Cambridge International **AS Level**

Cambridge International Examinations
Cambridge International Advanced Subsidiary Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

ENVIRONMENTAL MANAGEMENT **8291/11**

Paper 1 Lithosphere and Atmosphere **May/June 2015**

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 an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

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.

CAMBRIDGE International Examinations

Section A

Answer **all** questions in this section.

Write your answers in the spaces provided.

1 **(a)** Look at Fig. 1.1 which shows the location of Java in south east Asia and an enlarged cross section of the plate boundary, labelled as line A to B.

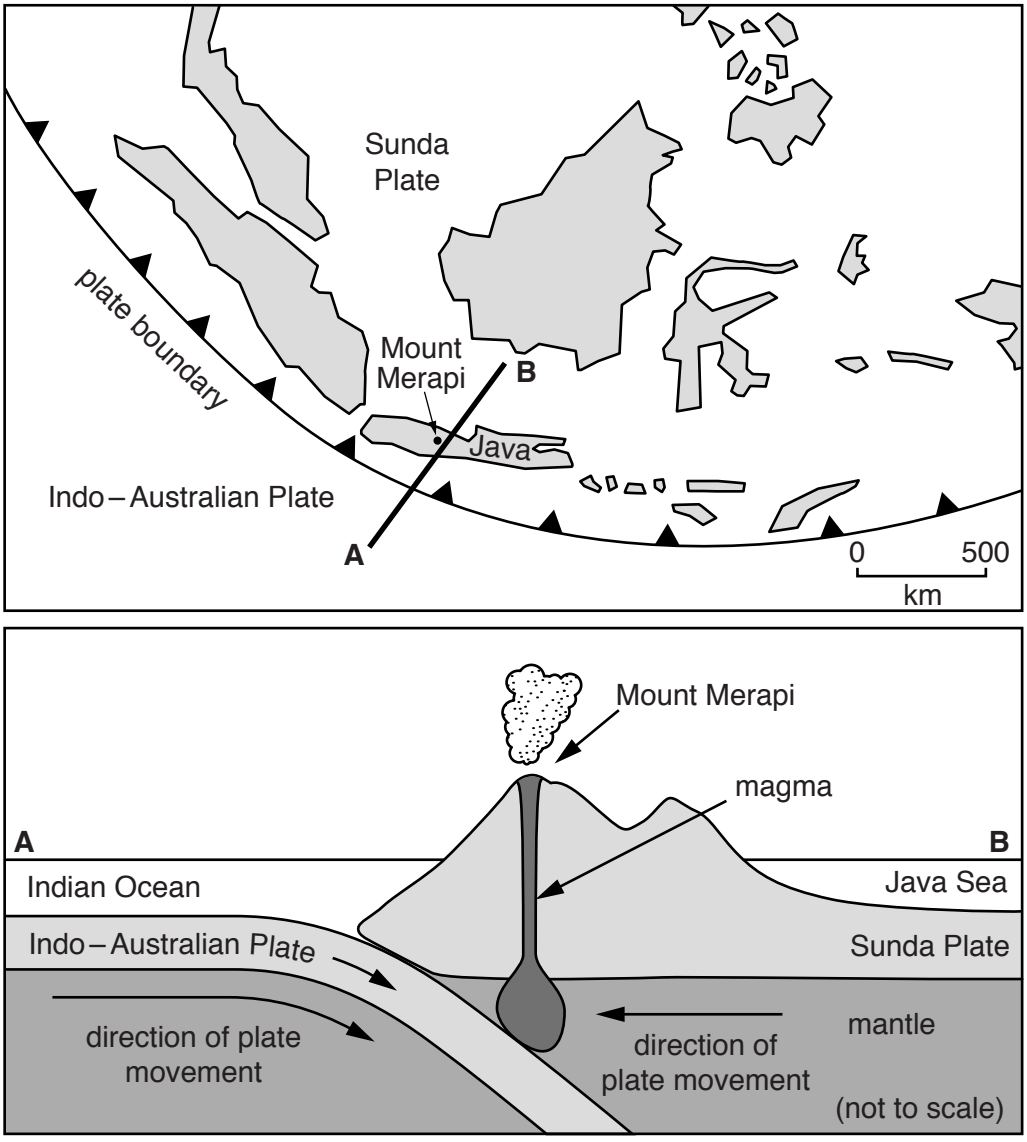

Fig. 1.1

(i) State the type of plate boundary shown in Fig. 1.1.

..... [1]

(ii) Explain the processes that cause volcanic eruptions along the plate boundary shown in Fig. 1.1.

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..... [3]

(iii) Briefly explain why volcanoes on this type of plate boundary are usually steep-sided.

