

Centre Number	Candidate Number	Name
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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
 General Certificate of Education  
 Advanced Subsidiary Level and Advanced Level

**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,

1. 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	
<b>Section A</b>	
<b>1</b>	
<b>2</b>	
<b>Section B</b>	
<b>Total</b>	

Section A

Answer all questions in this section.

Write your answers in the spaces provided.

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

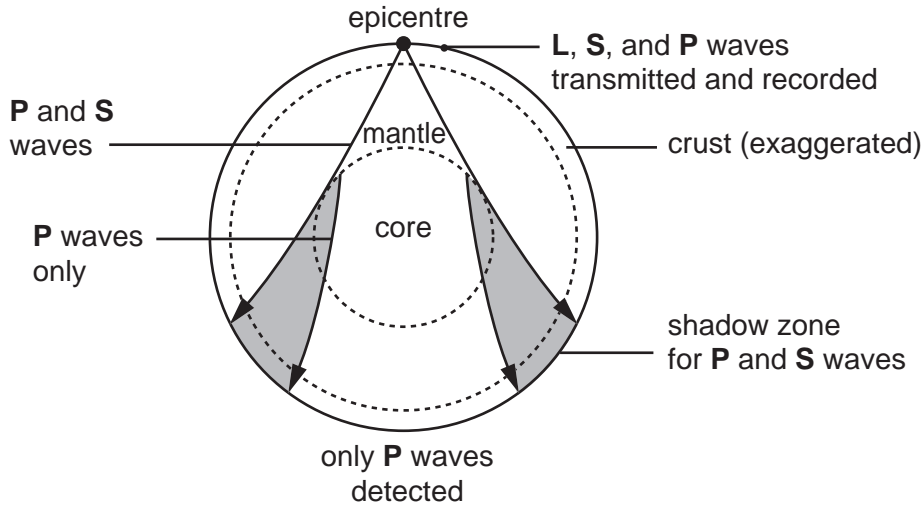


Fig. 1.1

- (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]



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

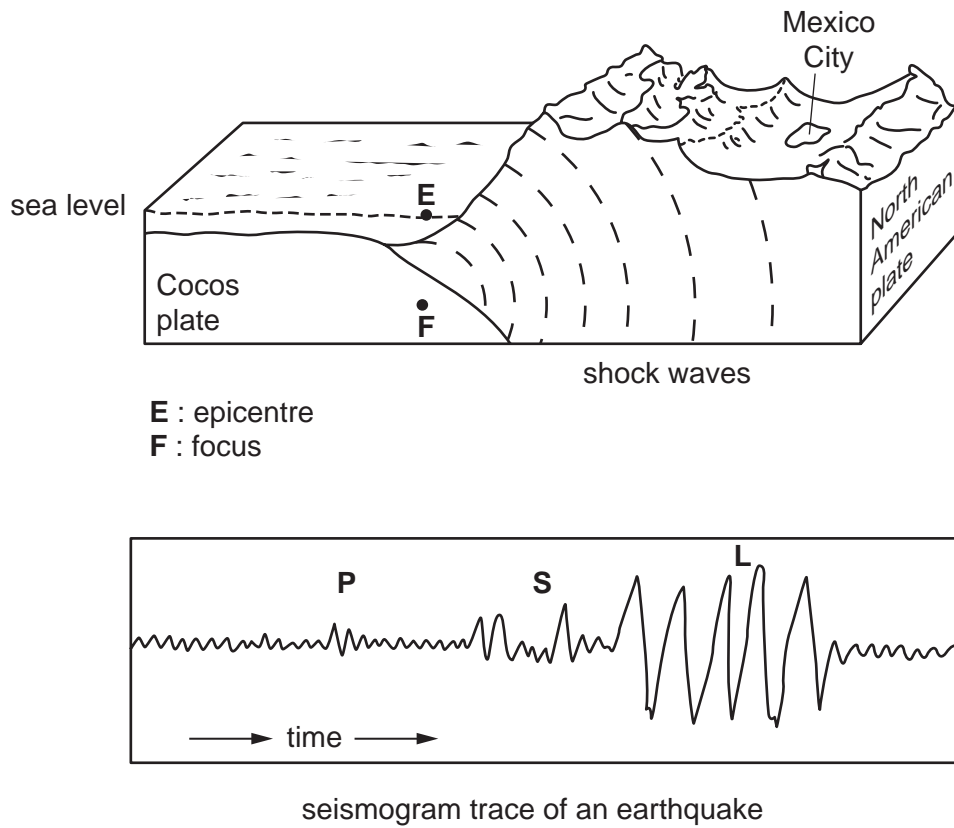


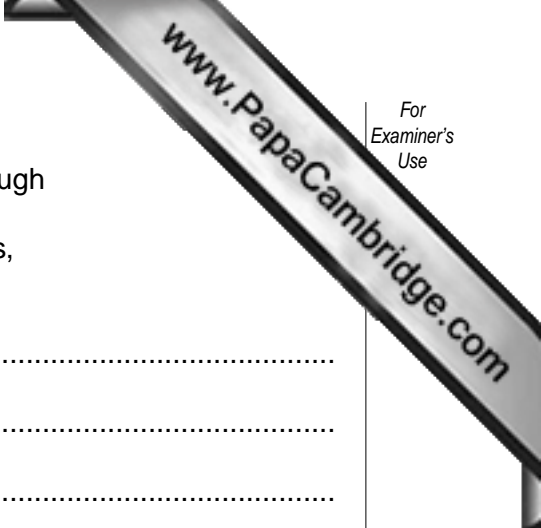
Fig. 1.2

(i) Explain the terms *epicentre* and *focus* of an earthquake.

