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**GEOGRAPHY**

**9696/01**

Paper 1 Core Geography

**October/November 2007**

**3 hours**

Additional Materials: Answer Booklet/Paper

1:50 000 Survey Map Extract is enclosed with this Question 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 **all** 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 and **3** blank pages and **1** Insert.



### Section A

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

#### Hydrology and fluvial geomorphology

- 1 Study the map of part of the Port Antonio area, Jamaica (1:50 000).
- (a) (i) Draw a sketch map of the course of the main river channels of the Rio Grande and the Back Rio Grande north of northing 60.
- (ii) Name and show the location of **two** physical features of the river channels on your sketch map. [5]
- (b) Explain the formation of **one** of the river channel features you have identified in (a). [5]

#### Atmosphere and weather

- 2 Fig. 1 shows measurements of the concentration of carbon dioxide (CO<sub>2</sub>) in the atmosphere, taken at Mauna Loa in Hawaii between the years 1750 and 2000.
- (a) Describe the changes in the rates of increase in carbon dioxide concentrations from 1750 to 2000. [3]
- (b) Name **one** cause of the increases in carbon dioxide concentrations that have occurred since 1900. [1]
- (c) Explain how increases in carbon dioxide concentrations can lead to global warming. [6]

#### Population change

- 3 Fig. 2A shows life expectancy, total fertility rate and natural increase rate for 25 large LEDCs during the period 1950–55. Fig. 2B shows the same variables and countries during the period 1995–2000.
- (a) Using Fig. 2A, identify the country with the highest life expectancy and the country with the lowest life expectancy. [2]
- (b) Using both Figs 2A and 2B, compare the changes in total fertility rate and natural increase rate experienced by Nigeria with those experienced by China. [4]
- (c) Suggest an explanation for the decrease in natural increase rate of a country, such as Mexico, over this 50 year period. [4]

**Population change / Settlement dynamics**

4 Fig. 3 shows one model of south-east Asian cities.

(a) Describe the pattern of **residential** areas shown in Fig. 3. [5]

(b) Suggest reasons for the development of the city's three **commercial** zones in the pattern shown in Fig. 3. [5]

**Settlement dynamics**

5 Study the map of the Port Antonio area, Jamaica (1:50 000).

(a) Giving map evidence, identify **two** examples of the **health services** provided in the town of Port Antonio. [2]

(b) The built-up area in grid squares 1767 and 1768 is a new residential area.

Give **one** possible objection to the development, supporting your suggestion with evidence from the map. [2]

(c) Describe and explain how people living in the village of Williamsfield (112688) might use the town of Port Antonio for **shopping**. [6]

## Section B: The Physical Core

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

### Hydrology and fluvial geomorphology

- 6 (a) (i) Define the terms *precipitation intensity* and *antecedent moisture*. [4]
- (ii) Briefly describe how precipitation intensity might affect surface flows in a river basin. [3]
- (b) For each of:
- (i) a river basin on clay (impermeable) geology,
- (ii) a river basin on limestone (permeable) geology,
- draw labelled storm hydrographs to show the effect of a rain storm. [8]
- (c) What are the main causes of river floods and to what extent can their effects be limited by human actions? [10]

### Atmosphere and weather

- 7 (a) (i) Define the terms *reflected solar radiation* and *latent heat transfer*. [4]
- (ii) Briefly describe convectional heating. [3]
- (b) With the help of diagrams, describe and explain **two** methods by which the heat from solar radiation received at the equator is transferred towards the poles. [8]
- (c) Explain how clouds and fog are formed. [10]

### Rocks and weathering

- 8 (a) (i) Define the weathering terms *organic action* and *wetting and drying*. [4]
- (ii) Describe **one** effect that organic action can have upon rocks. [3]
- (b) Explain the conditions under which chemical weathering is most active. [8]
- (c) How and to what extent can human activities affect the shape and form of slopes? [10]

### Section C: The Human Core

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

#### Population change

- 9 (a) (i) Give the meaning of the term *population structure*. [2]
- (ii) Draw a simple labelled age/sex pyramid to show a **youthful** population structure. [5]
- (b) Describe and explain the impacts of migration on the population structure of **either** a source area **or** a receiving area you have studied. [8]
- (c) To what extent do you agree that in MEDCs an ageing population is a market to be exploited rather than a cause for concern? [10]

#### Population change / Settlement dynamics

- 10 (a) Describe the character of **one** squatter settlement or shanty town you have studied. [7]
- (b) Fig. 4 shows the distribution of favelas (squatter settlements) in Rio de Janeiro, Brazil, in 1997.
- Why is it so difficult for the authorities in cities like Rio to improve the quality of life in squatter settlements? [8]
- (c) Using a case study of a squatter settlement or a shanty town, assess the extent to which intervention has made the situation there worse rather than better. [10]

#### Settlement dynamics

- 11 (a) Why may there be intense competition for space (spatial competition) within the Central Business District (CBD)? [7]
- (b) With reference to **one city**, describe one or more recent attempts to improve the city's infrastructure. [8]
- (c) How true is it that the attempt(s) you described in (b) benefited the city's rich but failed the city's poor? [10]

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*Copyright Acknowledgements:*

Question 4                      Fig. 3 @ McGee, T (1967) 'The Southeast Asian City' New York Praeger. Geographical Association.  
Question 10                     Fig. 4 @ IDB (1997) 'A new future for Rio's favelas'. IDB Extra. Washington DC. Inter-American Development Bank. Geographical Association.

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