

---

**GEOGRAPHY**

**9696/12**

Paper 1 Core Geography

**October/November 2017**

**3 hours**

No Additional Materials are required.

---

**READ THESE INSTRUCTIONS FIRST**

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

**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.

The Figures and the Table referred to in the questions are contained in the Insert.

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 **2** Inserts.

**Section A**

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

**Hydrology and fluvial geomorphology**

- 1 Fig. 1 shows a storm hydrograph.
- (a) Calculate the lag time. [2]
- (b) Identify the following features of the hydrograph shown in Fig. 1:
- (i) A; [1]
- (ii) B. [1]
- (c) Explain how both soils and vegetation affect the shape of a storm hydrograph. [6]

**Atmosphere and weather**

- 2 Fig. 2 shows some possible consequences of global warming.
- (a) Describe the distribution of the possible consequences of global warming shown in Fig. 2. [4]
- (b) Explain how the consequences identified in (a) can be linked to changes in the composition of the Earth's atmosphere. [6]

**Rocks and weathering**

- 3 Fig. 3 shows a type of mass movement.
- (a) (i) Name the mass movement shown in Fig. 3. [1]
- (ii) Briefly explain how the mass movement shown in Fig. 3 occurs. [3]
- (b) Explain how climate affects the rate of mass movement. [6]

## Population

- 4 Fig. 4 shows average life expectancy for the world and life expectancy for India, a country in South Asia, 2000–14 and predicted 2015–49.
- (a) (i) State the change in life expectancy shown in Fig. 4 for India between 2000–04 and 2010–14. [1]
- (ii) Using Fig. 4, identify in which 5-year period life expectancy in India is predicted to be higher than the world average. [1]
- (b) Give **two** reasons why average life expectancy statistics for a country may be misleading. [2]
- (c) Suggest reasons why life expectancy is increasing in many countries. [6]

## Migration

- 5 Fig. 5 shows the main international migration flows within and from Africa, 1990–2012.
- (a) Name the destination country shown in Fig. 5 for emigrants from the Democratic Republic of the Congo. [1]
- (b) Describe the pattern of immigration into South Africa shown in Fig. 5. [3]
- (c) Suggest reasons for large emigration flows from LEDCs to MEDCs. [6]

## Migration / Settlement dynamics

- 6 Table 1 shows selected characteristics of the 100 poorest districts of cities in the USA, an MEDC, in 2000 and 2005–09.
- (a) Using Table 1:
- (i) identify the population which shows a percentage increase; [1]
- (ii) state the percentage change in male unemployment. [1]
- (b) Using evidence from Table 1, describe the change in housing. [2]
- (c) Explain some of the difficulties experienced by people living in poor districts of cities. [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 fluvial terms *abrasion* and *hydraulic action*. [4]
- (ii) Briefly explain what is meant by turbulent flow. [3]
- (b) With the aid of diagrams, explain the formation of levées and oxbow lakes. [8]
- (c) Evaluate the extent to which it is possible to reduce the impacts of river floods. [10]

#### Atmosphere and weather

- 8 (a) (i) Define the terms *sublimation* and *sensible heat transfer*. [4]
- (ii) Explain how temperature inversions occur in the lower atmosphere. [3]
- (b) With the aid of a diagram, describe what happens when solar radiation enters the Earth's atmosphere. [8]
- (c) Explain the extent to which the climate of rural areas differs from that of a nearby urban area. [10]

#### Rocks and weathering

- 9 (a) (i) Define the weathering terms *hydrolysis* and *carbonation*. [4]
- (ii) Describe the weathering process of salt crystal growth. [3]
- (b) With the aid of a diagram, explain how the movement of tectonic plates can lead to the formation of mountains. [8]
- (c) Assess the importance of rock type in affecting the type and intensity of weathering. [10]

**Section C: The Human Core**

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

**Population**

- 10 (a) With the help of a labelled diagram, explain the term *population structure*. [7]
- (b) Explain two or more issues caused by ageing populations. [8]
- (c) To what extent does reducing the birth rate depend on improving education? [10]

**Migration / Settlement dynamics**

- 11 (a) (i) Give the meaning of the term *stepped migration*. [2]
- (ii) Explain why stepped migration occurs. [5]
- (b) Explain how family life can both encourage and discourage **internal** migration. [8]
- (c) Assess the extent to which residential segregation in urban settlements is the result of **economic** factors. [10]

**Settlement dynamics**

- 12 (a) (i) Define the term *spatial competition*. [2]
- (ii) Explain why there is spatial competition in the centre of urban areas. [5]
- (b) Describe recent changes to the Central Business District (CBD) with the help of one or more examples. [8]
- (c) Evaluate one or more attempts to improve an inner city area in an MEDC. [10]





**BLANK PAGE**

---

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cie.org.uk](http://www.cie.org.uk) after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.