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..... [2]

(iv) Suggest why volcanically active regions, such as Java, often support high population densities.

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..... [2]

[Turn over

(b) Fig. 1.2 shows the volcanic hazards associated with an eruption of Mount Merapi, one of Java's most active volcanoes.

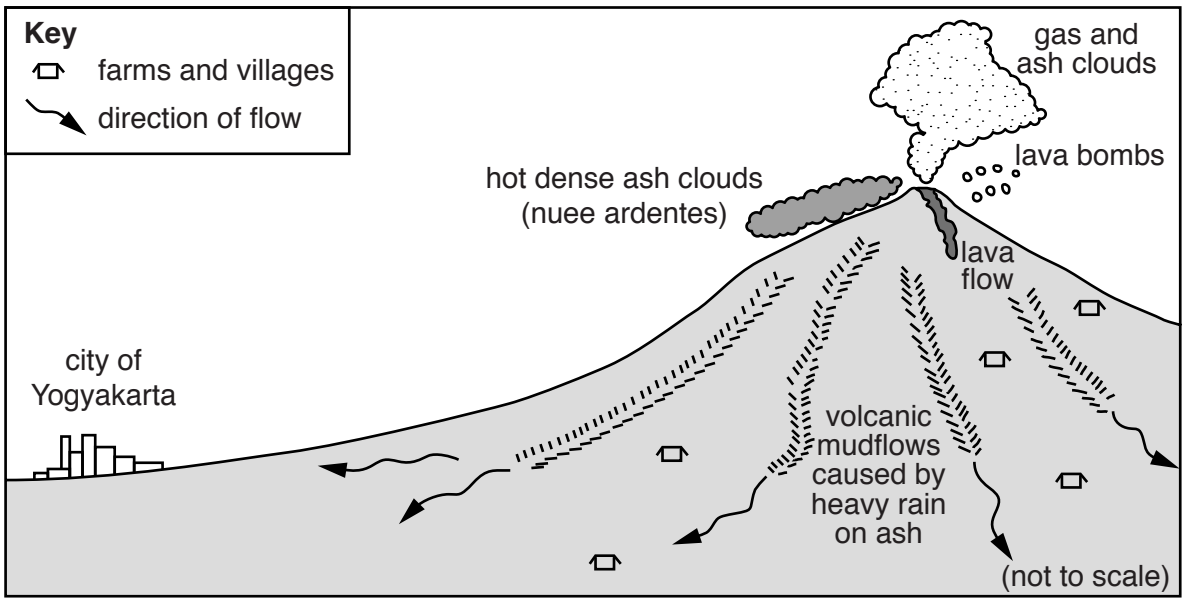

Fig. 1.2

Describe how the volcanic hazards which threaten farmers on the slopes of Mount Merapi might be different to those threatening the inhabitants of Yogyakarta.

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(c) Table 1.1 compares the gross domestic product (GDP) of Indonesia with other countries in the Asia-Pacific region that are at risk from natural hazards.

country	GDP per person / US$
Japan	46 000
New Zealand	31 000
Indonesia	4800
Philippines	4400
Papua New Guinea	1850

Table 1.1

With reference to Table 1.1, suggest how the level of economic development of a country might affect both short and long term responses to natural hazards derived from plate movements.

short term .....

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long term .....

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[8]

[Total: 20]

2 **(a)** Fig. 2.1 shows a weather chart for Australia.

