

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

GEOGRAPHY

9696/01

Paper 1 Core Geography

October/November 2006

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.

Answer **all** questions in **Section A**.

Answer **one** question from **Section B**.

Answer **one** question from **Section C**.

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.

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 and **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 hydrological cycle of a small river basin.
- (a) Define the term *hydrological cycle* as it applies to a small river basin. [2]
- (b) Identify and briefly describe **two** stores shown on Fig. 1. [4]
- (c) Explain how throughflow and groundwater flow (base flow) occur. [4]

Atmosphere and weather

- 2 Fig. 2 shows, for various weather elements, the differences between a large urban area and a nearby rural area. The differences are shown as positive and negative percentage variations.
- (a) Identify the weather elements that show:
- (i) the largest percentage difference,
- (ii) the lowest percentage difference. [2]
- (b) Describe and explain the differences in precipitation shown between urban and rural areas. [4]
- (c) Describe and explain the differences in temperatures shown between urban and rural areas. [4]

Rocks and weathering

- 3 Fig. 3 shows how annual temperatures and precipitation relate to rates of chemical and physical weathering.
- (a) Name the weathering that is shown on Fig. 3 where:
- (i) mean annual temperature is 0°C and annual rainfall is 50cms, [1]
- (ii) mean annual temperature is 20°C and annual rainfall is 100cms. [1]
- (b) Name and describe one of the weathering processes that occurs in areas of strong physical weathering. [4]
- (c) Explain how temperature and rainfall conditions can result in strong chemical weathering. [4]

Population change

- 4 Fig. 4 shows variations in life expectancy for different world regions in 2000. Life expectancy is the average number of years from birth that a person is expected to live.
- (a) Name the region which had the greatest variation in life expectancy among its countries, supporting your answer with information from Fig. 4. [2]
- (b) Compare the variation in life expectancy in Central America with the variation in life expectancy in Western Europe as shown in Fig. 4. [3]
- (c) Using located examples, explain **two** different ways to increase life expectancy in **LEDCs**. [5]

Settlement dynamics

- 5 Fig. 5 shows a model of counterurbanisation in which population is picked up from the city and set down in the surrounding area.
- (a) According to Fig. 5, from which zone is pick up the weakest and in which zone is set down the strongest? [2]
- (b) Why might set down and new settlement in zone 4 be limited? [3]
- (c) With reference to a city which is experiencing counterurbanisation, suggest reasons why many residents wish to leave the urban area. [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 *traction* and *saltation* as they apply to transportation within a river channel. [4]
- (ii) Describe helicoidal flow within a river channel. [3]
- (b) With the use of a diagram or diagrams, explain the development of a braided channel. [8]
- (c) Describe the main features of river flood plains and explain why flood plains may present problems for human settlements. [10]

Atmosphere and weather

- 7 (a) (i) Define the terms *incoming solar radiation* and *terrestrial (earth) radiation*. [4]
- (ii) Describe the formation of dew. [3]
- (b) Explain why some parts of the earth receive more solar radiation than others. [8]
- (c) Explain what is meant by stability and instability within the atmosphere. Briefly describe the weather experienced under each of these conditions. [10]

Rocks and weathering

- 8 (a) (i) Define the terms *heave* and *flow* as they apply to mass movements. [4]
- (ii) Describe the conditions under which rock fall may occur. [3]
- (b) Describe **two** physical factors that can affect the development of slopes. Indicate how these factors might affect the form (shape) of slopes. [8]
- (c) How can the theory of plate tectonics be used to explain the formation and distribution of volcanoes, ocean trenches and island arcs? [10]

Section C: The Human Core

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

Population change

- 9 (a) Give the meaning of the terms *birth rate* and *fertility rate*. [7]
- (b) Using examples, identify and explain the links between fertility rate and education. [8]
- (c) To what extent have attempts to reduce the birth rate been successful in **one** country you have studied? [10]

Population change

- 10 Study Fig. 6, which shows possible immigration pathways.
- (a) (i) Give the meaning of the term *refugee*. [7]
- (ii) Describe briefly **one** example of refugee migration you have studied. [7]
- (b) Using Fig. 6, describe the immigration pathways which may result in deportation by the authorities. [8]
- (c) With the help of examples, evaluate the ways in which culture may be a barrier to the acceptance and integration of immigrants. [10]

