



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

CANDIDATE
NAME

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ENVIRONMENTAL MANAGEMENT

8291/11

Paper 1 Lithosphere and Atmosphere

May/June 2011

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.



Section A

Answer **all** questions in this section.

Write your answers in the spaces provided.

For
Examiner's
Use

1 (a) What is meant by the term *natural hazard*?

.....
.....[1]

(b) Fig. 1.1 shows patterns for the incidences of floods, tropical cyclones (hurricanes) and earthquakes between 1980 and 2000.

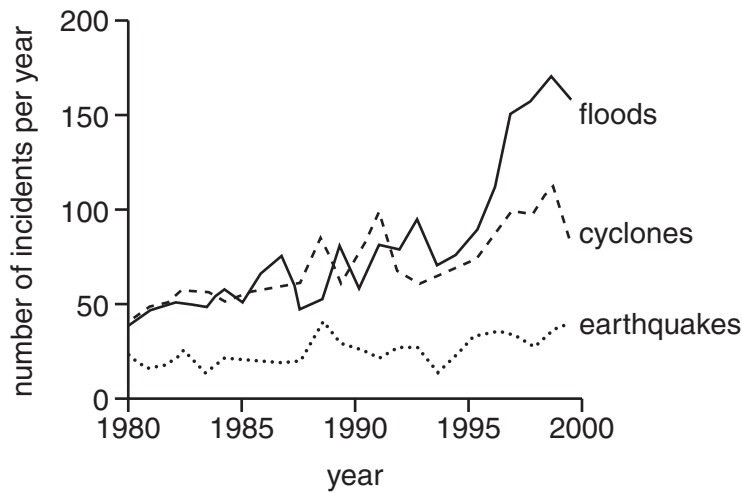


Fig. 1.1

(i) Describe **one** way in which the patterns for floods and tropical cyclones differ from the pattern for earthquakes as shown in Fig. 1.1.

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

(ii) Suggest **one** reason for this difference.

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

(iii) Give **one** reason why incidences of flooding and tropical cyclones can be related to each other.

.....
.....[1]

(iv) Suggest why some incidences of flooding might not be related to tropical cyclones.

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

(c) Fig. 1.2 shows a satellite image of Hurricane Ike which struck Texas in September 2008.

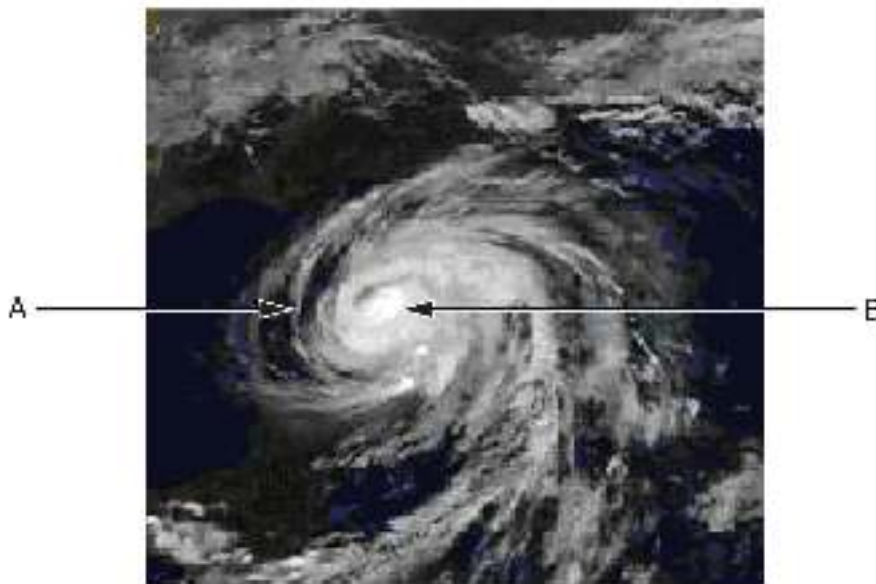


Fig. 1.2

(i) Explain the direction of air circulation shown in Fig. 1.2.

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

- (ii) Describe the weather events that would occur at points A (west of the hurricane), and B (at the centre of the hurricane) in Fig. 1.2.

A

.....

.....

.....

.....

B.....

.....

.....

.....

.....[4]

- (iii) The aerial photographs contained in Fig. 1.3 show part of the Texas coastline before and after the passage of Hurricane Ike. Arrows mark features that can be seen in each photograph.



Fig. 1.3

- 2 (a) Fig. 2.1 is a diagram showing a classification of the major types of mass movements of sediments and rocks.

