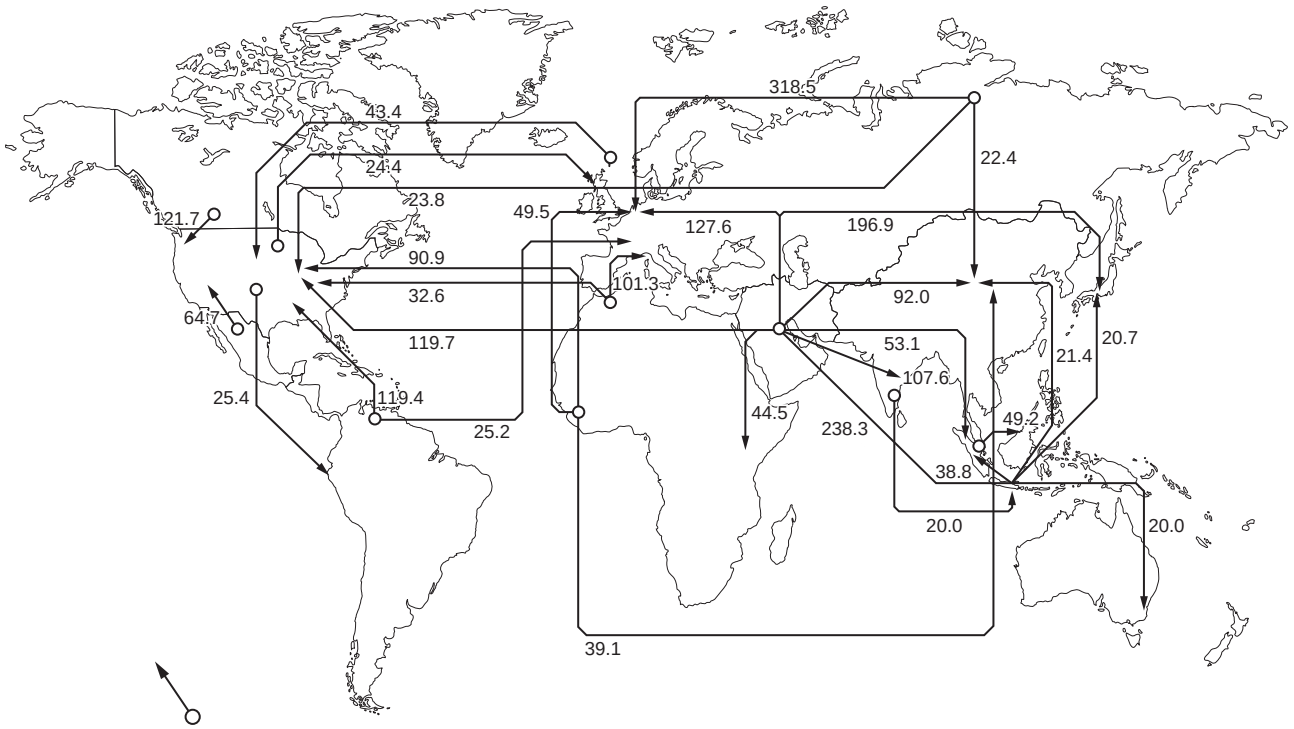
.....[2]

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6 Countries trade in commodities such as minerals, timber, gold and oil.

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Oil trade in 2008



Exports from white circle to arrow.
Numbers indicate millions of tonnes of oil

(a) (i) Put the letter **A** on the map to show the largest exporter of oil. [1]

(ii) Put the letter **B** on the map to show the largest importer of oil. [1]

(iii) How much more oil (in millions of tonnes) was exported from South America than was imported?

[2]

(iv) Is oil traded from the poor South to the rich North? Explain your answer.

.....

.....

.....[1]

(b) (i) Ghana is a leading exporter of cocoa beans. UK companies import the cocoa beans to make chocolate.

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Explain why the farmers remain poor whilst the UK companies make good profits.

.....

.....

.....

.....[2]

(ii) Ghana's other main exports are timber and gold. Suggest reasons why Ghana does not export chocolate, furniture and gold jewellery.

.....

.....

.....[3]

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