Centre Number	Candidate Number	Name

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

ENVIRONMENTAL MANAGEMENT **8291/01**

Paper 1 Lithosphere and Atmosphere

October/November 2006

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.

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

This document consists of **11** printed pages and **1** blank page.

For Examiner's Use

Section A

Answer **all** questions in this section.

Write your answers in the spaces provided.

1 **(a)** Fig. 1.1 is a simple classification of resources.

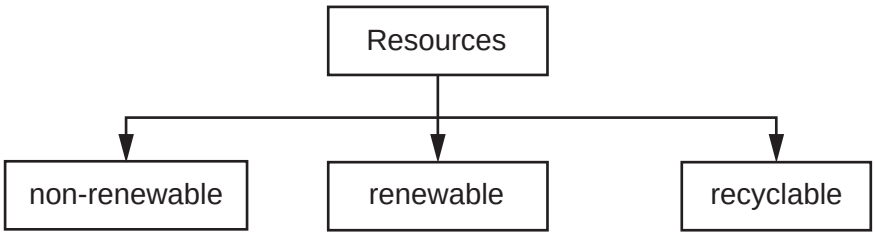

Fig. 1.1

(i) Define the terms *non-renewable* and *renewable* resource.

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.....[2]

(ii) Name an example of a non-renewable resource that would be used to provide for each of the following:

1. electricity .....

2. road construction .....

3. a car body .....[3]

(iii) Identify a renewable resource that could be used to provide electricity.

.....[1]

Briefly explain how this resource could be used to provide electricity.

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.....[1]

(b) Fig. 1.2 shows the consumption of resources in rich and poor nations.

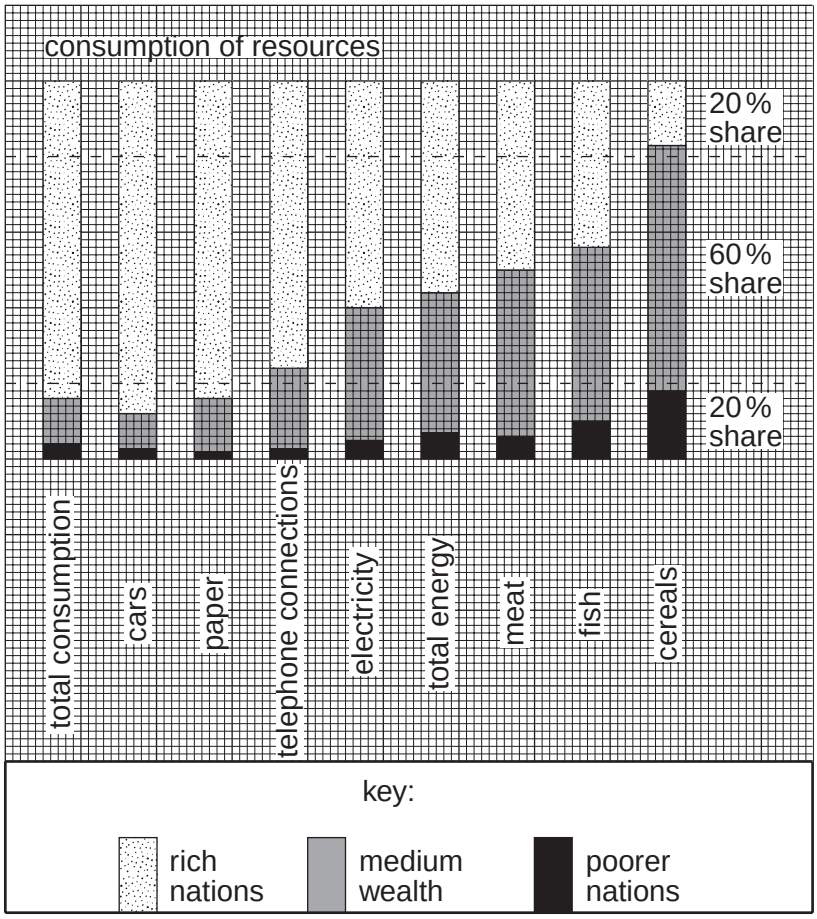

Fig. 1.2

Describe how the consumption of resources in rich nations is different from that in poor nations.

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.....[3]

(c) Fig. 1.3 shows trends in world energy consumption of different energy sources.

