



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

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**GEOGRAPHY**

**9696/13**

Paper 1 Core Geography

**October/November 2010**

**3 hours**

Additional Materials: Answer Booklet/Paper

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**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 **five** 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.

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.

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



**Section A**

Answer **five** questions from this section. All questions carry 10 marks.

**Hydrology and fluvial geomorphology**

- 1 Fig. 1 shows a meandering river channel. Fill in your details at the top of the page and attach it to your answer booklet or paper.
- (a) On Fig. 1:
- (i) mark and name a pool; [1]
  - (ii) mark and name a riffle; [1]
  - (iii) draw and label a line representing the thalweg (line of maximum channel depth/velocity). [2]
- (b) Explain how a meandering channel and its landforms are produced. [6]

**Atmosphere and weather**

- 2 Fig. 2 shows some possible consequences of global warming in North and South America.
- (a) Describe the nature and distribution of the possible consequences of global warming that are shown on Fig. 2. [4]
- (b) Explain how these consequences can be linked to changes in the composition of the earth's atmosphere. [6]

**Rocks and weathering**

- 3 Figs 3A and 3B show two types of mass movement.
- (a) (i) Identify the type of mass movement occurring in Fig. 3A. [1]
- (ii) Identify the type of mass movement occurring in Fig. 3B. [1]
- (b) Explain how each of the mass movements in Fig. 3A and Fig. 3B occur and describe their effects on slopes. [8]

### Population

- 4 Fig. 4 shows a family planning poster from Bolivia, an LEDC in South America.
- (a) Describe how the poster conveys the message about family planning. Support your response with evidence from Fig. 4. [5]
- (b) Explain briefly why family planning services may not be available to everyone in LEDCs. [5]

### Migration

- 5 Fig. 5 shows the relationship between age and the rate of migration, based on census data from the USA, an MEDC, in 2000.
- (a) Identify the age group in which it was recorded that:
- (i) the highest percentage of females migrated; [1]
- (ii) the rate of migration of both males and females was 10%. [1]
- (b) Describe the overall relationship between age and the rate of migration, supporting your response with data from Fig. 5. [4]
- (c) Suggest reasons why a small percentage of the population over 60 years of age migrates. [4]

### Settlement dynamics

- 6 Fig. 6 shows land-use in central Vancouver, a city on the west coast of Canada, an MEDC.
- (a) Describe the location and shape of Vancouver's CBD core. [3]
- (b) Using evidence from Fig. 6, suggest **two** reasons why newer apartments were built south of the road Broadway. [4]
- (c) With the help of Fig. 6, explain how proximity to water (the Pacific Ocean, False Creek and Burrard Inlet) has influenced land-use. [3]

### Section B: The Physical Core

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

#### Hydrology and fluvial geomorphology

- 7 (a) (i) Define the terms *water table* and *groundwater recharge*. [4]
- (ii) Explain how evapotranspiration occurs. [3]
- (b) Explain the causes of river floods and droughts. Describe the effects these conditions have on the channel and landforms of river valleys. [8]
- (c) Explain how human activities might affect the shape of a river's hydrograph. [10]

#### Atmosphere and weather

- 8 (a) (i) Define the terms *sensible heat transfer* and *latent heat transfer*. [4]
- (ii) Briefly explain the formation of fog. [3]
- (b) With the help of a diagram, describe what happens when solar radiation enters the earth's atmosphere. [8]
- (c) Describe the global pattern of atmospheric pressure. Explain how this pattern is produced and why it varies seasonally. [10]

#### Rocks and weathering

- 9 (a) (i) Define the terms *transverse (tear) fault* and *ocean ridge*. [4]
- (ii) Briefly explain what occurs at a conservative plate margin (e.g. San Andreas fault). [3]
- (b) With the help of diagrams, explain how fold mountains and island arcs are formed at tectonic plate margins. [8]
- (c) Explain how human activities may influence the weathering of rocks and the development of slopes. [10]

### Section C: The Human Core

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

#### Population

- 10 (a) (i) Give the meaning of the term *death rate*. [2]
- (ii) With the help of examples, outline **two** circumstances under which death rates may increase. [5]
- (b) Describe and explain the differences in the death rate between countries in **two** different stages of the demographic transition. [8]
- (c) According to a government projection, 1 in 4 children born in the UK, an MEDC, in 2009, will live to over 100 years of age.
- To what extent is this kind of projection useful? [10]

#### Population/Migration

- 11 (a) (i) Identify **X** and **Y** in the following equation:
- $$\text{population change} = (\mathbf{X} + \text{gains from migration}) - (\text{deaths} + \mathbf{Y})$$
- [2]
- (ii) Use examples to outline **two** situations in which populations may decrease (record a negative rate of population growth). [5]
- (b) For **one** of the situations you outlined in (a) (ii), suggest what governments may do to increase the population and the difficulties the governments may face. [8]
- (c) How useful is the demographic transition model in the early 21st century? [10]

#### Settlement dynamics

- 12 (a) (i) Describe briefly the character of retailing (shops) in the Central Business District (CBD) of large urban areas. [3]
- (ii) Give **two** reasons why there may be little residential population in central areas of cities. [4]
- (b) Describe one or more developments in a large urban area you have studied and suggest reasons why they occurred. [8]
- (c) Assess the success of one or more attempts to provide infrastructure (such as transport, power supply and water supply) for a city you have studied. [10]





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*Copyright Acknowledgements:*

Question 2 Fig. 2      © Janet Abramovitz; *Unnatural Disasters*; Worldwatch Institute; 2001.  
Question 4 Fig. 4      © www.inforhealth.org/pr/j50/p5.jpg.  
Question 5 Fig. 5      © Rowland, Donald T; *Demographic Methods and Concepts*; Oxford University Press; 2003.

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