Settlement dynamics

- 11 Choose a named **rural** settlement or **rural** area which you have studied in detail.
- (a) Describe its location and size. [7]
- (b) Explain how **two** issues of its development have affected the people who live there. [8]
- (c) Assess the effectiveness of the authorities' responses to the issues you identified in (b). [10]

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Copyright Acknowledgements:

Question 2	Fig. 2 © Matthews, Kellogg & Robinson (1971) <i>Man's Impact on the Climate</i> , MIT Press.
Question 3	Fig. 3 © B. Skinner and S. Porter (2000) <i>The Dynamic Earth</i> , John Wiley. Reprinted by permission of John Wiley & Sons, Inc.
Question 4	Fig. 4 © From <i>Population, An Introduction to Concepts and Issues</i> 7th edition by WEEKS. © 1999. Reprinted with permission of Wadsworth, a division of Thomson Learning: www.thomsonrights.com .
Question 5	Fig. 5 © Michael Witherick (1999) <i>The Urban World</i> , Nelson Thornes.
Question 10	Fig. 6 © Michael Witherick (2003) <i>The World of Refugees</i> , Curriculum Press.

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This Insert contains all the Figures referred to in the questions.

This document consists of **7** printed pages and **1** blank page.



Fig. 1 for Question 1

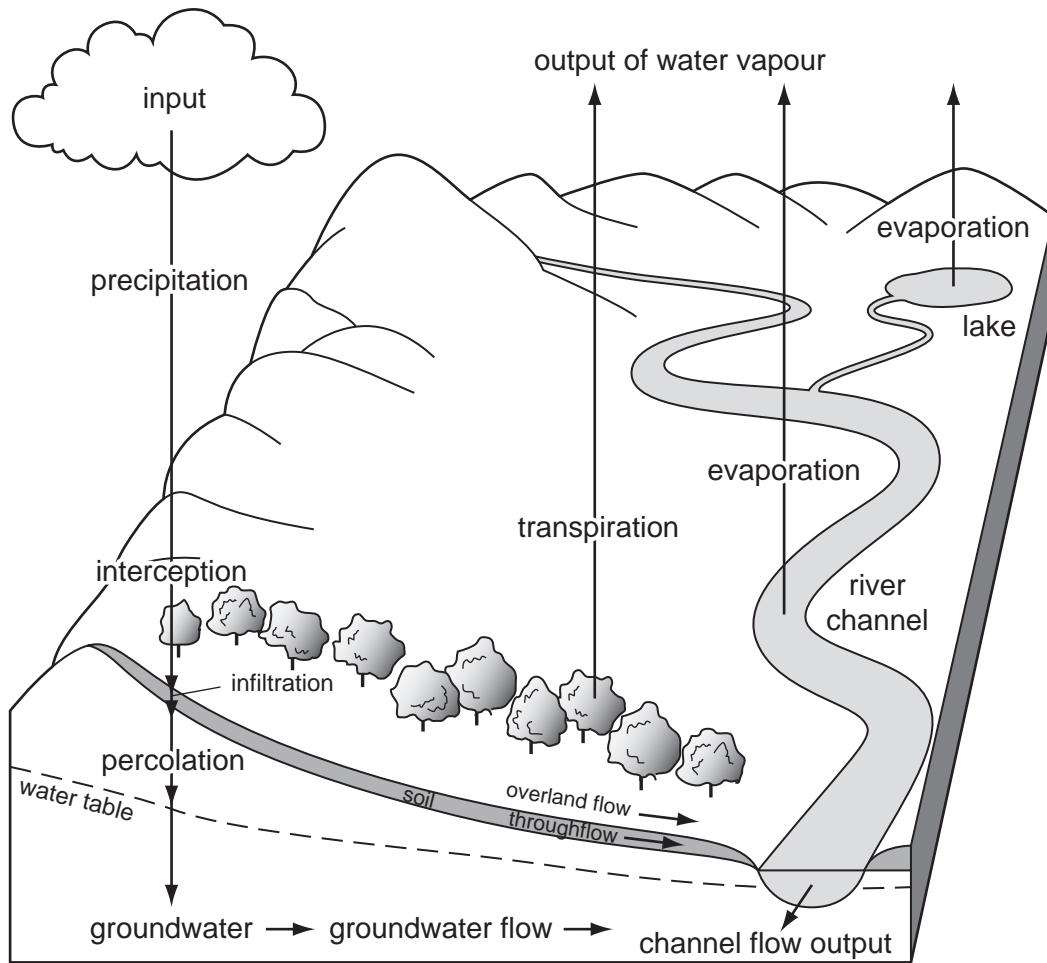


Fig. 2 for Question 2

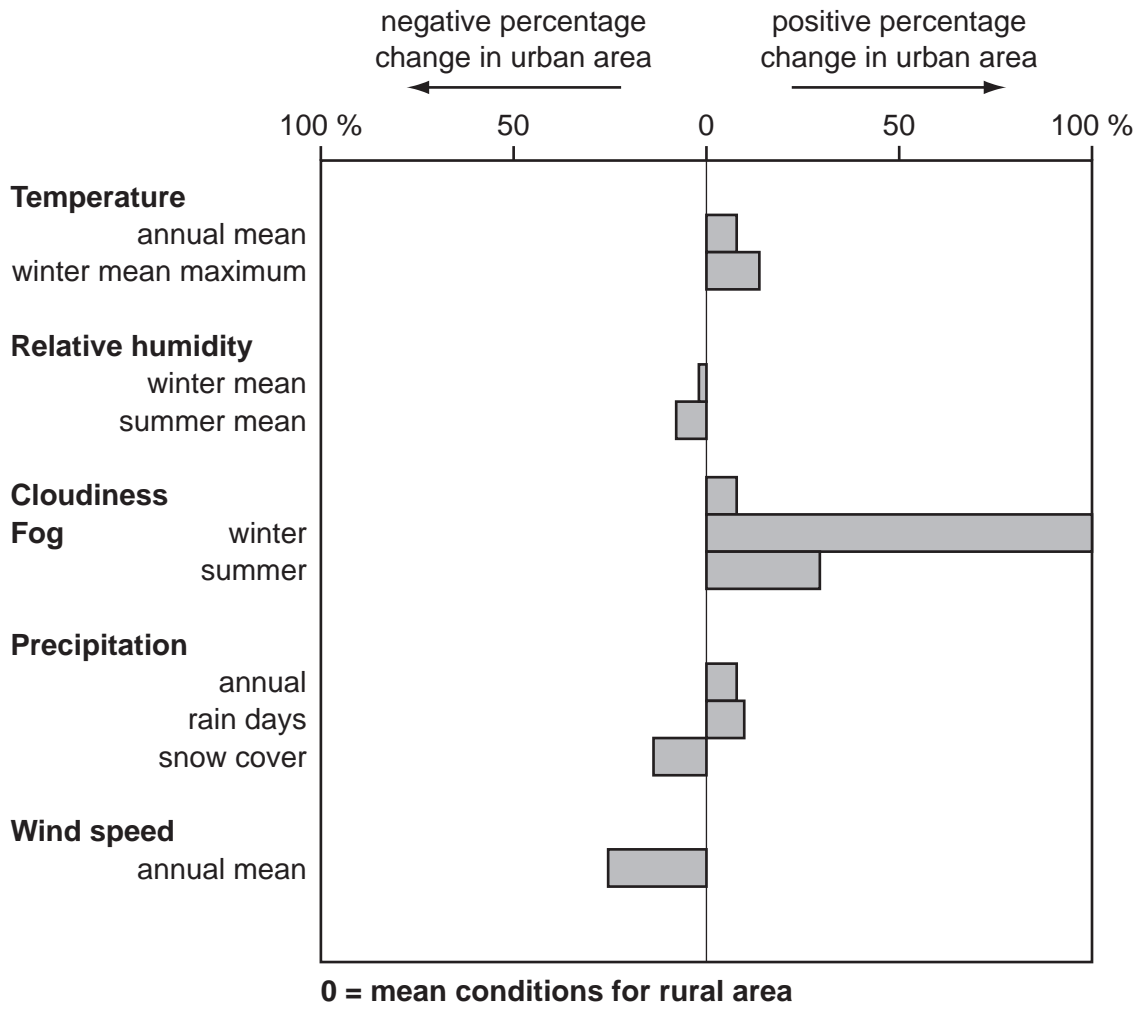


Fig. 3 for Question 3

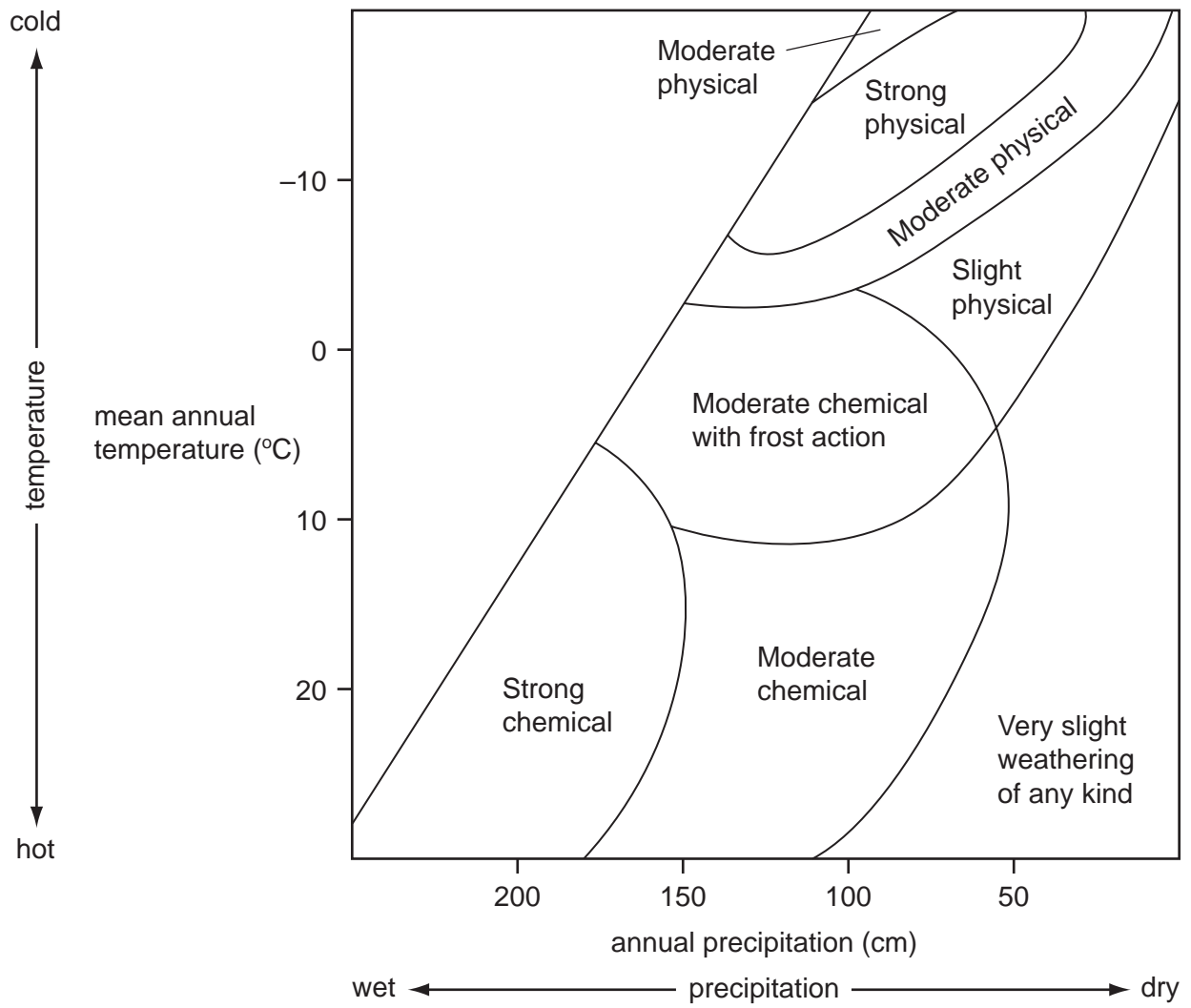
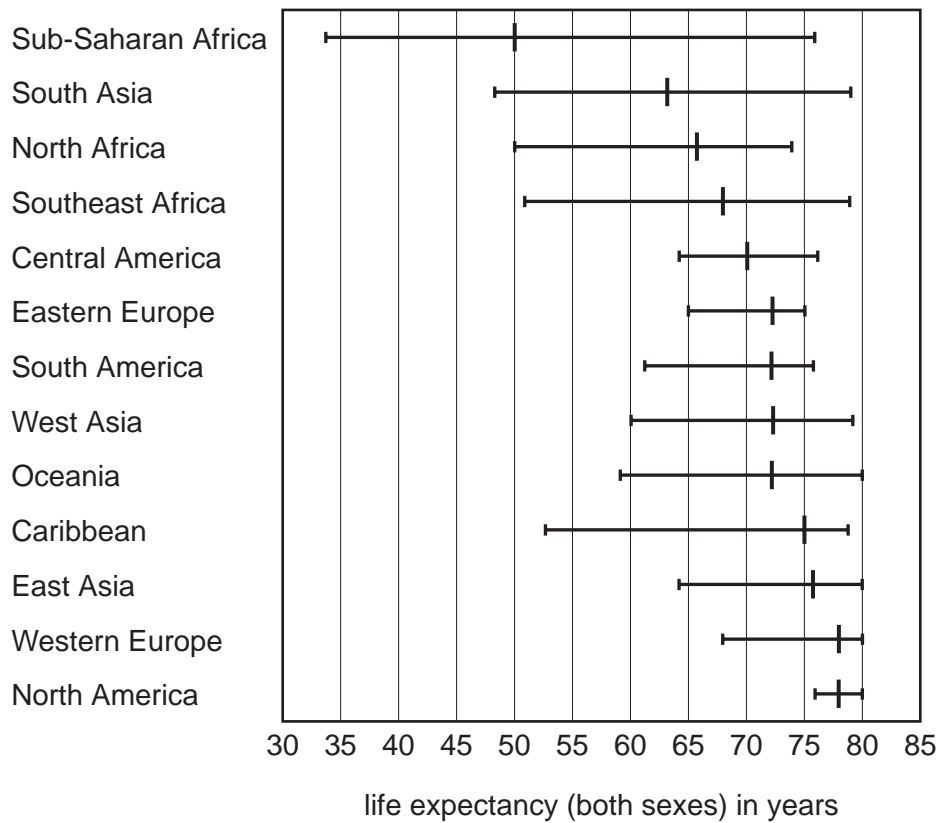