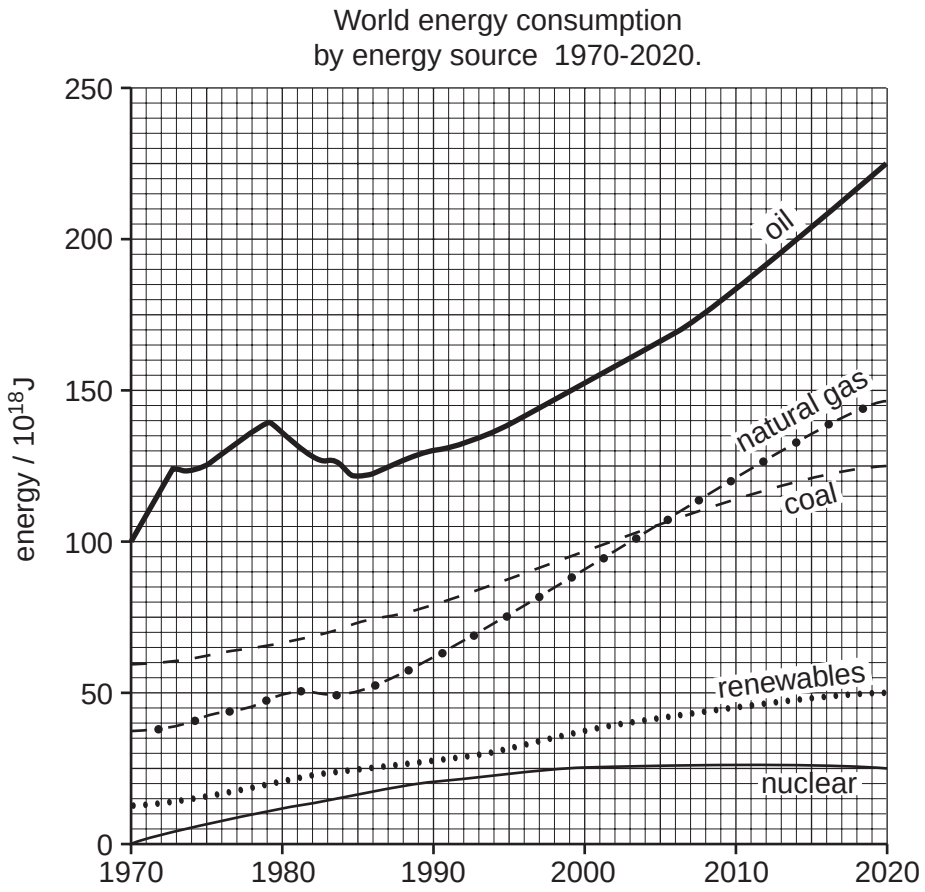

Fig. 1.3

(i) Describe the trends in the consumption of energy shown in Fig. 1.3.

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.....[2]

(ii) Suggest **two** reasons why the consumption of natural gas will exceed that of coal from 2005.

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.....[2]

(iii) Why is it likely that renewable and nuclear energy consumption will remain relatively low?

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.....[2]

(iv) Outline **two** possible environmental consequences of a continuation in these trends in energy consumption.

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.....[4]

[20 marks]

2 **(a)** Fig. 2.1 shows a summer anticyclonic weather system that developed over the west coast of the USA.