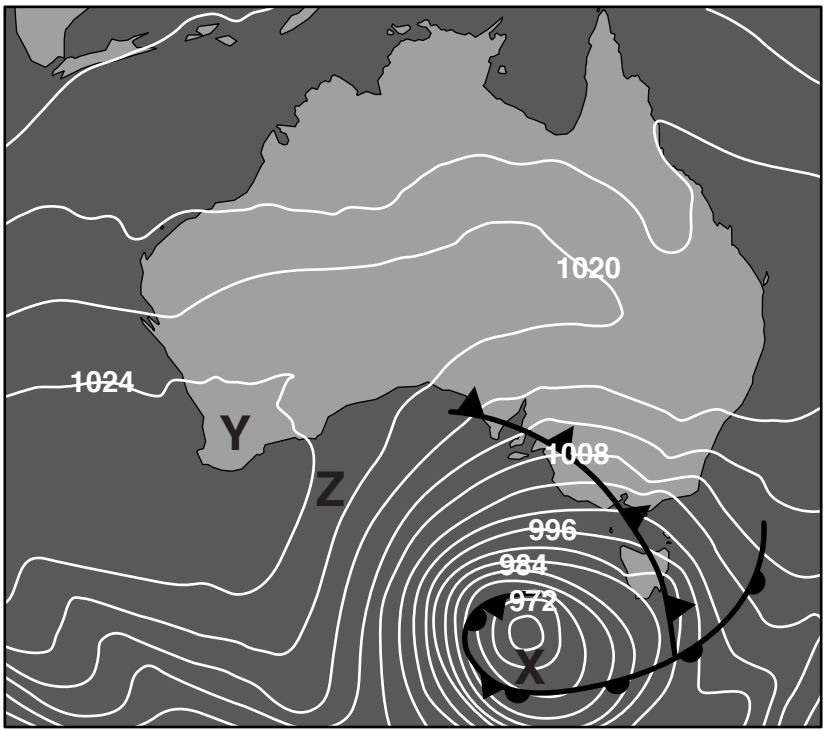

Fig. 2.1

(i) Give the name of the type of pressure system found at:

X .....

Y ..... [2]

(ii) Describe the general characteristics of weather typically associated with the pressure system at **X** in Fig. 2.1.

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(iii) Explain why the surface wind direction at **Z** in Fig. 2.1 is south westerly.

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..... [2]

(iv) State **one** natural hazard associated with the weather system at **Y**. Briefly describe the atmospheric processes that contribute to this hazard.

hazard .....

description .....

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[3]

(b) Fig. 2.2 shows a satellite image of a hurricane called Tropical Cyclone Yasi, approaching the coast of Queensland, Australia in February 2011.

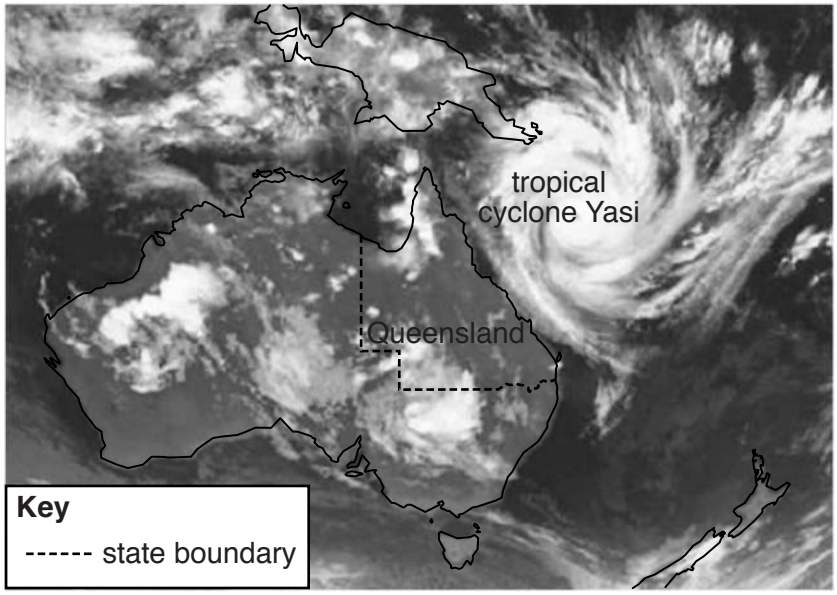

Fig. 2.2

Discuss how satellite monitoring of Tropical Cyclone Yasi might have provided useful information on this approaching hazard **and** enabled the people of the region to prepare.

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..... [8]

[Total: 20]

Section B

Answer **one** question from this section.

3 Fig. 3.1 is a map of the Yamal Peninsula, which is an area of tundra. This subarctic region of Arctic Russia is being rapidly developed for the extraction of large reserves of newly discovered oil and gas.

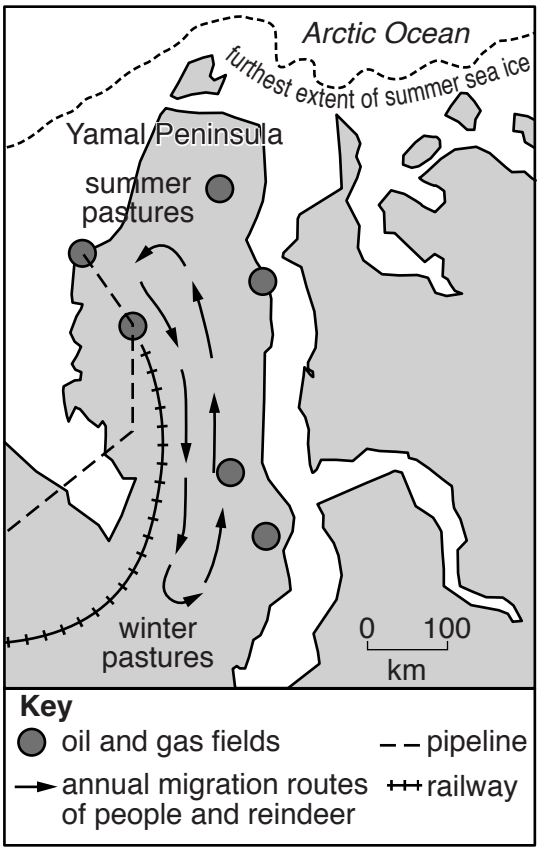

Fig. 3.1

(a) With reference to Fig. 3.1, briefly outline the possible threats to the natural environment and people of the region from oil and gas extraction. [10]

