

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

GEOGRAPHY

9696/01

Paper 1 Core Geography

May/June 2004

3 hours

Additional Materials: Answer Booklet/Paper;
1:50 000 Survey Map Extract is enclosed
with this question paper.

READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.
Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions in Section A.

Answer **one** question from Section B.

Answer **one** question from Section C.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

All the Figures referred to in the questions are contained in the insert.

This document consists of **5** printed pages, **3** blank pages and an insert.



Section A

Answer **all** the questions in this section. All questions carry 10 marks.

Hydrology and fluvial geomorphology

- 1 Study the survey map of the Victoria Falls area (1:50 000).
- (a) Using the map, identify and describe two different landforms found in the valley of the river Zambezi. [4]
- (b) Briefly explain how each of the two landforms you have identified has been formed. [6]

Atmosphere and weather

- 2 Fig. 1 shows a lapse rate diagram (temperature/height) for a weather station at midday.
- (a) (i) What is meant by the term Environmental Lapse Rate? [2]
- (ii) Calculate the average Environmental Lapse Rate in degrees centigrade per kilometre between sea level and 10 kilometres altitude. [2]
- (b) What evidence is there to suggest that the air mass at the weather station in Fig.1 is unstable?
Suggest **one** effect this might have upon the weather. [6]

Rocks and weathering

- 3 Fig. 2 shows the pattern of the Mid-Atlantic Ridge.
- (a) Describe the main features of the course of the Mid-Atlantic Ridge. [4]
- (b) Explain how the Mid-Atlantic Ridge has developed. [6]

Population change / Settlement dynamics

- 4 Fig. 3 shows the world's largest cities in 2000 and their predicted growth by 2015.
- (a) (i) Name the **two** cities in Fig. 3 where the increase in total population is expected to be the greatest between 2000 and 2015. [2]
- (ii) Compare the growth of New York with the growth of Delhi, according to this prediction. [3]
- (b) How may the large population increase expected in many cities be explained? [5]

Settlement dynamics

- 5** Study the survey map of the Victoria Falls area (1:50 000).
- (a)** Draw a simple labelled sketch map of the communications of the town of Livingstone, Zambia. [5]
- (b)** What evidence of tourism in and around the town of Victoria Falls, Zimbabwe, does the map provide? [5]

Section B: The Physical Core

Answer **one** question only from this section. All questions carry 25 marks.

Hydrology and fluvial geomorphology

- 6 (a) (i) Define the terms *river discharge* and *river velocity*. [4]
- (ii) Identify and describe **one** factor that can affect the velocity of a river. [3]
- (b) Using examples, explain what is meant by inputs and outputs within a drainage basin system. [8]
- (c) How can changes in land use affect flows and stores in a drainage basin? [10]

Atmosphere and weather

- 7 (a) (i) With reference to the earth's atmosphere, what is meant by the terms *incoming solar radiation* and *terrestrial (earth) radiation*? [4]
- (ii) Describe **one** method by which heat is retained in the earth's atmosphere. [3]
- (b) Using diagrams, explain the operation of land and sea breezes (winds). [8]
- (c) Describe and explain **three** ways in which the climate of urban areas differs from the climate of surrounding rural areas. [10]

Rocks and weathering

- 8 (a) (i) Define the weathering process of **either** *hydrolysis* **or** *carbonation*. [4]
- (ii) State the circumstances under which freeze-thaw occurs. [3]
- (b) Explain what factors **other than climate** can affect the type and rate of chemical and physical weathering. [8]
- (c) Explain how climate and vegetation can affect the form of slopes. [10]

Section C: The Human Core

Answer **one** question from this section. All questions carry 25 marks.

Population change

- 9 (a) Using examples, describe the different types of population movements covered by the term *international migration*. [7]
- (b) Fig. 4 shows the states where legal Mexican immigrants to the USA lived in 1997.
- Suggest reasons for,
- (i) the dominance of California and Texas in the numbers of immigrants received,
- (ii) the low numbers, (0-99), of Mexican immigrants in some states. [8]
- (c) Many immigrants to the USA from Mexico are young males. Assess the possible effects of this movement on the communities from which the migrants come. [10]

Population change / Settlement dynamics

- 10 (a) Give the meaning of the terms *counterurbanisation* and *re-urbanisation*. [7]
- (b) Explain why re-urbanisation is occurring in many cities in MEDCs. [8]
- (c) Evaluate the environmental impact of counterurbanisation on rural areas. Support your answer with examples you have studied. [10]

Settlement dynamics

- 11 (a) Using examples, give the meaning of the terms *low order goods and services* and *high order goods and services*. [7]
- (b) Describe where you would expect to find low order goods sold **within** a large urban area, giving reasons for your answer. [8]
- (c) Discuss the reasons why in some cities high order goods are now supplied from locations other than the city centre. Support your answer with examples you have studied. [10]

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- Figure 2. **R. Small. *Geomorphology and Hydrology*. Published by Longman, 1985.**
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