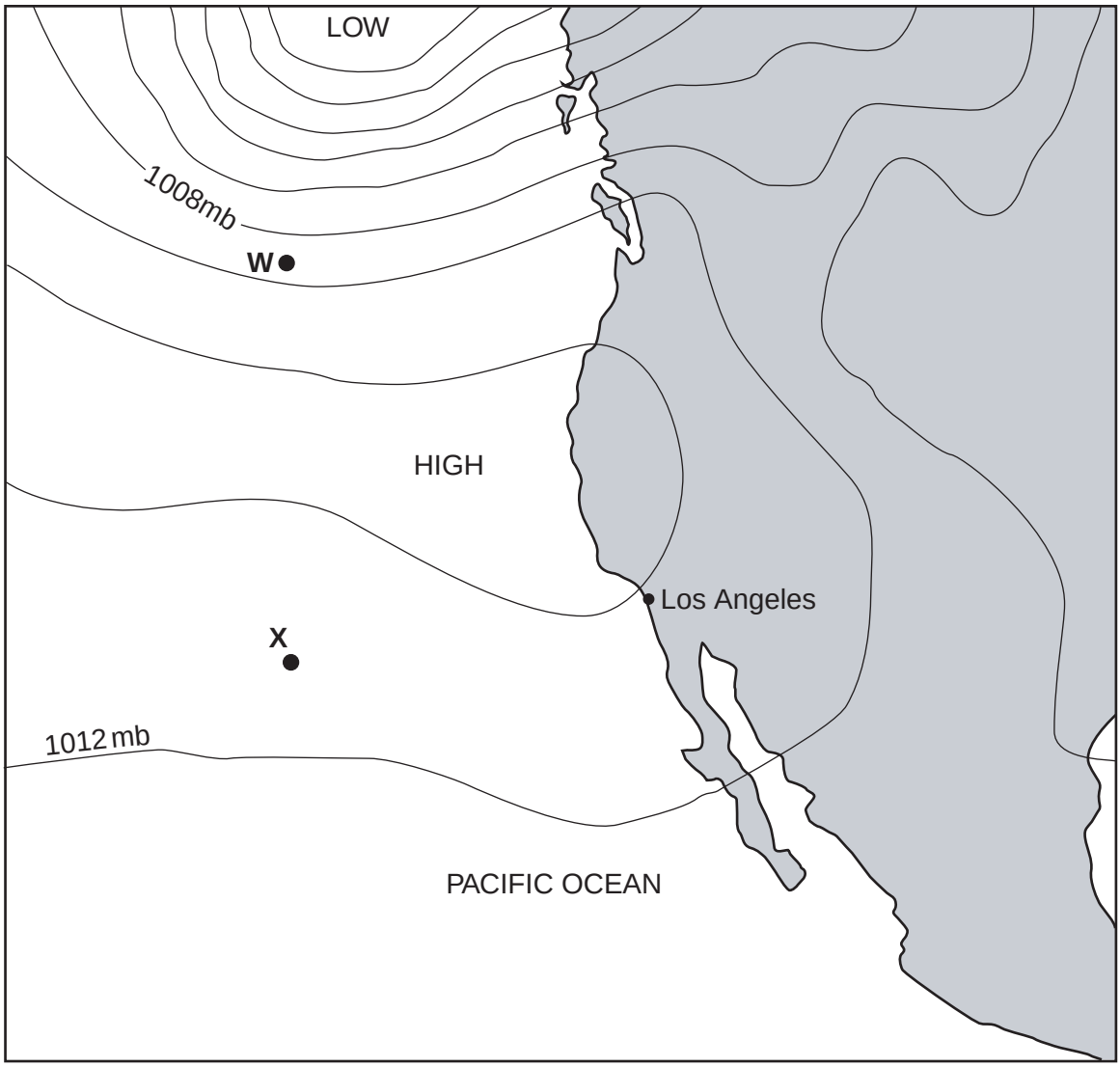

Fig. 2.1

(i) Insert the values 1016 mb and 1000 mb in their correct locations in Fig. 2.1. [2]

(ii) Insert arrows at points **W** and **X** on Fig. 2.1 to show the horizontal direction of air movement in this anticyclone. [2]

(iii) Describe the weather conditions that would be associated with this summer anticyclone.

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.....[3]

(iv) Why are such weather systems relatively stable?

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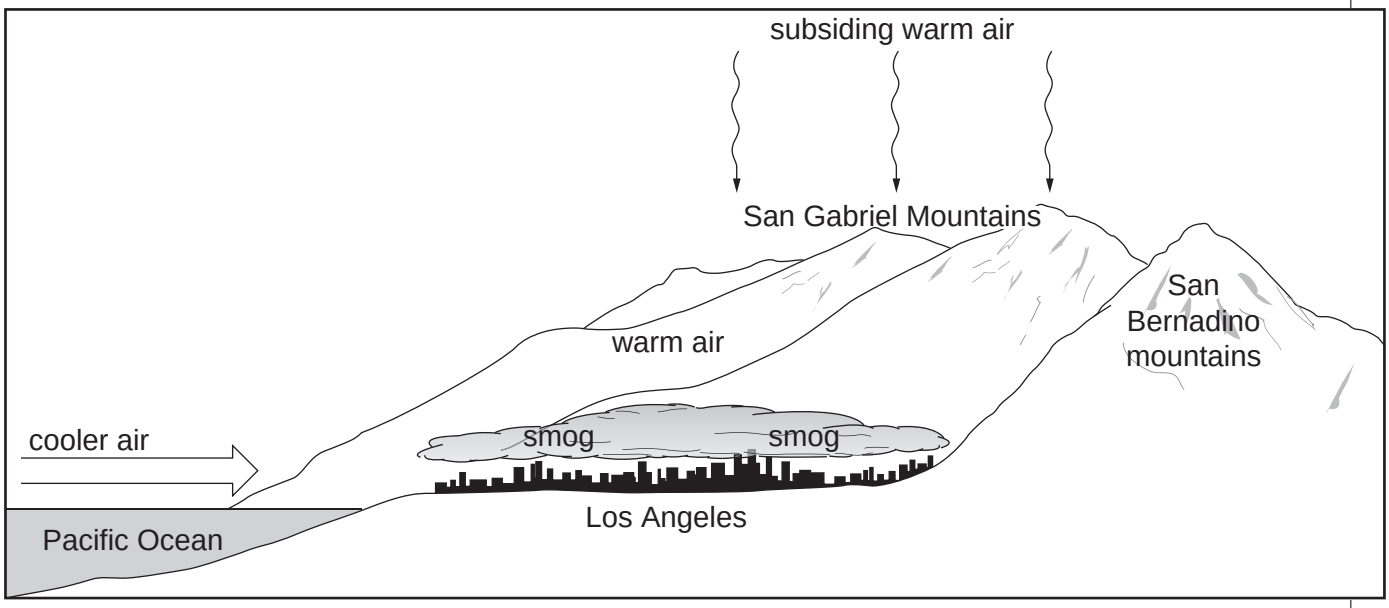
.....[2]