(b) With reference to examples with which you are familiar, evaluate the effectiveness of conservation areas and national parks in protecting the resources of the lithosphere for future generations. [30]

[Total: 40]

4 Fig. 4.1 is a diagram showing acid deposition from the atmosphere.

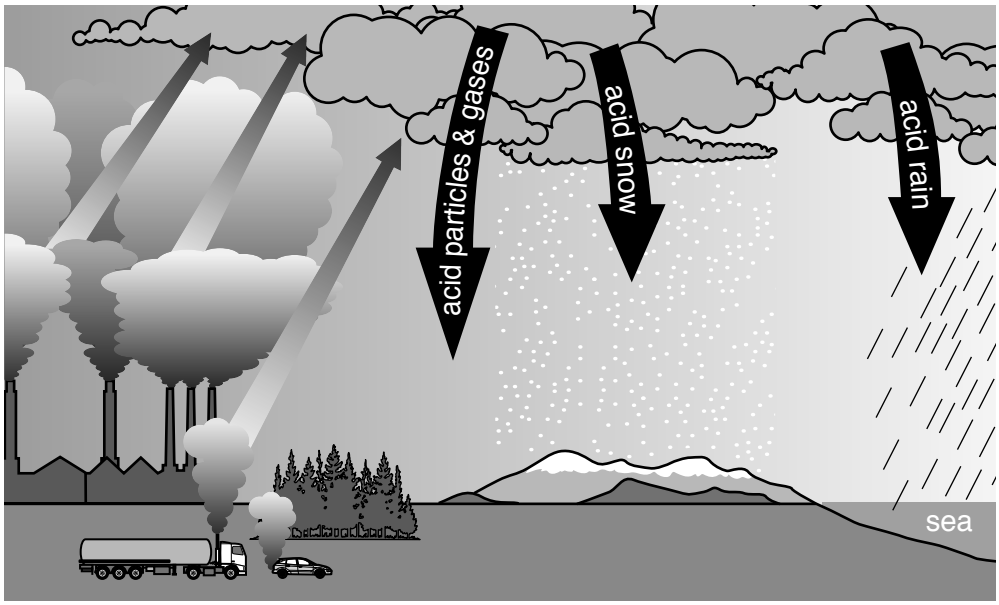

Fig. 4.1

(a) With reference to Fig. 4.1, outline how human activities and atmospheric processes are responsible for acid deposition. [10]

(b) With reference to examples with which you are familiar, explain why it is difficult to achieve international agreement on reducing atmospheric pollution. [30]

[Total: 40]

5 Fig. 5.1 shows the factors which affect the formation of a soil.

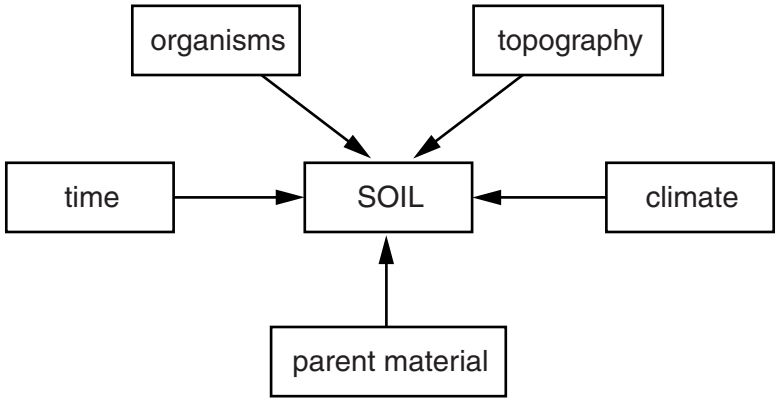

Fig. 5.1

(a) Describe and explain how the characteristics of a soil of your choice reflect the variety of soil forming factors shown in Fig. 5.1. [10]

(b) Referring to examples with which you are familiar, explain how deforestation can result in soil erosion and deterioration. Assess the ways soil quality can be sustainably managed for agriculture. [30]

[Total: 40]

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