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**GEOGRAPHY**

**9696/11**

Paper 1 Core Geography

**October/November 2017**

**3 hours**

No Additional Materials are required.

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**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 Photograph 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.



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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 components of the drainage basin hydrological system.

(a) Name the components labelled on Fig. 1 as:

(i) A; [1]

(ii) B; [1]

(iii) C; [1]

(iv) D. [1]

(b) Briefly explain why, after a rainfall event in a drainage basin, water reaches the river channel at different times. [6]

**Atmosphere and weather**

2 Fig. 2 shows the pattern of daytime temperatures for Greater London, UK, 8 August 2003.

(a) Describe the pattern of daytime temperatures shown in Fig. 2. [4]

(b) Explain why temperatures and precipitation amounts vary between an urban area and its surrounding rural area. [6]

**Rocks and weathering**

3 Photograph A shows a type of mass movement.

(a) Describe the main features of the mass movement shown in Photograph A. [4]

(b) Explain why the mass movement shown in Photograph A might have occurred. [6]

### Population

- 4 Fig. 3A shows the age/sex pyramid for India, a country in South Asia, in 2001 and Fig. 3B shows the predicted age/sex pyramid for 2026.
- (a) Briefly describe the shape of the age/sex pyramid in Fig. 3A. [2]
- (b) State which age group:
- (i) had the largest percentage population in Fig. 3A; [1]
- (ii) is predicted to have the largest percentage population in Fig. 3B. [1]
- (c) Suggest reasons why the percentage population aged below 15 years in LEDCs is decreasing. [6]

### Population / Migration

- 5 Fig. 4 shows percentage immigrant population in MEDCs and LEDCs in 1990, 2000 and 2010.
- (a) Using Fig. 4, identify the year in which there was 1.9% immigrant population in LEDCs. [1]
- (b) Compare the changes in percentage immigrant population between MEDCs and LEDCs, supporting your response with data from Fig. 4. [3]
- (c) Explain why MEDCs attract large numbers of international migrants. [6]

### Settlement dynamics

- 6 Fig. 5 shows an area of urban renewal on the eastern edge of the Central Business District (CBD) of San Francisco, USA, an MEDC.
- (a) Describe the land-use between Sixteenth Street and Central Skyway in Fig. 5. [4]
- (b) Explain why schemes of urban renewal often include the development of large numbers of residential apartments. [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 *traction* and *suspension*. [4]  
(ii) Briefly explain helicoidal flow in rivers. [3]
- (b) With the aid of diagrams, explain the formation of deltas and alluvial fans. [8]
- (c) Assess the extent to which the Hjulstrom curve explains the erosion, transportation and deposition of material in a river channel. [10]

**Atmosphere and weather**

- 8 (a) (i) Describe **two** factors that influence the rate of evaporation from a water surface. [4]  
(ii) Briefly explain the conditions needed for atmospheric stability. [3]
- (b) With the aid of diagrams, explain how convection and orographic uplift of air can lead to the development of precipitation. [8]
- (c) Evaluate the role that greenhouse gases have within the energy budget. [10]

**Rocks and weathering**

- 9 (a) (i) Define the terms *chelation* and *hydration*. [4]  
(ii) Briefly explain how heating and cooling may lead to the weathering of rocks. [3]
- (b) With the aid of a diagram, describe and explain the landforms associated with the convergence of an oceanic plate and a continental plate. [8]
- (c) To what extent is the weathering of **either** granite **or** limestone the result of its chemical composition? [10]

### Section C: The Human Core

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

#### Population

- 10 (a) (i) Define the term *underpopulation*. [3]
- (ii) Outline **two** issues associated with **overpopulation**. [4]
- (b) Explain why optimum population is difficult to achieve. [8]
- (c) 'Human factors are the main causes of food shortages.'
- How far do you agree? [10]

#### Migration / Settlement dynamics

- 11 (a) (i) Give the meaning of the term *intra-urban migration*. [2]
- (ii) With the help of an example or examples, describe **two** types of intra-urban migration and explain why they occur. [5]
- (b) Suggest reasons why many young men migrate. [8]
- (c) Assess the usefulness of the model shown in Fig. 6 for understanding migration. [10]

#### Settlement dynamics

- 12 For the provision of infrastructure in **one** named city:
- (a) outline why the city's infrastructure needed improving; [7]
- (b) describe what was done to improve the infrastructure; [8]
- (c) assess the extent to which the improvement(s) you described in (b) were successful. [10]





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