UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Subsidiary Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

6579123409

ENVIRONMENTAL MANAGEMENT **8291/01**

Paper 1 Lithosphere and Atmosphere **October/November 2012**

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper

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, tables or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Section A
Answer **all** questions.
Write your answers in the spaces provided on the question paper.

Section B
Answer **one** question from this section.
Answer the question on the separate answer paper provided.

At the end of the examination,
1. fasten all separate answer paper securely to the question paper;
2. enter the question number from Section B in the grid opposite.

	For Examiner's Use
Section A	
1	
2	
Section B	
Total	

This document consists of **11** printed pages and **1** blank page.

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Section A

Answer **all** questions in this section.

Write your answers in the spaces provided.

For Examiner's Use

1 **(a)** Study Fig. 1.1 which contains information on the relative global importance of different sources of energy for 2006.

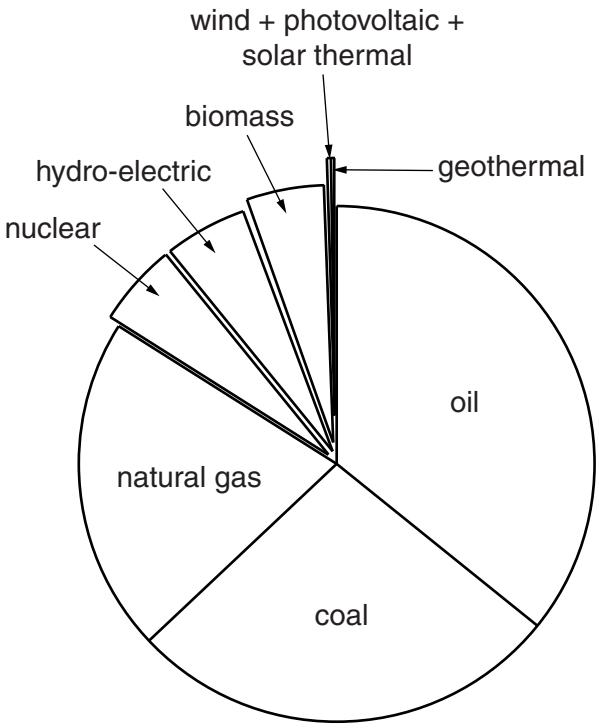

Fig. 1.1

(i) List the sources of energy shown in Fig. 1.1 that are classified as *renewable* and *non-renewable*.

- renewable .....

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  .....[2]

- non-renewable .....

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  .....[2]

For Examiner's Use

(ii) Suggest **two** reasons for the dominance of coal, oil and natural gas as sources of energy.

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(iii) Explain why nuclear energy and hydro-electric power each make relatively small contributions as energy sources.

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(iv) Suggest how the relative global importance of the sources of energy might change over the next 25 years.

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(b) Outline **two** advantages and **two** disadvantages of the source of energy shown in Fig. 1.2.

For Examiner's Use

Fig. 1.2

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[Total: 20]

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2 **(a)** Fig. 2.1 is a climatic chart that shows temperature and rainfall for two cities, **A** and **B**. For each city two lines are drawn: one to show the mean monthly high temperatures and one to show the mean monthly low temperatures.
Study the chart and answer the questions that follow.

