



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

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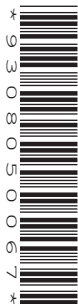
CANDIDATE
NAME

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ENVIRONMENTAL MANAGEMENT

8291/12

Paper 1 Lithosphere and Atmosphere

May/June 2013

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.
Electronic calculators may be used.

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 **12** printed pages.



Section A

Answer **all** questions in this section.

- 1 (a) Fig. 1.1 shows the structure of the Earth's crust at an oceanic to continental plate boundary.

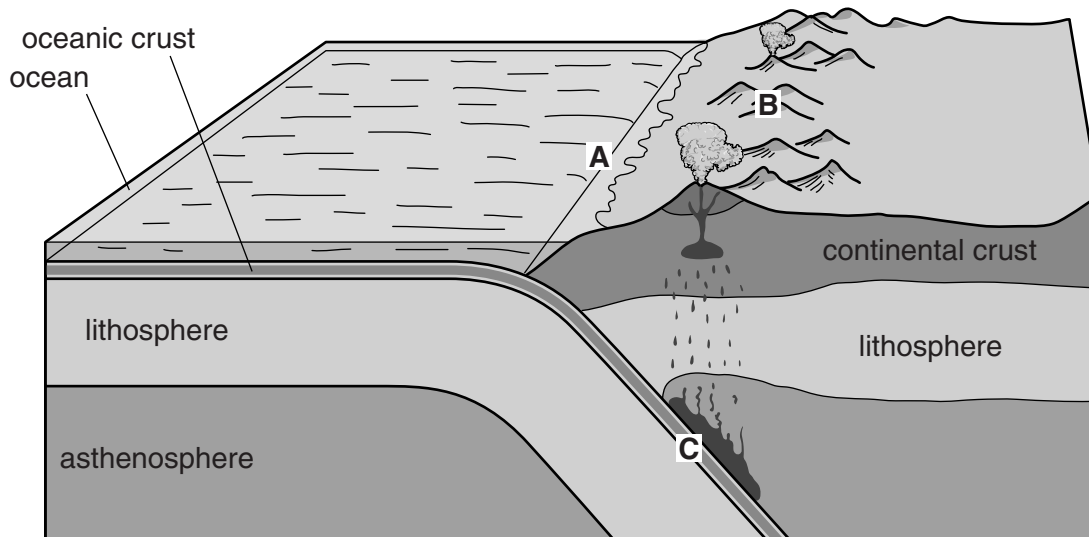


Fig. 1.1

- (i) Name the features that occur at **A** and **B**, and the process that occurs at **C**.

Feature **A**

Feature **B**

Process **C**[3]

- (ii) Put **two** arrows onto Fig. 1.1 to show the direction of plate movement each side of the boundary. [2]

- [5]

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..... [10]

[Total: 20]

- 2 (a) Fig. 2.1 is a grid that can be used to illustrate some aspects of the structure of the atmosphere.