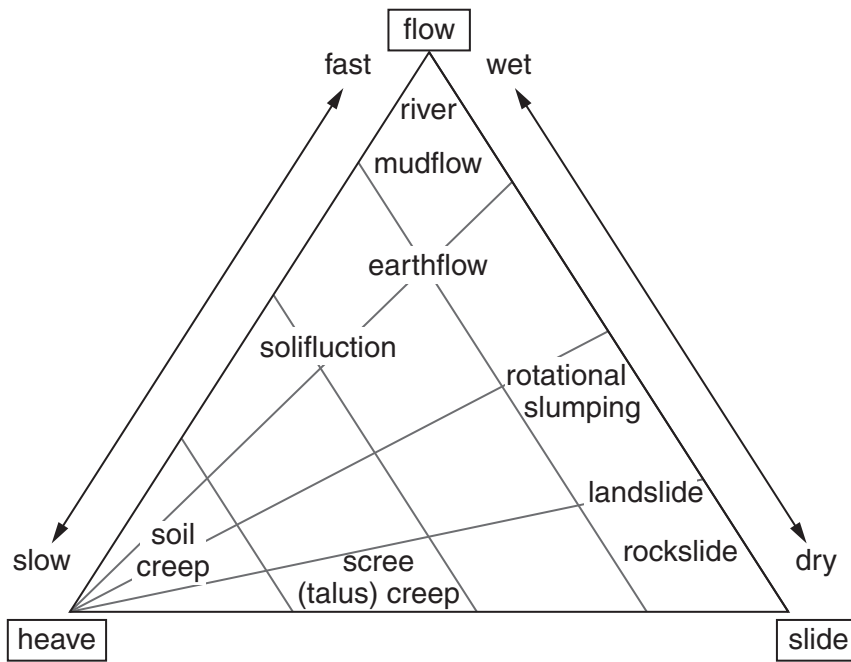


Fig. 2.1

- (i) What is meant by the term *mass movement*?

.....

 [2]

- (ii) From Fig. 2.1 name **one** type of mass movement that is:

- fast and wet
- fast and dry [2]

- (iii) With reference to Fig. 2.1 explain the characteristic features of:

- landslides
-

- solifluction
-

 [4]

Section B

Answer **one** question from this section.

- 3 (a) Briefly describe and explain the patterns of urban atmospheric pollution shown in Fig. 3.1. [10]

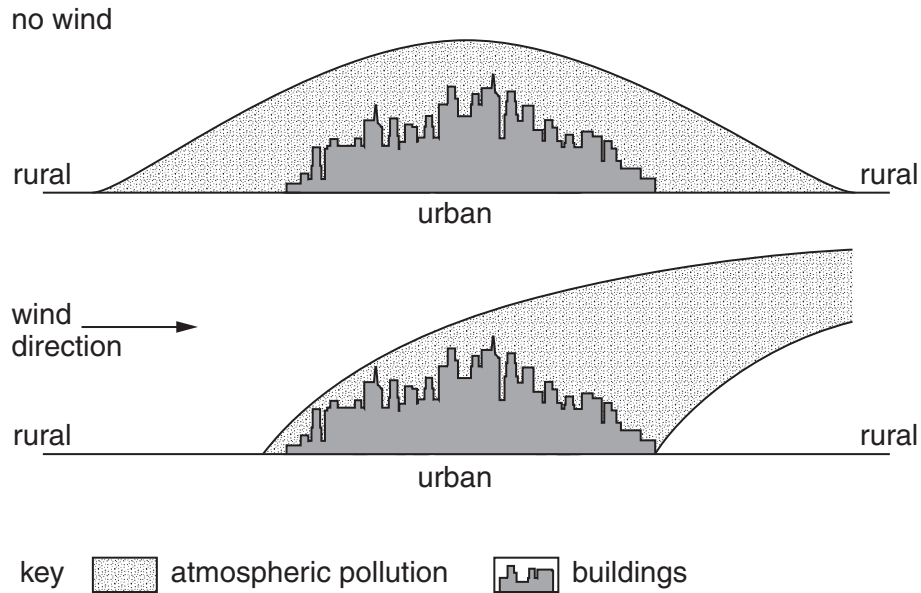


Fig. 3.1

- (b) With reference to at least **one** urban area with which you are familiar, describe the major types and causes of atmospheric pollution and assess the measures that are being used to control this pollution. [30]

[Total: 40]

- 4 (a) Fig. 4.1 shows variations in the receipt of solar radiation reaching the Earth between 1958 and 2003. The dates of three major volcanic eruptions are shown.