(b) Fig. 2.2 shows weather conditions and atmospheric pollution over Los Angeles during a summer anticyclone.



Smog is a term used to describe a mixture of smoke and fog.

Fig. 2.2

(i) Describe the possible cause of the smog resting over Los Angeles.

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.....[3]

(ii) Why does the atmospheric pollution over Los Angeles have difficulty in escaping under anticyclonic conditions?

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.....[3]

(iii) Identify and explain **two** effects of such pollution within urban areas.

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.....[5]

[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 shows how precipitation and temperature affect the type and rate of rock weathering.

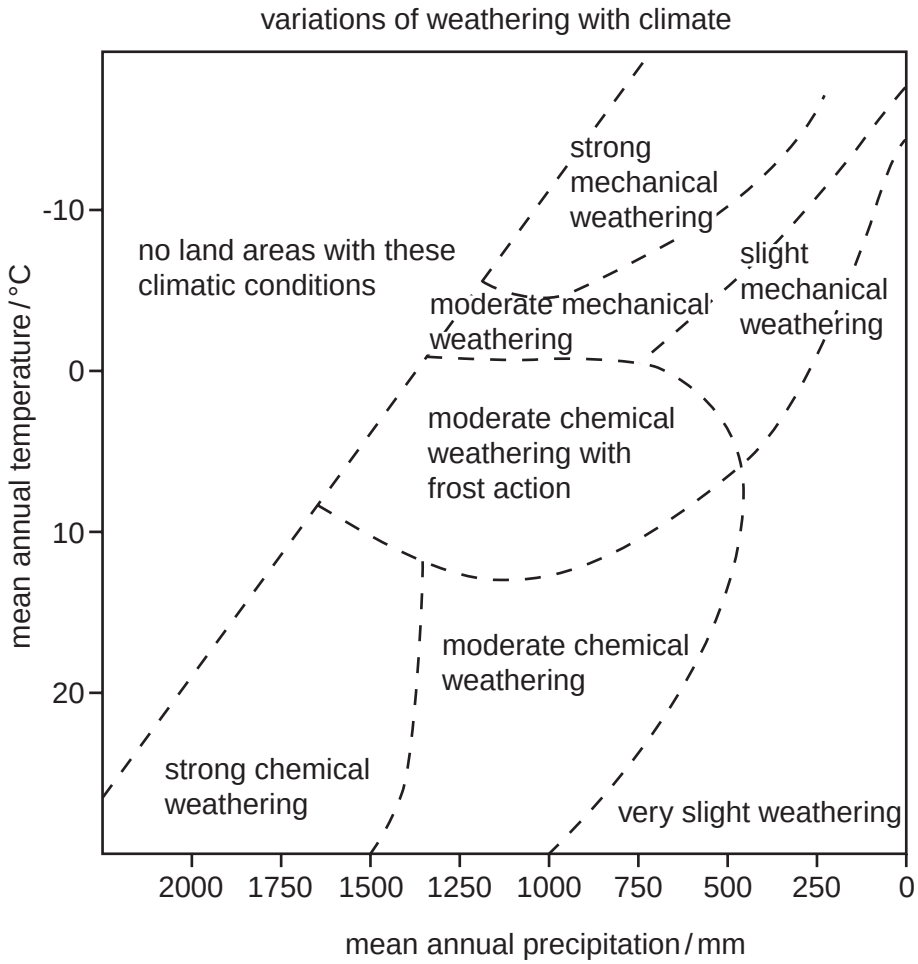

Fig. 3.1

Describe how temperature and precipitation affect the type and rate of rock weathering in Fig. 3.1. [10]

(b) With reference to examples you have studied, outline the causes and effects of land instability. How might such hazards be managed? [30]

[40 marks]

4 **(a)** Fig. 4.1 shows how the weather conditions in a valley may change between late afternoon and early morning the next day.

