Name

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ENVIRONMENTAL MANAGEMENT

8291/01

Paper 1 Lithosphere and Atmosphere

May/June 2005

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.

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,

- fasten all separate answer paper securely to the question paper;
- 2. enter the question number from Section B in the grid opposite.

If you have been given a label, look at the details. If any details are incorrect or missing, please fill in your correct details in the space given at the top of this page.

Stick your personal label here, if provided.

For Examiner's Use	
Section A	
1	
2	
Section B	
Total	

This document consists of **10** printed pages and **2** blank pages.

1 (a) Fig. 1.1 shows the structure of the Earth and the behaviour of seismic waves generated by an earthquake.

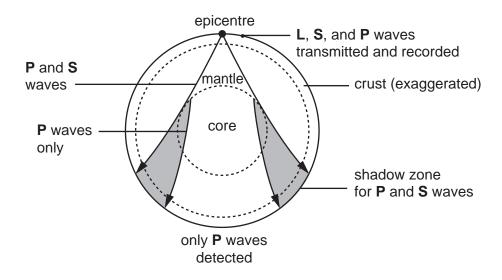
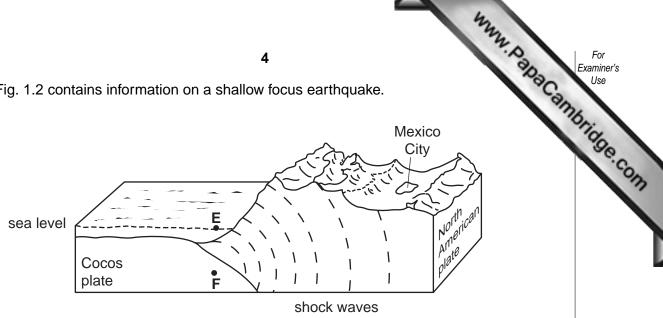


Fig. 1.1

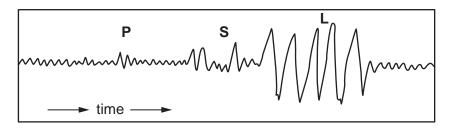
(i)	What are seismic waves?
	[1]
(ii)	Distinguish between P and S waves.
	[2]
(iii)	Why are P waves refracted when passing from the mantle to the core of the Earth?
	[1]

	3		Examiner's Use
Describe and explain the formation of a shadow zone for P and S waves.			For Examiner's Use
			Original
			[3]
Suggest how seismused to locate the illustrate your answ	nic waves obtained from focus of an earthquake. er.	more than two seismo You may use a labell	meters can be led diagram to

(b) Fig. 1.2 contains information on a shallow focus earthquake.



E: epicentre F: focus



seismogram trace of an earthquake

Fig. 1.2

Explain the terms <i>epicentre</i> and <i>locus</i> of an earthquake.	(1)
[2]	
What are L waves and why do seismographs show them arriving after the P and S waves?	(ii)
[2]	

	(iii)	Suggest the likely effects of the passage of L waves through an area of loose sediment: e.g. river or lake deposits
		 an area of loose sediment: e.g. river or lake deposits, an area of compact rock.
		[2]
c)		line two ways in which buildings can be constructed to reduce the possible damage sed by an earthquake.

[20 marks]

www.PapaCambridge.com (a) Fig. 2.1 is a generalised map of the global pattern of air circulation and air pres 2 sea level. It does not show the effects of major continental areas.

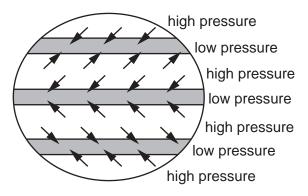


Fig. 2.1

(1)	pressure and the Earth's rotation.
	[4]
(ii)	Describe and explain the effects of large continental areas upon this pattern of air movement in summer.
	[3]

(b) Fig. 2.2 contains a climatic chart for San Francisco and a map of California.