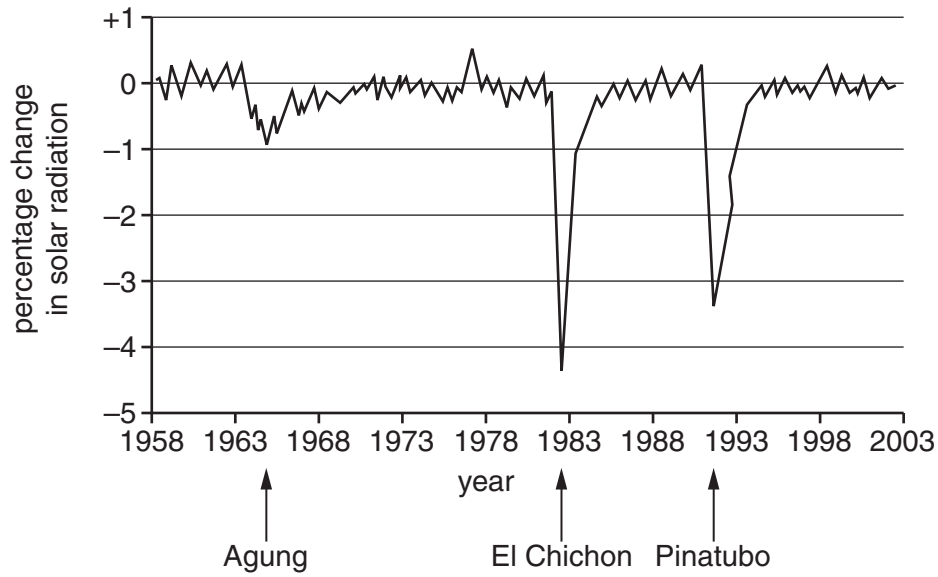


Fig. 4.1

Describe the pattern of solar radiation reaching the Earth. Suggest reasons for the effect that the eruptions of Agung, El Chichon and Pinatubo had on the receipt of solar radiation. [10]

- (b) Assess the contribution that human activity has made to recent changes to the Earth's climate and weather. Suggest **two** reasons why solutions to some of the problems, resulting from recent changes to the Earth's climate and weather, have been difficult to manage. [30]

[Total: 40]

- 5 (a) Fig. 5.1 shows the rate of growth of urban populations for continental areas between 1950 and 2010 with estimates for the period up to 2025.

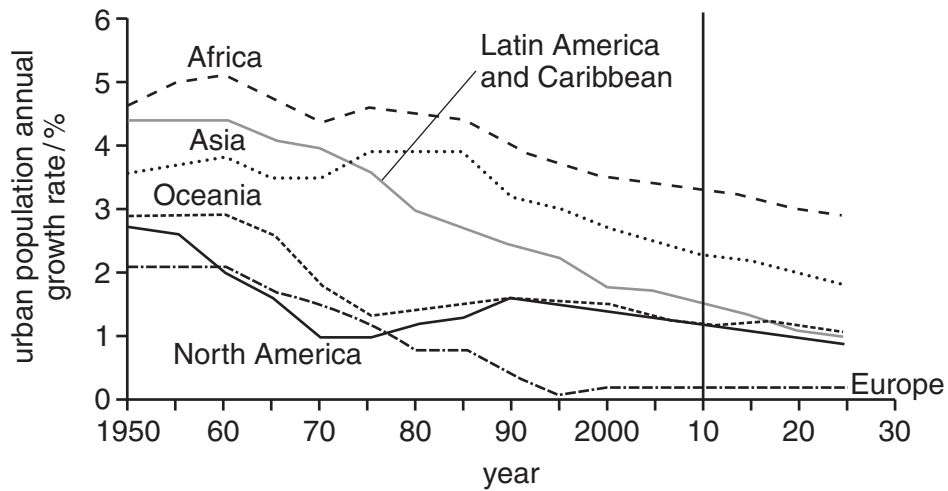


Fig. 5.1

Briefly describe and explain **two** ways in which the trends for LEDCs are different from MEDCs and **one** way in which they are similar. [10]

- (b) With reference to at least **one** city region with which you are familiar, describe the effects rapid urban growth has had on the land as a resource both within and beyond the city. [30]

[Total: 40]

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Copyright Acknowledgements:

Question 1(c) Fig. 1.2 © *Photograph of Hurricane Ike*; Die Welt; www.welt.de/english.news/article2427494/Texas.
Question 1(c) Fig. 1.3 © *Aerial Photographs (Texas)*; USGS; www.geology.com.

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