



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

CANDIDATE
NAME

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ENVIRONMENTAL MANAGEMENT

8291/01

Paper 1 Lithosphere and Atmosphere

May/June 2007

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 ON 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.



Section A

Answer **all** questions in this section.

Write your answers in the spaces provided.

1 Slope stability is a result of natural processes and human activity.

(a) (i) Name **one** physical weathering process that produces angular fragments of rock.

.....[1]

(ii) Name **one** chemical weathering process that produces fine grains of sediment.

.....[1]

(iii) Describe the role of water in **one** of the weathering processes you have named in **either** (i) **or** (ii).

.....
.....
.....[2]

(b) Fig. 1.1 shows a hill slope in which weathered angular fragments of rock rest on the surface.

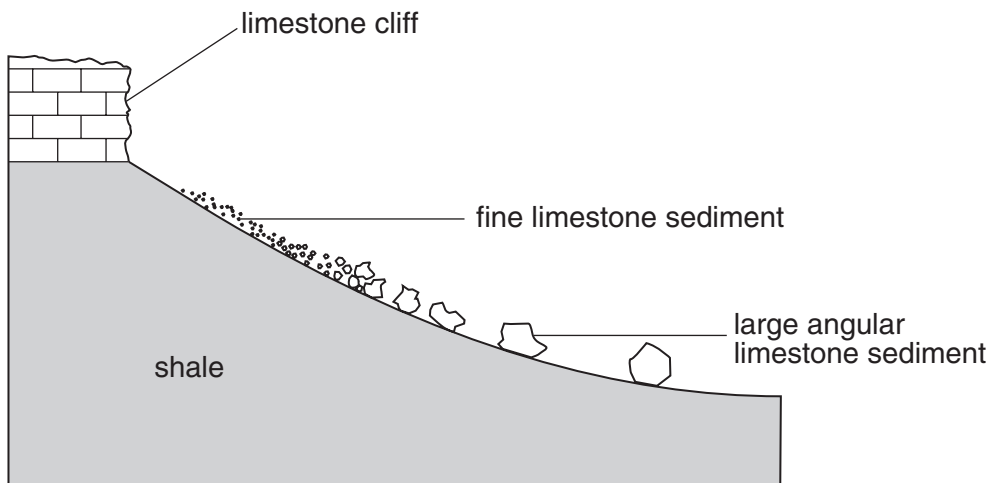


Fig. 1.1

2 (a) (i) What is meant by the terms *low atmospheric pressure* and *high atmospheric pressure*?

low atmospheric pressure

.....

high atmospheric pressure

.....[2]

(ii) Explain how variations in atmospheric pressure at sea level will cause a horizontal movement of air across the Earth's surface.

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.....[2]

(iii) For **either** the northern hemisphere **or** the southern hemisphere, describe how the Earth's rotation will influence the horizontal direction in which air moves between areas of different atmospheric pressure.

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.....[2]

(b) Fig. 2.1 is a cross-section between two places, **X** and **Y**, showing the likely passage of weather events associated with a temperate cyclonic weather system.

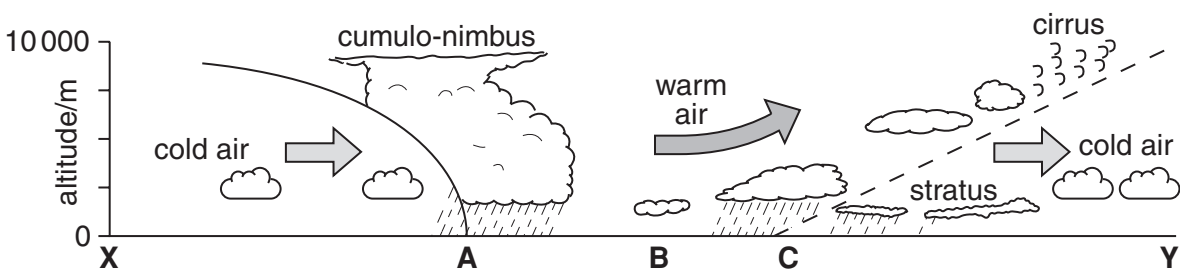


Fig. 2.1

Fig. 2.2 is a barometric chart of the temperate cyclonic system.