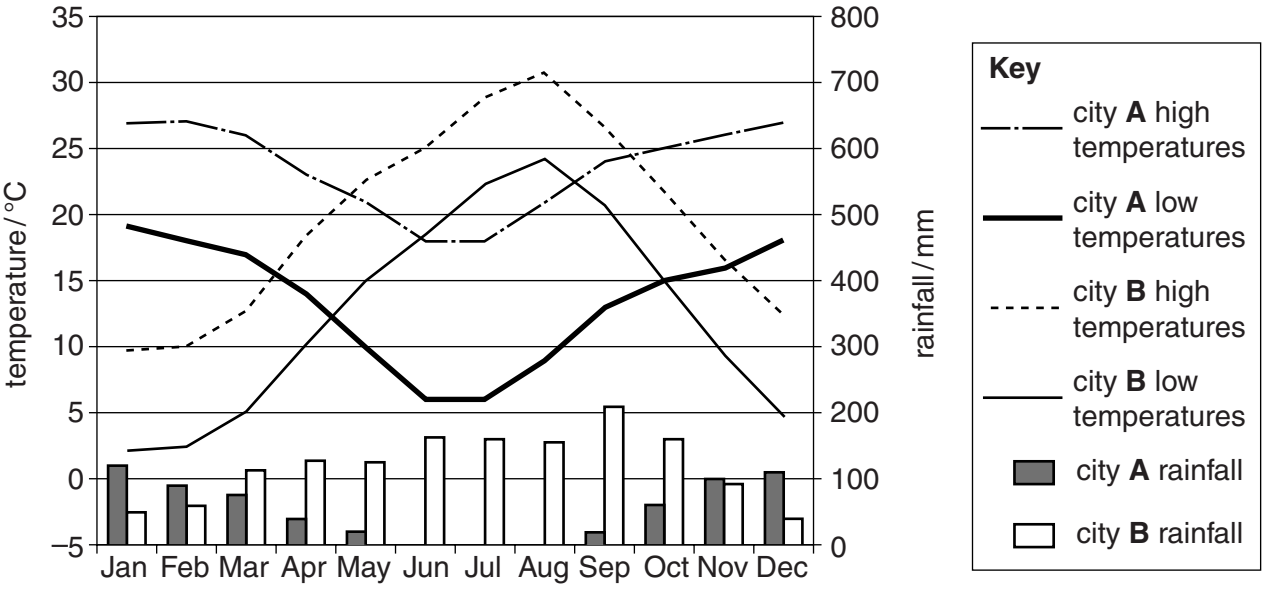

Fig. 2.1

(i) State **one** piece of evidence that shows that city **A** is in the southern hemisphere and city **B** in the northern hemisphere.

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.....[1]

(ii) In climatic charts of this type, why are figures for temperatures and rainfall given as averages, often over a 25 year period?

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.....[2]

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(iii) Describe **two** similarities in the patterns shown by the temperature distribution for cities **A** and **B**.

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.....[2]

(iv) Describe **two** differences in the patterns shown by the temperature distribution for cities **A** and **B**.

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(v) Describe how the distribution of rainfall for cities **A** and **B** could affect agricultural activity.

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(b) Current information about climatic change leads some nations to be concerned about trends in precipitation. The mean cumulative rainfall for the four months from the start of August, for the Yangtze Valley in China, over the 100 years from 1900 to 2000, was approximately 400 mm.

Fig. 2.2 shows the cumulative rainfall for these four months, for the Yangtze Valley, between 2000 and 2003.

