



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

GEOGRAPHY

9696/01

Paper 1 Core Geography

May/June 2008

3 hours

Additional Materials: Answer Booklet/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.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer **all** questions.

Section B

Answer **one** question.

Section C

Answer **one** question.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.
All the Figures and the Table referred to in the questions are contained in the Insert.

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.

This document consists of **5** printed pages, **3** blank pages and **1** Insert.



Section A

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

Hydrology and fluvial geomorphology

- 1 Fig. 1 shows the development of a meandering channel.
- (a) (i) Draw a labelled cross section of the channel along the line A–A, showing a riffle. [2]
- (ii) Draw a labelled cross section of the channel along the line marked B–B, showing a pool. [2]
- (b) Explain how the river shown in Fig. 1 develops from a straight to a meandering channel. [6]

Atmosphere and weather

- 2 Fig. 2 shows warm and cool ocean currents in the Atlantic Ocean and the mean monthly temperatures of the warmest and coolest months of some coastal locations.
- (a) (i) Identify the coastal location which has the greatest difference between its warmest and coolest months and state the difference in temperature. [2]
- (ii) Identify the coastal location which has the smallest difference between its warmest and coolest months and state the difference in temperature. [2]
- (b) Describe the pattern of ocean currents shown on Fig. 2 and, using examples, explain how warm and cool ocean currents can affect temperatures on land. [6]

Rocks and weathering

- 3 Figs 3A and 3B show the average rates of physical and chemical weathering in relation to mean annual temperature and precipitation.
- (a) What rate of **physical** weathering occurs where:
- (i) mean annual precipitation is 200 mm and mean annual temperature is 10 °C; [1]
- (ii) mean annual precipitation is 1 200 mm and mean annual temperature is 20 °C? [1]
- (b) What rate of **chemical** weathering occurs where:
- (i) mean annual precipitation is 600 mm and mean annual temperature is 20 °C; [1]
- (ii) mean annual precipitation is 1 600 mm and mean annual temperature is 26 °C? [1]
- (c) Using examples of weathering processes, explain how climate can affect the rate of both physical and chemical weathering. [6]

Population change

4 Table 1 shows some population statistics for India, an LEDC in South Asia, in 2001.

- (a) Give the value of **P**, the natural increase rate for India's rural areas. [1]
- (b) Describe and explain briefly the relationship between infant mortality rate and birth rate suggested by the information in Table 1. [3]
- (c) Explain why the death rate in rural areas of many LEDCs, such as India, is significantly higher than the death rate in their urban areas. [6]

Settlement dynamics

5 Fig. 4 shows the distribution of squatter settlements in Lima in 2004. Lima is the capital of Peru, an LEDC in Latin America. In 2004 the city's population was 7.8 million.

- (a) Compare the location and extent of squatter settlements in the districts named Metropolitan Lima and Cono Sur. [5]
- (b) Squatter settlements can be seen as 'slums of hope'. Explain why living in a squatter settlement may be a **positive** experience for many people. [5]

Section B: The Physical Core

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

Hydrology and fluvial geomorphology

- 6 (a) (i) Define the terms *infiltration* and *groundwater*. [4]
- (ii) Briefly indicate how rates of infiltration might vary with intensity of rainfall. [3]
- (b) Using examples of hydrographs, demonstrate how discharge in a drainage basin can be affected by:
- (i) soils and geology;
- (ii) slopes. [8]
- (c) Using examples, explain how human activities can affect channel flow. [10]

Atmosphere and weather

- 7 (a) (i) Define the terms *solar radiation* and *terrestrial (earth) radiation*. [4]
- (ii) Briefly explain why the lower part of the earth's atmosphere cools at night. [3]
- (b) With the help of diagrams, show how lapse rates influence the formation of clouds and rainfall. [8]
- (c) Explain how buildings, tarmac and concrete can affect the climate in urban areas. [10]

Rocks and weathering

- 8 (a) (i) Define the term *tectonic plate* and give **two** differences between oceanic and continental tectonic plates. [4]
- (ii) Briefly describe an ocean trench. [3]
- (b) Using diagrams, explain how sea floor spreading occurs. [8]
- (c) Explain how climate and vegetation can affect the form and development of slopes. [10]

Section C: The Human Core

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

Population change

- 9 (a) (i) Give the meaning of the term *overpopulation*. [3]
- (ii) Describe the evidence of overpopulation in **one** named area. [4]
- (b) Explain why it may be difficult for a country to achieve its optimum population. [8]
- (c) To what extent do you agree that population growth stimulates an increase in food supply? [10]

Population change

- 10 Choose **one** country whose population policy you have studied in detail.
- (a) Outline the reasons why the country's government needed to introduce a population policy. [7]
- (b) Describe and explain government attempts at managing **either** natural increase **or** migration in your chosen country. [8]
- (c) Assess the extent to which the attempts you described in (b) have been successful. [10]

Settlement dynamics

- 11 Study Fig. 5, which shows possible changes over time in land values in an industrial city in an MEDC.
- (a) Describe the changes in the relationship between land value and distance from the CBD shown on Fig. 5. [7]
- (b) Suggest reasons why land in zone **S** increases in value during the declining industrial stage. Use examples to support your answer. [8]
- (c) To what extent do you agree that re-urbanisation (movement back to live in inner urban areas) has much to offer to people? [10]

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Question 2 Fig. 2 © K. Briggs; *Physical Geography: Process and System*. Reproduced by permission of Edward Arnold (Publishers) Ltd.
Question 5 Fig. 4 © B. Chambers; Geographical Association, 2005.

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