



GEOGRAPHY

9696/12

Paper 1 Core Geography

May/June 2012

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 and the Photograph 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 **6** printed pages, **2** blank pages and **1** Insert.



Section A

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

Hydrology and fluvial geomorphology

1 Fig. 1 shows a waterfall.

(a) Identify the features shown as:

(i) **A**; [1]

(ii) **B**; [1]

(iii) **C**. [1]

(b) Name the process occurring at **D**. [1]

(c) Explain how rivers deepen and widen their channels. [6]

Atmosphere and weather

2 Fig. 2 shows lapse rates representing the atmospheric condition of conditional instability.

(a) (i) Name the lapse rate marked **A**. [1]

(ii) Name the lapse rate marked **B**. [1]

(iii) Name the lapse rate marked **C**. [1]

(iv) Name the line marked **D**. [1]

(b) Explain how conditional instability occurs and describe the type of weather that may result. [6]

Rocks and weathering

3 Fig. 3 shows a destructive (convergent) plate boundary.

(a) Identify:

- (i) the type of tectonic plate marked **A**; [1]
- (ii) the landform marked **B**; [1]
- (iii) the feature marked **C**; [1]
- (iv) the zone marked **D**. [1]

(b) Explain the processes occurring at this plate boundary and how the landforms **B** and **C** are produced. [6]

Population

4 Fig. 4 shows age/sex pyramids for Japan, an MEDC, in 1950 and 2007, and a predicted age/sex pyramid for 2050.

- (a) (i) What percentage of the Japanese population was 65 years and over in 1950? [1]
- (ii) What is the estimated percentage increase in the population 65 years and over between 2007 and 2050? [1]

(b) Using Fig. 4, describe the main differences between the age/sex pyramids for **1950** and **2050**. [4]

(c) Explain the factors that may account for the differences between the **2007** and **2050** age/sex pyramids shown in Fig. 4. [4]

Migration

5 Fig. 5 shows the main country of origin of immigrants to the UK, an MEDC, in 2003 and 2006.

(a) Using Fig. 5 describe how immigration has changed between 2003 and 2006. [4]

(b) Give reasons why MEDCs may encourage immigration. [6]

Settlement dynamics

- 6 Photograph A shows part of a squatter settlement in Freetown, Sierra Leone, an LEDC.
- (a) Using evidence from Photograph A, describe the characteristics of this squatter settlement. [4]
- (b) Explain the advantages and disadvantages of living in settlements such as the one shown in Photograph A. [6]

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 hydrological terms *lag time* and *rising limb*. [4]
- (ii) Briefly explain **one** condition that may produce a rise in the level of baseflow on a storm hydrograph. [3]
- (b) With the help of a diagram, explain how the hydrological cycle operates within a drainage basin. [8]
- (c) To what extent can human activities bring about both flooding and low flow in river basins? [10]

Atmosphere and weather

- 8 (a) (i) Define the terms *solar radiation* and *terrestrial radiation*. [4]
- (ii) Describe how a temperature inversion may occur close to the earth's surface at night. [3]
- (b) With the help of diagrams, explain how, on the earth's surface, heat is transferred from areas of radiation excess to areas of radiation deficit. [8]
- (c) Explain to what extent an urban climate is different from the climate found in surrounding rural areas. [10]

Rocks and weathering

- 9 (a) (i) Define the weathering terms *hydration* and *oxidation*. [4]
- (ii) Briefly describe how humic acids can affect the weathering of rocks. [3]
- (b) With the help of a diagram, explain how landslides can occur and describe their effects upon slopes. [8]
- (c) To what extent do different types of weathering occur under different climatic conditions? [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 *natural increase rate*. [2]
- (ii) Suggest why birth rates may vary over time. [5]
- (b) With reference to one or more examples, describe and explain the problems caused by a falling birth rate. [8]
- (c) How far do you agree with the view that population growth will be too great for existing resources to sustain? [10]

Migration

- 11 Fig. 6 is a model showing some of the factors influencing migration.
- (a) (i) Give **three** examples of possible obstacles to migration. [3]
- (ii) Explain **two** push factors which may cause migration. [4]
- (b) Describe **one** type of **internal** migration and explain its impact on the receiving area(s). [8]
- (c) Over the past 15 years the number of people crossing borders in search of a better life has been rising steadily. At the start of the 21st century, one in 35 people was an international migrant.
- Using an example or examples of international migration you have studied, examine the extent to which this trend is a result of voluntary or forced (involuntary) migration. [10]

Settlement dynamics

- 12 (a) (i) Identify **three** characteristics of Central Business Districts (CBDs). [3]
- (ii) Outline the main issues which result from changes in Central Business Districts (CBDs). [4]
- (b) Give the meaning of the term *gentrification*. Outline the impact of gentrification on urban areas. [8]
- (c) With reference to an example you have studied, assess the success of attempts to solve the problems of the inner city in MEDCs. [10]

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Question 4 Figure 4 © <http://www.stat.go.jp/english>.
Question 6 Photograph A © Abenaa; *Kroo Bay – Freetown Slum*; iStock; Reference 8403813.

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