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

(ii) What are **L** waves and why do seismographs show them arriving after the **P** and **S** waves?

.....  
 .....  
 .....  
 .....[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 compact rock.

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

(c) Outline **two** ways in which buildings can be constructed to reduce the possible damage caused by an earthquake.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[4]

[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.

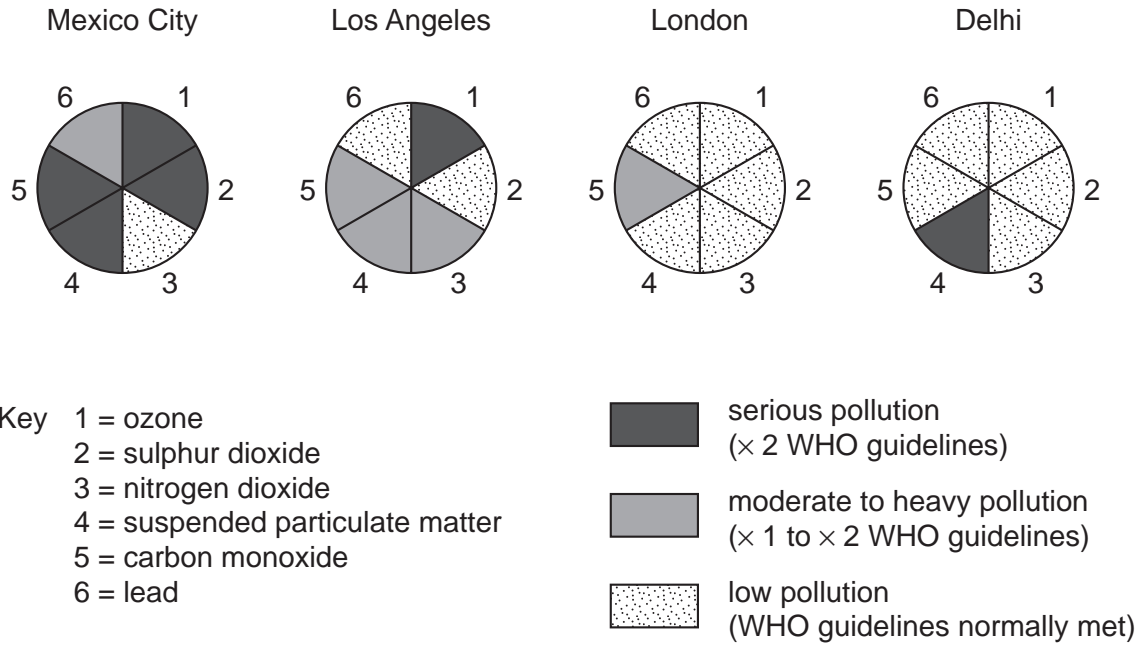


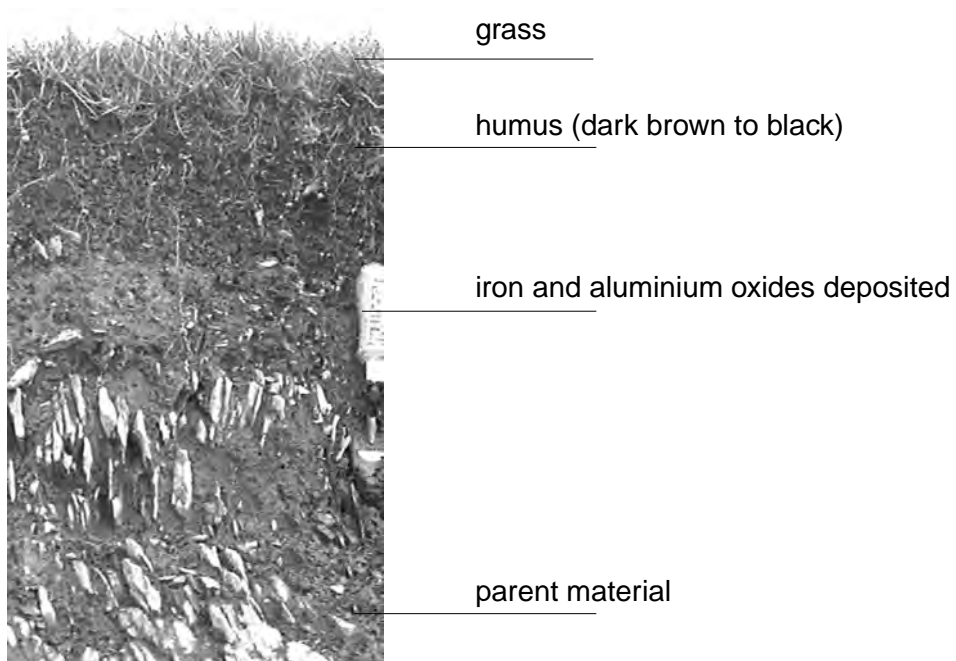
Fig. 3.1

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]

- 4 (a) Describe how biotic and abiotic processes have worked together to produce the soil shown in 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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