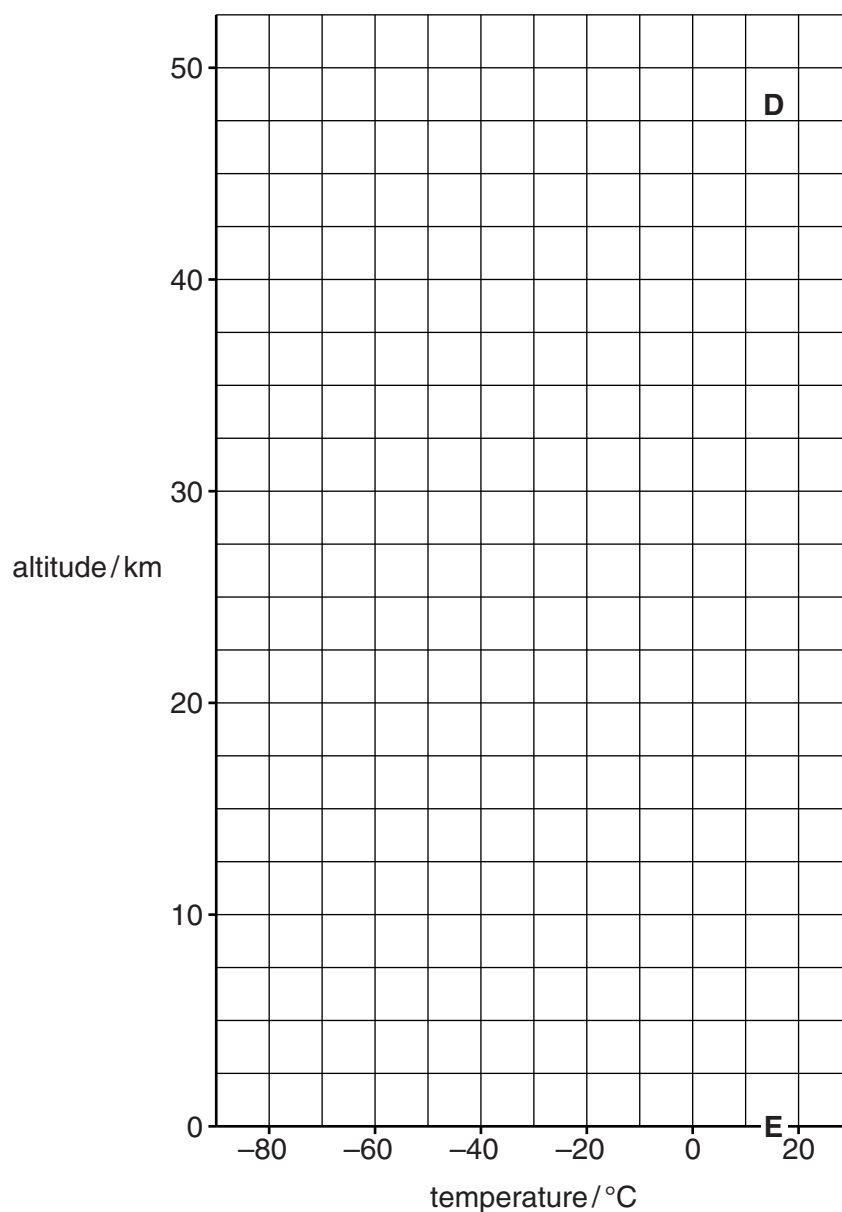


Fig. 2.1

- (i) Draw a line to show the changes in temperature with altitude from 0 to 50 km between points **D** and **E** on Fig. 2.1. [4]
- (ii) Write the terms **troposphere** and **stratosphere** onto Fig. 2.1 at appropriate altitudes. Write your answers on Fig. 2.1. [1]
- (iii) In which level of the atmosphere does:
- ozone depletion occur
 - global warming occur?[2]

- (iv) Outline **two** functions of the helium-filled weather-research balloons that ascend to about 10 000 m.

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.....[4]