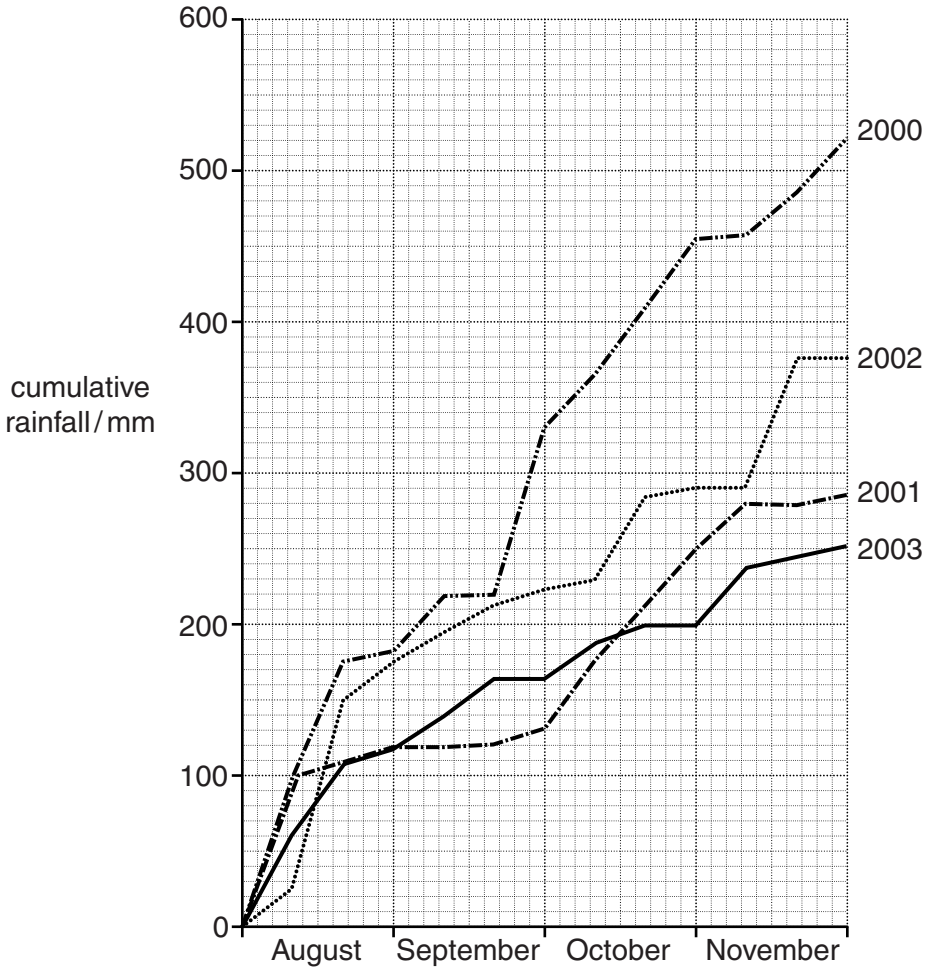

Fig. 2.2

(i) Using Fig. 2.2, suggest what is meant by the term *cumulative rainfall*.

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..... [2]

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(ii) A student concluded that Fig. 2.2 showed that there was a trend towards decreasing rainfall between 2000 and 2003.

Suggest and explain **two** reasons for environmental concern arising from a trend towards decreasing rainfall in a region.

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(iii) Another student suggested that it was not possible to tell, from the data in Fig. 2.2, if there was a trend towards decreasing rainfall between 2000 and 2003.

Suggest and explain what further information would be required in order to be more certain whether or not there was a trend towards decreasing rainfall in a region.

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[Total: 20]

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Section B

Answer **one** question from this section.

3 **(a)** Fig. 3.1 is a road and rail noise map for part of the city of Bristol (UK). The shading in the key is graduated according to the level of noise measured in decibels. 20 dB (= low) to 70 dB (= high).

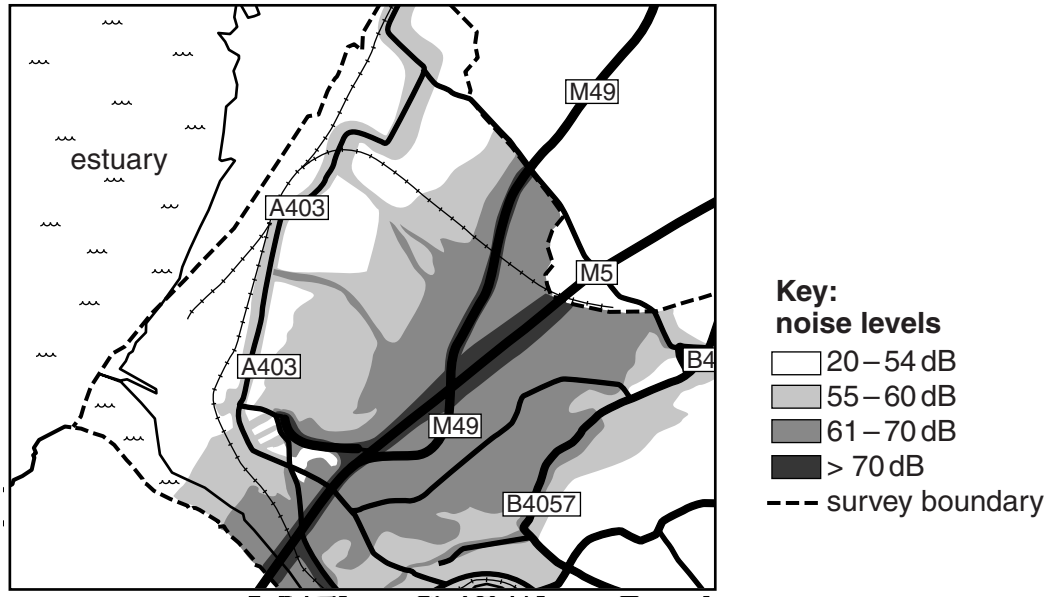

Fig. 3.1

Briefly describe and explain the distribution of noise pollution shown in Fig. 3.1. [10]

