



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

GEOGRAPHY

9696/01

Paper 1 Core Geography

May/June 2009

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 referred to in the questions are contained in the Insert.

Fig. 3 should be detached from the Insert, to be handed in.

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 transportation of sediment within a river channel.

(a) Identify the processes of transportation shown in Fig. 1 as:

(i) A

(ii) B

(iii) C [3]

(b) Describe the operation of **one** of the processes you have identified in (a). [2]

(c) Explain **two** ways shown in Fig. 1 by which the river obtains its sediment load from outside the channel. [5]

Atmosphere and weather

2 Fig. 2 shows the average annual distribution of incoming solar radiation (insolation) at the earth's surface.

Insolation values are measured on a horizontal surface at ground level in watts/m².

(a) What is the highest insolation value recorded:

(i) at the equator (0°);

(ii) at 23½°N? [2]

(b) Explain **one** reason why the solar radiation received at the equator is lower than that at the tropics. [3]

(c) Briefly explain **one** method by which heat is transferred around the earth. [5]

Population change

3 Fig. 3 shows the demographic transition model. Fill in your details at the top of the page and attach it to your Answer Booklet or Paper.

(a) On Fig. 3:

(i) write in the name for Stage 4; [1]

(ii) draw and label a line to show when the highest natural increase rate occurs; [2]

(iii) shade in a period of natural decrease (a negative natural increase rate). [1]

(b) Explain the fall in the death rate during Stages 2 and 3. [6]

Population change

4 Fig. 4 is a newspaper cutting about migrants to the United Kingdom (UK) who were granted citizenship in 2004. The UK is an MEDC and a member of the European Union (EU).

(a) Analyse the nationalities of the migrants who became British citizens, supporting your response with information from Fig. 4. [4]

(b) Describe and give reasons for the relationship between age and international migration suggested in Fig. 4. [6]

Settlement dynamics

5 Fig. 5 shows the planned layout of the central area of Portland, Oregon, USA. In 2006 the city's total population was 563 000.

(a) Compare the character of land-use on the two sides of the Willamette River. [5]

(b) New residential development is occurring at the location marked **X** on Fig. 5, with the conversion of a disused warehouse into high quality apartments.

Outline the possible advantages and disadvantages of living at **X**, using the information in the figure and your knowledge of urban areas. [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 *throughfall* and *throughflow*. [4]
- (ii) Describe **one** way in which overland flow occurs. [3]
- (b) With the use of diagrams, describe and explain the landforms produced by river floods. [8]
- (c) How can hydrographs help the study of flows in a catchment area? [10]

Atmosphere and weather

- 7 (a) (i) Define the terms *evaporation* and *condensation*. [4]
- (ii) Give **three** conditions that encourage high rates of evaporation. [3]
- (b) With the help of diagrams, explain how clouds and rainfall are produced. [8]
- (c) Why do urban areas often experience warmer, wetter conditions and more fog than surrounding rural areas? [10]

Rocks and weathering

- 8 (a) (i) Define the terms *hydration* and *solution* as they apply to weathering. [4]
- (ii) Explain the process of chelation. [3]
- (b) With the aid of diagrams, show how the processes of flow and slide can affect slopes. [8]
- (c) How can a Peltier diagram help in understanding the relationship between weathering and climate? [10]

Section C: The Human Core

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

Population change

- 9 (a) Fig. 6 shows projections for China's population based on different fertility rates.
- (i) Give the meaning of the term *fertility rate*. [3]
 - (ii) Describe how the different fertility rates shown in Fig. 6 might affect the size of China's population. [4]
- (b) How do **economic** factors help to explain why many MEDCs experience low fertility rates? [8]
- (c) Assess the success of **one** country's attempts to reduce the birth rate. [10]

Population change/Settlement dynamics

- 10 (a) With the help of examples, explain why migration may occur from **urban** to **rural** areas. [7]
- (b) Describe and explain the social and economic links which **rural** migrants living in **urban** areas may have with the **rural** areas from which they came. [8]
- (c) To what extent do you agree that information about the destination has only a small role in decision-making about **rural** to **urban** migration? [10]

Settlement dynamics

- 11 Choose **one** case study of squatter settlement (a shanty town or towns) in an LEDC.
- (a) Describe briefly the environmental and social characteristics of your chosen example. [7]
 - (b) Describe and explain recent attempts to improve the quality of life in the squatter settlement you have chosen. [8]
 - (c) Assess the extent to which it is true that attempts such as you described in (b) might solve some problems whilst creating others. [10]

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- Question 1 © Smithson, Addison, Atkinson; *Fundamentals of the Physical Environment*; p.302; Routledge; 2003.
Question 2 © Barry and Chorley; *Atmosphere, Weather and Climate*; Routledge; 1976.
Question 4 © Richard Ford; 140,000 new citizens last year; *The Times*; 18 May 2005.
Question 5 © Norman Krumholz & Pierre Clavel; *Reinventing Cities: Equity Planners Tell Their Stories*; p.113; Temple University Press; 1994.
Question 9 © Frank Leeming; *The Changing Geography of China*; p.62; Blackwell Publishing; 1993.

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