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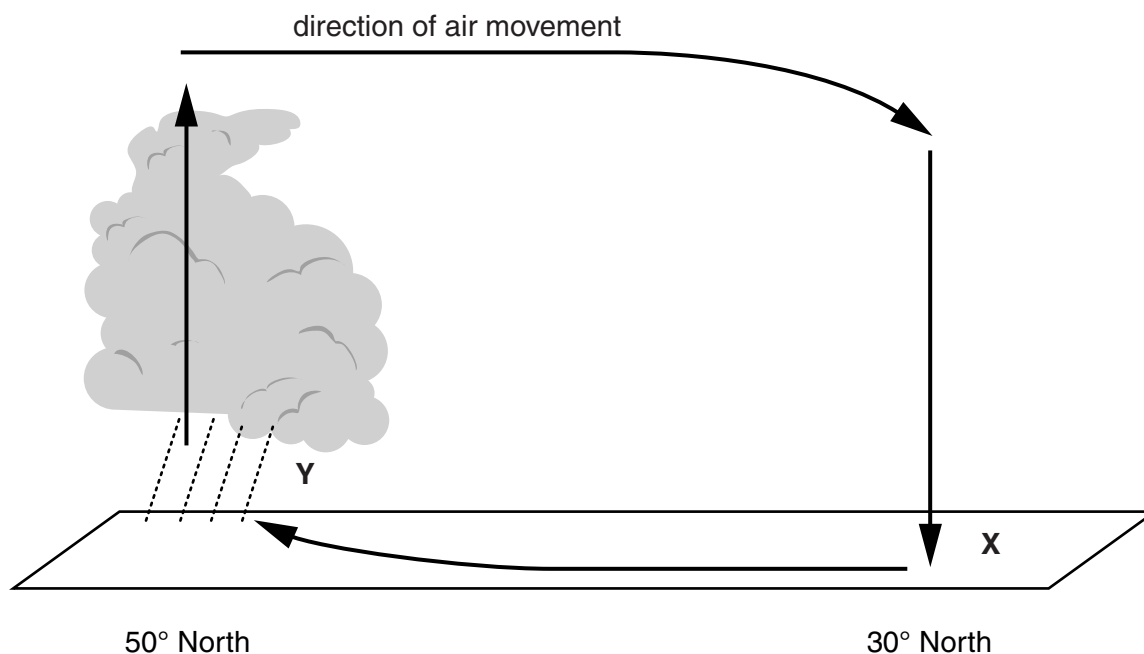


Fig. 2.2

- (i) Explain why area X in Fig. 2.2 is invariably hot and dry, and is frequently an area in which severe drought occurs.

.....[5]

- [4]

[Turn over

Section B

Select **one** question from this section.

- 3 (a) Fig. 3.1 shows how soils underlain by limestone change from the top of a hill to a valley floor.

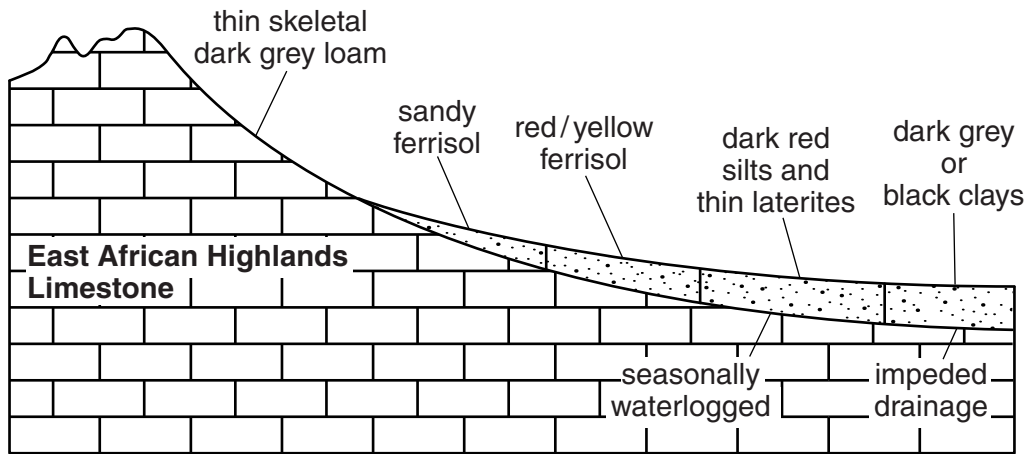


Fig. 3.1

Briefly explain how slope and drainage affect the development of the soils shown in Fig. 3.1. [10]

- (b) With reference to an area you have studied, assess the extent to which soil degradation is as much a product of natural causes as it is of human activity. For the area you have selected, assess one method that has been used to sustain soil quality. [30]

[Total: 40]

- 4 (a) Table 4.1 contains data on the level of importance people give to some environmental problems found in urban areas. The percentages are derived from a representative sample of the population in a LEDC urban area. Respondents were asked to state whether each of the environmental problems was: a major problem, a minor problem or not a problem.