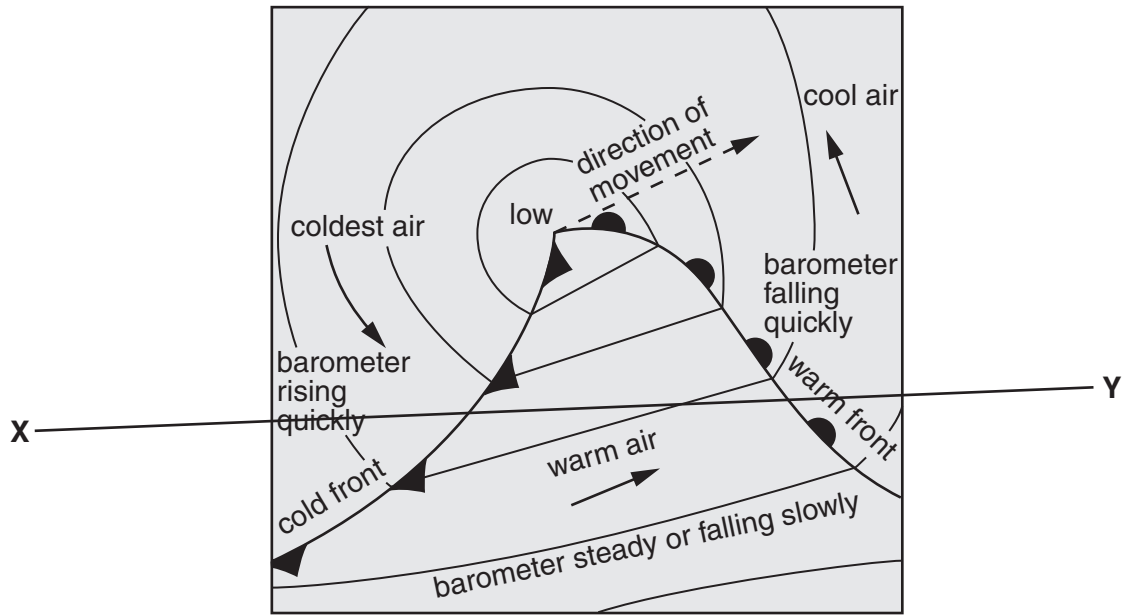


Fig. 2.2

(i) Mark the positions **A**, **B** and **C** from Fig. 2.1 onto their correct positions along line X–Y on the barometric chart (Fig. 2.2). [3]

(ii) Describe and explain the weather conditions occurring at points **A**, **B** and **C**.

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.....[6]

(iii) Explain why charts such as Fig. 2.2 are useful in making **short term** weather forecasts.

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.....[2]

(iv) Outline and justify **one** method that could be used to make reasonably accurate **long term** weather forecasts.

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..... [3]

[Total: 20]

Section B

Answer **one** question from this section.

Write your answers on the separate answer paper provided.

- 3 (a) Describe the trends in Primary Energy Consumption by Energy Source between 1970 and 2025 that are shown in Fig. 3.1. [10]

