

### **Cambridge International Examinations**

Cambridge International Advanced Subsidiary Level

ENVIRONMENT	TAL MANAGEMENT		8291/11
CENTRE NUMBER		CANDIDATE NUMBER	
CANDIDATE NAME			



Paper 1 Lithosphere and Atmosphere

October/November 2016

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 in this section.

Write your answers in the spaces provided on the question paper.

#### Section B

Answer **one** question from this section.

Write your answers 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.

	Examiner's Use
Section A	
1	
2	
Section B	
Total	

For

This document consists of 12 printed pages.

**CAMBRIDGE** 

International Examinations

## **Section A**

Answer all questions in this section.

Write your answers in the spaces provided.

1 (a) Fig. 1.1 is a sketch of a weather map for south-west Europe on 10 May 2010.

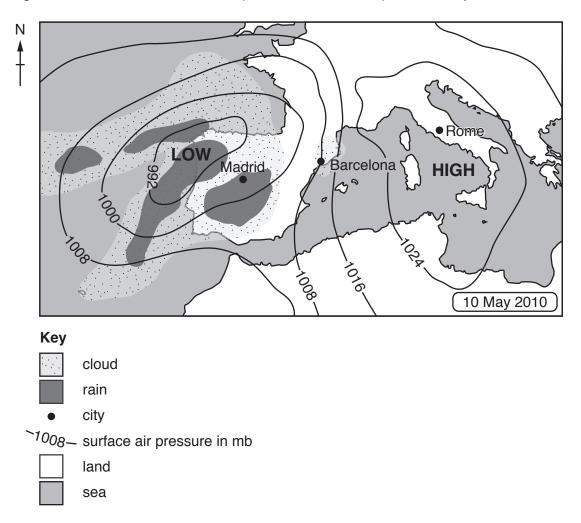


Fig. 1.1

(i)	With reference to Fig. 1.1, state the surface air pressure at Barcelona.	
	mb	[1]
(ii)	Describe the pattern of air movement around the low pressure system (depression Fig. 1.1.	) in
		.[2]

iii) Suggest two	reasons for the large areas	of cloud and	l rain over Mad	drid in Fig. 1	.1.
	nce to Fig. 1.1, complete Tab you would expect to find eac				colum
	Table 1.	1			
weather cor	ndition on 10 May 2010	Madrid	Barcelona	Rome	
ne highest maxi	mum daytime temperature				
ne greatest tem	perature range				
ne highest preci	pitation total				
ne highest wind	speeds				
	f low pressure shown in Fig.	1.1 moves e	astward in the	next 24 ho	urs, s
	es in the weather that will be				
three chang		experienced	d at Barcelona		
three chang	es in the weather that will be	experienced	d at Barcelona		
three chang	es in the weather that will be	experienced	d at Barcelona		

**(b)** Fig. 1.2 shows various methods forecasters use to collect information about the weather.

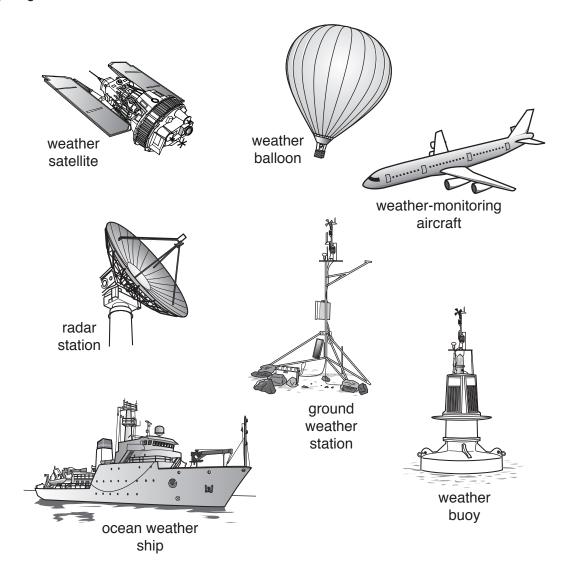


Fig. 1.2

Outline <b>two</b> methods forecasters use to collect information about the weather and explain how each contributes to the process of weather forecasting.
[6]

[Total: 20]

**2** (a) Fig. 2.1 is a diagram to show the internal structure of the Earth.

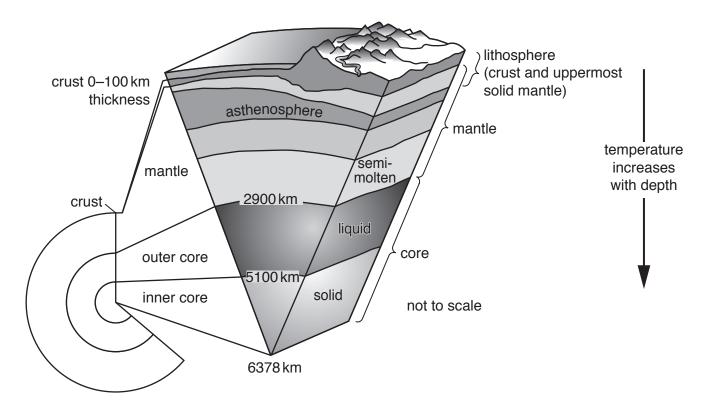
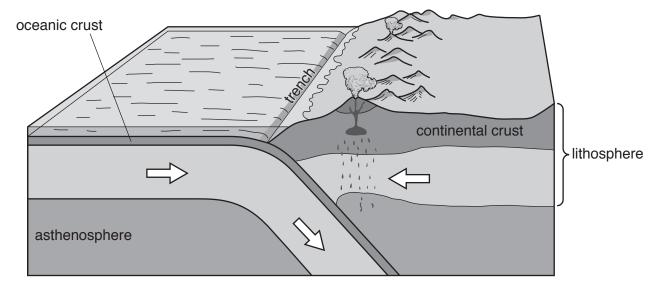