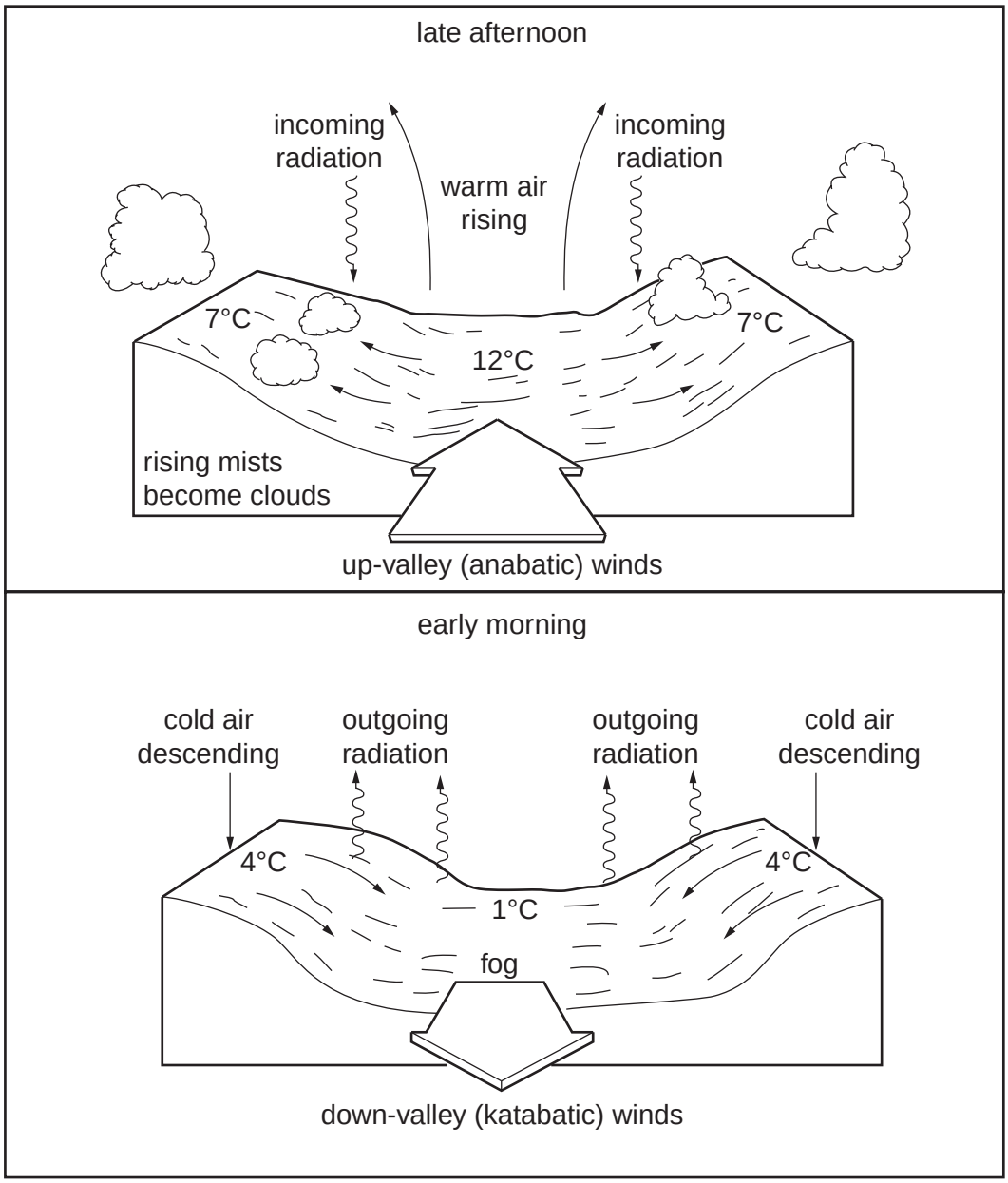

Fig. 4.1

Describe and explain the changes in the weather conditions between late afternoon and early morning shown in Fig. 4.1. [10]

(b) With reference to examples you have studied or experienced, describe the characteristics and effects of tropical cyclones. Assess the extent to which the effects of such weather hazards can be reduced. [30]

[40 marks]

5 **(a)** Describe and explain **two** ways in which a natural process can cause environmental degradation in rural areas. [10]

(b) Using named examples with which you are familiar, outline how the growth of urban areas may affect the environment of their surrounding regions. [30]

[40 marks]

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