Table 4.1

environmental problem	major problem	minor problem	not a problem
air pollution	80%	17%	3%
hazardous waste	74%	13%	13%
solid waste	70%	22%	8%
contamination of drinking water	69%	17%	14%
industrial pollution	68%	28%	4%
sewage disposal	65%	25%	10%
traffic jams	64%	34%	2%
inefficient use of energy	48%	42%	10%
noise pollution	38%	52%	10%

Briefly explain why the data given in Table 4.1 is more likely to be characteristic of people in a LEDC than of people in a MEDC. [10]

- (b) With reference to examples with which you are familiar, assess how effectively atmospheric pollution in urban areas can be kept to an acceptable healthy minimum. [30]

[Total: 40]

- 5 (a) Fig. 5.1 shows a 6 day weather forecast for the city of New York.

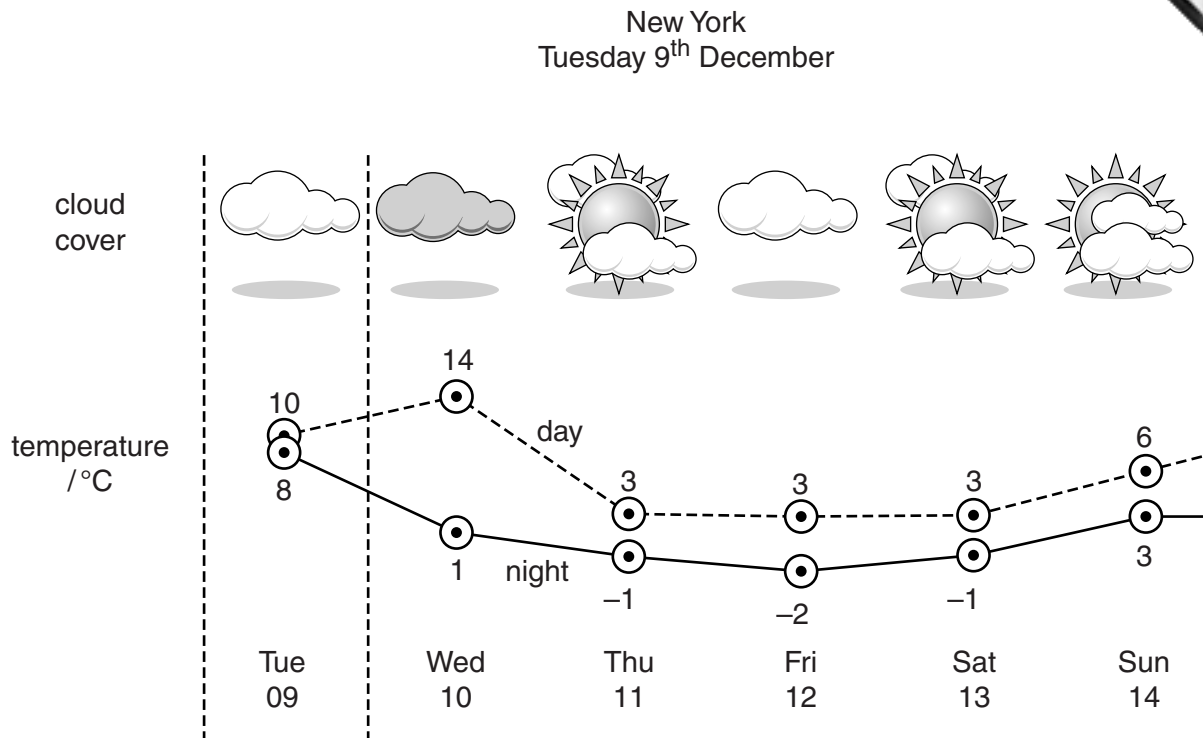


Fig. 5.1

Briefly describe the techniques that are used to make such weather forecasts. [10]

- (b) Describe and explain **two** ways in which human activity adversely affects weather on **either** a local **or** a regional scale. Assess the success of the measures that have been used to counter each of the adverse effects you have selected. [30]

[Total: 40]

Copyright Acknowledgements:

Question 1a Figure 1.1 © www.platetectonics.com/book/page_5.asp.

Question 1b Figure 1.2 Photograph © Associated Press / Brynjar Gauti.

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