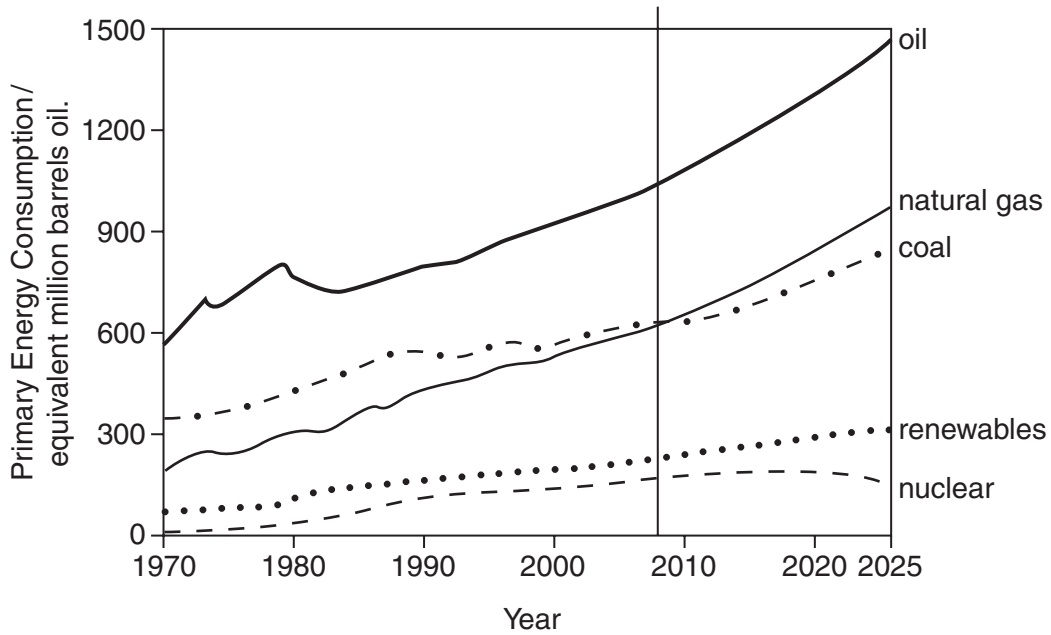


Fig. 3.1

- (b) To what extent do developing countries find it more difficult than developed countries to conserve non-renewable resources? Illustrate your answer using examples you have studied. [30]

[Total: 40]

- 4 (a) Fig. 4.1 contains data on emissions of CO₂, per person and from the country as a whole, for selected countries in 1995.

Emissions of CO₂ for selected countries in 1995

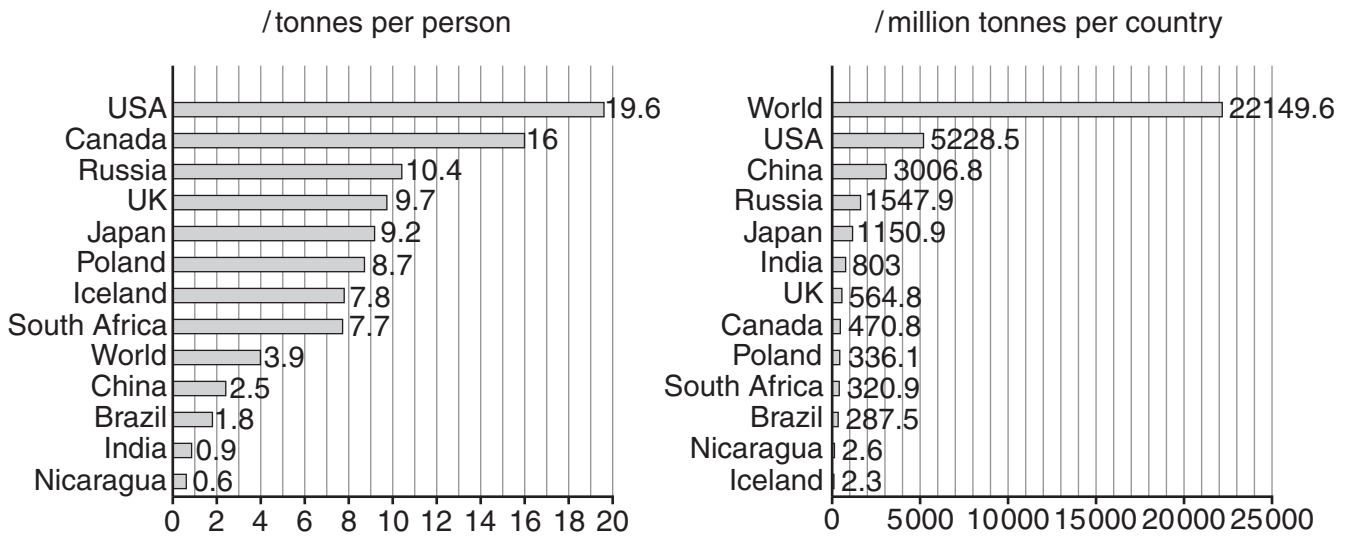


Fig. 4.1

Outline **three** different ways in which CO₂ emissions per country compare or contrast with emissions per person for selected countries. [10]