Fig. 4 for Question 4

Variations in life expectancy, 2000



KEY



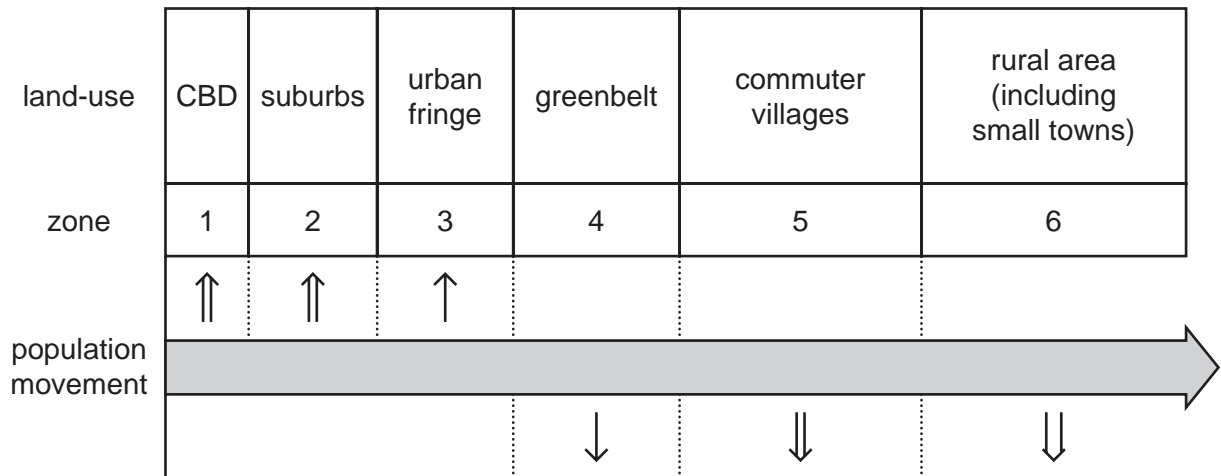
- 
 lowest to highest life expectancy for countries in the region
- 
 median life expectancy (middle value)

Fig. 5 for Question 5

A model of counterurbanisation

**KEY**

↑↑ pick up



↓↓ set down

↑ weak

↑↑ medium

↑↑ strong

Fig. 6 for Question 10

Possible immigration pathways