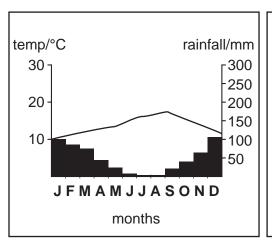




Fig. 2.2

(i)	Describe the pattern of temperature and rainfall for San Francisco.
	[4]
(ii)	Some places on the same line of latitude as San Francisco have a mean winter temperature of 8°C and a mean summer temperature of 26°C.
	Explain why San Francisco's annual temperature characteristics are different from those of these other places.
	[3]

www.PapaCambridge.com (c) Describe the succession of weather events that are likely to have occurred as Hu Mitch (Fig. 2.3) passed over Jamaica.

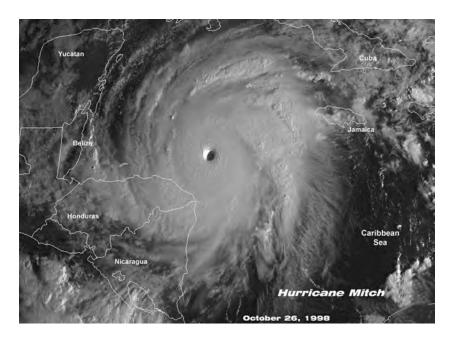


Fig. 2.3

 [6]
[20 marks]

Section B

Answer one question from this section.

Answers must be in continuous prose.

Write your answers on the separate answer paper provided.

3 (a) Fig. 3.1 contains data about levels of different types of air pollution from cities.

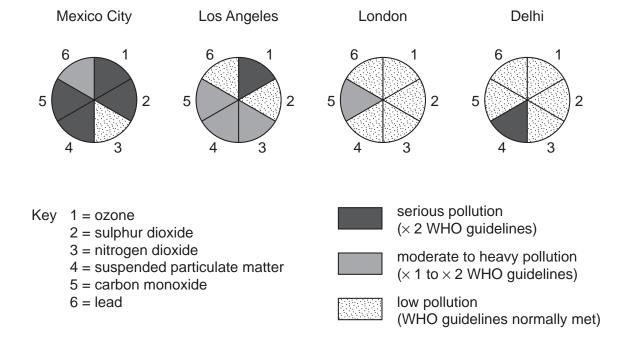


Fig. 3.1

Compare the data and suggest reasons for the differences in the levels of air pollution. [10]

(b) Using examples of urban areas with which you are familiar, describe and evaluate the measures currently being undertaken to manage **either** land pollution **or** air pollution. [30]

[40 marks]

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(a) Describe how biotic and abiotic processes have worked together to produce the Fig. 4.1.

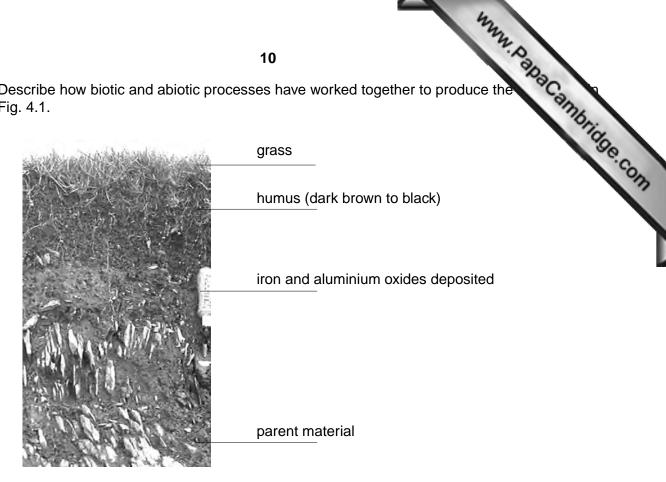


Fig. 4.1

(b) Using examples you have studied, describe how human activity can cause soil erosion as well as lead to a more sustainable use of soils. [30]

[40 marks]

- 5 (a) Using examples in each case, outline the differences between renewable and non-renewable resources. [10]
 - (b) Describe and explain how policies aimed at encouraging the use of more sustainable sources of energy in more economically developed countries (MEDCs) might differ from those of less economically developed countries (LEDCs). [30]

[40 marks]

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Copyright Acknowledgements:

Fig. 3.1 Adapted from The Global Casino: An Introduction to Environmental Issues by N Middleton p191

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