- (b) Outline the extent to which current trends in global warming are a product of human activity. Describe and explain the possible impact of global warming upon agricultural activity and human settlement. [30]

[Total: 40]

- 5 (a) Fig. 5.1 shows the pattern of the tsunamis generated by the Indonesian earthquake of 26th December 2004. Explain how and why the impact of these tsunamis varied between places **A**, **B** and **C** on Fig. 5.1. [10]

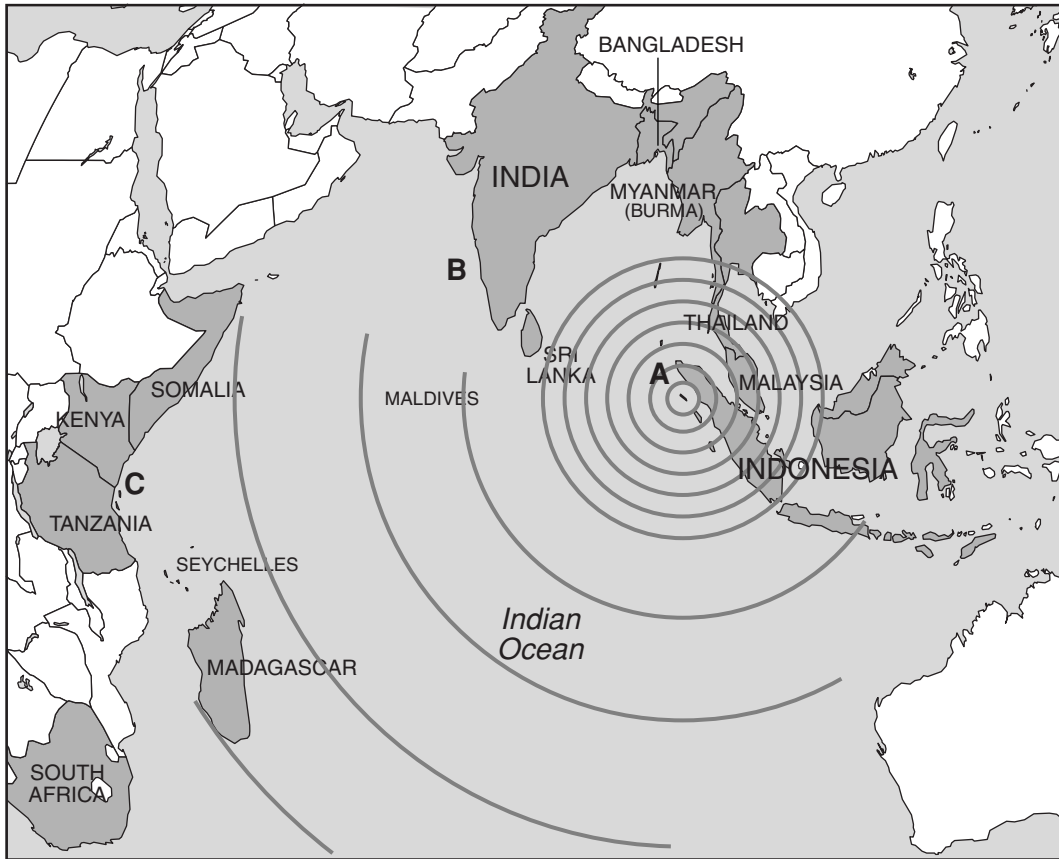


Fig. 5.1

- (b) With reference to examples you have studied, describe and explain the measures that countries might adopt in order to reduce the damaging effects of volcanic eruptions and earthquakes. [30]

[Total: 40]

Copyright acknowledgements:

Question 4 Fig. 4.1 © http://maps.grida.no/go/graphic/emissions_of_co2_selected_countries_1995

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