Fig. 2.1

(i)	Using the information provided in Fig. 2.1, state <b>two</b> differences between the crust and the mantle.
	[2]
(ii)	Describe the characteristics of the outer core.
	[3]

(iii)	With reference to Fig. 2.1, explain how processes within the mantle are responsible for movements in the Earth's crust.
	[3]
(iv)	Explain how seismic wave data can contribute to the understanding of the structure of the Earth.
	[4]

**(b)** Fig. 2.2 shows a section of the lithosphere and asthenosphere showing oceanic and continental crust.



# Key

(i)

plate movement

Fig. 2.2

Describe the differences between oceanic and continental crust.	
	[3]

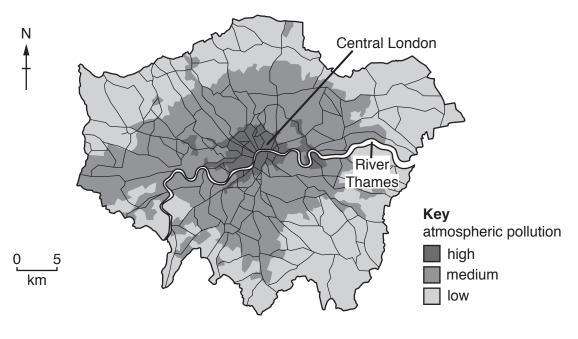
(ii)	Explain why the land between the coast and the mountains shown in Fig. 2.2 can be a hazardous environment for human habitation.
	[5]
	[Total: 20]

### **Section B**

Answer **one** question from this section.

Write your answers on the separate answer paper provided.

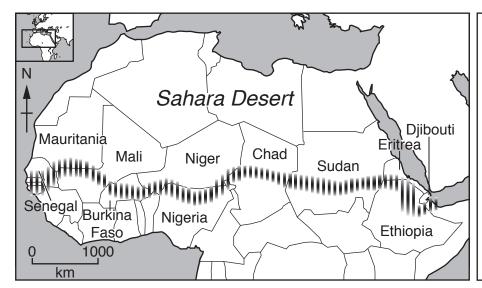
**3** Fig. 3.1 is a map of London, an urban area in the United Kingdom, showing the distribution of atmospheric pollution.



- Fig. 3.1
- (a) Describe the pattern of atmospheric pollution shown in Fig. 3.1. Suggest what factors might be responsible for producing this pattern. [10]
- (b) At a global scale, atmospheric pollution is not restricted by national boundaries. Referring to examples, evaluate the view that problems of atmospheric pollution can only be solved by international agreement and cooperation. [30]

[Total: 40]

**4** Fig. 4.1 shows the proposed location of a future 'Great Green Wall' of trees in Africa. One of the aims of this tree planting scheme, if adopted, is to reduce soil degradation in the countries bordering the Sahara Desert.



The 'Great Green Wall' of trees is intended to be 15 km wide, 7775 km long and to run through 11 countries. It is hoped that the scheme will lead to an improvement in the quality of the soil. The inhabitants of this semi-arid area depend on the land for grazing and crops.

## Key

11111111	'Great Green Wall' of trees
	land
	sea

Fig. 4.1

- (a) With reference to Fig. 4.1, explain how afforestation schemes can lead to an improvement in soil quality. [10]
- (b) Using examples, discuss the view that the growing demand for food presents the greatest future threat to the world's soils. [30]

[Total: 40]

**5** Fig. 5.1 is a chart showing the area of productive land required to support an individual person's needs in selected countries.

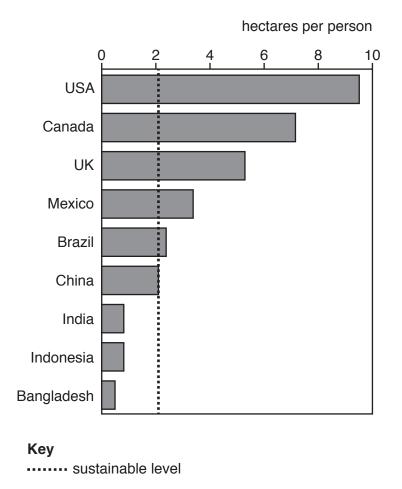


Fig. 5.1

- (a) Describe the information shown in Fig. 5.1 and explain its implications.
- (b) With reference to examples, assess the extent to which a more sustainable management of the Earth's resources might be achieved. [30]

[Total: 40]

[10]

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