(b) With reference to examples with which you are familiar, assess how effectively noise pollution is kept to an acceptable level. [30]

[Total: 40]

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4 **(a)** Fig. 4.1 shows the percentage of deaths from natural hazards in the USA.

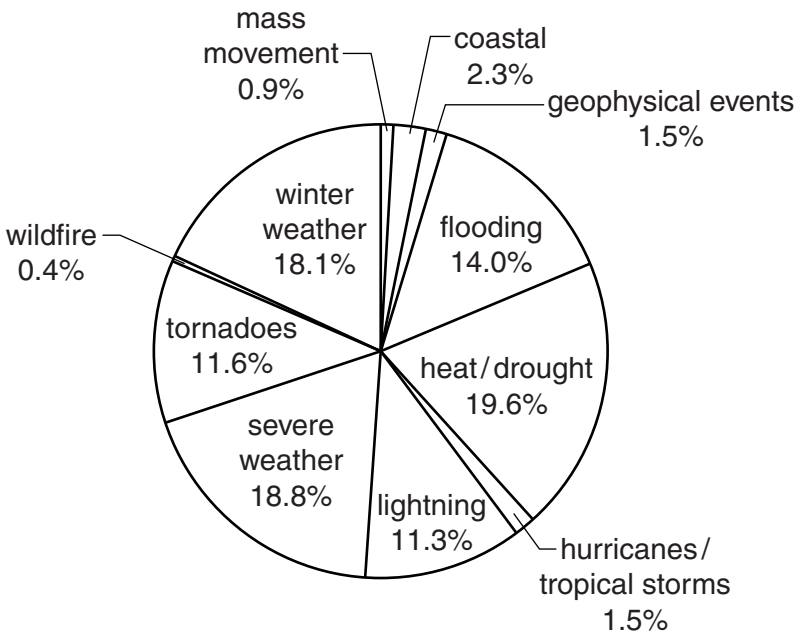

Fig. 4.1

Give **three** reasons why deaths from hurricanes/tropical storms, geophysical events (earthquakes and volcanoes) and mass movement are far fewer than deaths from the other natural hazards shown in Fig. 4.1. [10]

(b) With reference to an LEDC or MEDC you have studied, describe its vulnerability to natural hazards and assess how effectively it copes with the associated risks. [30]

[Total: 40]

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5 **(a)** Fig. 5.1 shows a coastal cliff in Southern England (UK).

Fig. 5.1

Briefly describe and explain the effect that rising sea levels may have on the slope profile of these cliffs. [10]

(b) Mass wasting on sloping land due to natural processes and human activity can become a major environmental problem. With reference to urban areas you have studied, describe the causes and effects of mass wasting. Assess the measures that have been taken to manage this issue of mass wasting. [30]

[Total: 40]

Copyright Acknowledgements:

Question 1a Fig. 1.1 © http://news.cnet.com/8301-11128_3-9928068-54.html.
Question 1b Fig. 1.2 © Luis Pedrosa; Ref: 10875238; www.iStockphoto.com.
Question 2a Fig. 2.1 © http://www2m.biglobe.ne.jp/%257EZenTech/English/Climate/Japan/Tokyo-Sydney.htm.
Question 2b Fig. 2.2 © http://www.fas.usda.gov/pecad2/highlights/2003/11/Nov2003/rain.htm.
Question 3a Fig. 3.1 © http://maps.bristol.gov.uk/noisemap/viewer.htm.
Question 5 Fig. 5.1 © http://www.geograph.org.uk/photo/1634767.

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