



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

GEOGRAPHY

9696/13

Paper 1 Core Geography

May/June 2013

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

Hydrology and fluvial geomorphology

- 1 Fig. 1A shows a rainfall event and storm hydrographs for two river catchments, the River Wye and River Severn. Fig. 1B shows the land-use of the two river catchments.
- (a) (i) State the peak discharge of the River Wye (in cumecs). [1]
- (ii) At what time does the peak discharge occur on the River Severn? [1]
- (b) Using Fig. 1A, describe the responses of the River Wye and River Severn to the same rainfall event. [3]
- (c) Using Figs. 1A and 1B, explain the differences in the shape of the two hydrographs. [5]

Atmosphere and weather

- 2 Fig. 2 shows isotherms for Dublin, an urban area in Ireland, on a day in November at 10.00pm (22.00 hours).
- (a) State the highest and lowest isotherms as shown on Fig. 2. [2]
- (b) Describe the pattern of isotherms shown on Fig. 2. [3]
- (c) Explain how urban areas have an effect on precipitation, pollution and winds in comparison with surrounding rural areas. [5]

Rocks and weathering

- 3 Fig. 3 shows different features associated with processes of mass movement.
- (a) (i) Identify the process labelled **A**. [1]
- (ii) Identify the process labelled **B**. [1]
- (b) For the mass movement labelled **B**, explain how this mass movement has occurred. [4]
- (c) Discuss the impact of mass movements such as these on the shape and stability of slopes. [4]

Population

- 4 Fig. 4 shows life expectancy and Gross National Income (GNI) per person for selected countries in 2011.
- (a) Outline the relationship shown on Fig. 4. [2]
 - (b) Suggest **two** reasons for the relationship outlined in (a). [3]
 - (c) Explain why an increase in life expectancy in an LEDC may cause problems for that country. [5]

Migration/Settlement dynamics

- 5 Fig. 5 shows changes in where a person in a MEDC city lived as he got older.
- (a) Identify **two** main features of this person's migration. [2]
 - (b) Suggest **two** reasons for this person's migration **within** the urban area. [3]
 - (c) Using examples, explain why many people migrate away from cities in old age. [5]

Settlement dynamics

- 6 Table 1 shows service provision in a shanty town (favela) area of São Paulo, Brazil, a NIC, in 2000 and 2010.
- (a) Describe the changes in the service provision in the shanty town shown in Table 1. [2]
 - (b) Suggest reasons for the changes described in (a). [4]
 - (c) Explain why many cities in LEDCs find it difficult to improve shanty towns or squatter settlements. [4]

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 fluvial terms *laminar flow* and *turbulent flow*. [4]
- (ii) Briefly explain what is meant by the thalweg of a river. [3]
- (b) With the help of a diagram, describe how precipitation reaches a river channel in a drainage basin. [8]
- (c) Using examples, explain to what extent human activities can lead to the prevention and amelioration (reduction of impact) of floods. [10]

Atmosphere and weather

- 8 (a) (i) Define the terms *condensation* and *evaporation*. [4]
- (ii) Briefly explain what is meant by latent heat transfer. [3]
- (b) With the help of diagrams, explain how land and sea breezes are created. [8]
- (c) Explain how instability in the atmosphere causes different types of weather. [10]

Rocks and weathering

- 9 (a) (i) Define the terms *freeze-thaw* and *pressure release* as they apply to weathering processes. [4]
- (ii) Briefly explain how vegetation contributes to weathering. [3]
- (b) Explain the processes involved in the weathering of limestone. [8]
- (c) Discuss the extent to which different types of weathering are effective in different climates. [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 *carrying capacity*. [3]
- (ii) Outline **two** causes of food shortages. [4]
- (b) Explain some of the possible consequences of food shortages in an area. [8]
- (c) To what extent can technology solve food shortages? Use examples to support your answer. [10]

Migration

- 11 (a) Describe how and explain why countries attempt to control international migration. [7]
- (b) Explain why international migration (both to and from a country) tends to increase as a country develops. [8]
- (c) Assess the impact of international migration on **one** country or area. [10]

Settlement dynamics

- 12 Study Fig. 6 which shows population change in a village in a rural area in a LEDC between 1950 and 2010.
- (a) Describe and suggest reasons for the changing population size of the village in Fig. 6. [7]
- (b) Explain the issues for rural settlement or rural areas that result from **either** decline **or** growth. [8]
- (c) Evaluate the success of the responses to **either** rural decline **or** growth in a rural settlement or rural area that you have studied. [10]

Copyright Acknowledgements:

Question 2 Fig. 2 © adapted: G O'Hare & J Sweeney; *Human Impact on Atmospheric Energy*; Oliver & Boyd; 1990.

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