

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

GEOGRAPHY

9696/01

Paper 1 Core Geography

May/June 2003

Additional Materials: Answer Booklet/Paper

3 hours

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 on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions in Section A.

Answer **one** question from Section B.

Answer **one** question from Section C.

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.

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.

Section A

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

Atmosphere and weather

- 1 Fig. 1 shows the effects of a cold ocean current upon the formation of fog and a temperature height diagram for the area where the fog has formed.
- (a) (i) Describe how the temperature changes with height. [2]
(ii) Identify the feature marked as A. [1]
- (b) (i) Name the type of fog shown in the diagram. [1]
(ii) Explain how and why the fog has formed over the ocean area. [6]

Rocks and weathering

- 2 Fig. 2 shows types and processes of mass movement.
- (a) (i) Which type of mass movement has both the fastest rate of movement and the greatest water content? [1]
(ii) Which type of mass movement has the slowest rate of movement and the lowest water content? [1]
- (b) Briefly describe the differences between flow and slide. [3]
- (c) Describe and explain the occurrence of **one** of the types of mass movement shown on Fig. 2. [5]

Population change

- 3 Fig. 3A shows the age/sex pyramid for Singapore in 2000 and Figs 3B and 3C show the projected age/sex pyramids for 2025 and 2050.
- (a) (i) Identify **two** features of the pyramid in Fig. 3A. [2]
(ii) Giving evidence from Figs 3B and 3C, describe the changes in population structure projected for Singapore by 2050. [3]
- (b) What are the possible consequences, for a country, of having an ageing population? [5]

Population change/Settlement dynamics

- 4 Table 1 gives information about the total urban population and the percentage urban population in more developed regions and less developed regions in 1970 and 1994, together with projections for 2025.
- (a) (i) For the period 1970-1994, name the part of the world which experienced:
- A the least increase in total urban population,
 - B the greatest increase in total urban population,
 - C the least percentage change in urban population,
 - D the greatest percentage change in urban population. [2]
- (ii) Compare the 2025 projected percentage urban population for the more developed regions with that for the less developed regions. [3]
- (b) Suggest reasons for the high rates of urbanisation in many less economically developed countries (LEDCs). [5]

Settlement dynamics

- 5 Fig. 4 shows the layout of Brasília, the capital city built in Brazil's interior.
- (a) Describe the main features of the city's layout. [5]
- (b) Brasília was planned not to be segregated socially. Suggest reasons why it is more usual for residential segregation to develop within urban areas. [5]

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 *throughflow* and *groundwater flow (baseflow)*. [4]
- (ii) Briefly describe the process of interception and give reasons why it is of importance in the hydrological system. [3]
- (b) Briefly explain how each of the following may influence the hydrograph of a river:
- (i) drainage basin shape,
 - (ii) geology,
 - (iii) rainfall intensity,
 - (iv) drainage density. [8]
- (c) Explain how river floods might be predicted. Giving examples, describe the methods which may be used to reduce the effects of flooding. [10]

Atmosphere and weather

- 7 (a) (i) Define the terms *evaporation* and *condensation*. [4]
- (ii) Give **three** conditions necessary for high evaporation rates. [3]
- (b) (i) Draw a labelled diagram to show the greenhouse effect in the earth's atmosphere. [3]
- (ii) Describe what is meant by greenhouse gases and explain their influence on the temperature of the atmosphere. [5]
- (c) Explain how clouds are formed. Why do only some clouds produce rainfall? [10]

Rocks and weathering

- 8 (a) (i) Define the terms *physical (mechanical) weathering* and *chemical weathering*. [4]
- (ii) Briefly describe **one** chemical weathering process. [3]
- (b) (i) Draw a labelled diagram to show sea floor spreading. [4]
- (ii) Describe **one** landform that is associated with sea floor spreading. [4]
- (c) Describe the chemical composition and physical properties of granite and explain how these affect its weathering and erosion. [10]

Section C: The Human Core

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

Population change

- 9 Fig. 5 shows the demographic transition model.
- (a) Describe and explain the population trends for **one** country in Stage 2 of the model. [7]
 - (b) What social and economic factors help explain the population trends experienced by some more economically developed countries (MEDCs) in Stage 4? [8]
 - (c) To what extent can the demographic transition model help us to understand future population trends in less economically developed countries (LEDCs)? [10]

Population change

- 10 (a) (i) Give the meaning of the term *population ceiling*. [3]
- (ii) Explain **two** ways in which a growing population may adjust to the population ceiling. [4]
- (b) Suggest reasons why the concept of a population ceiling may be of limited usefulness in reality. [8]
- (c) Why have many attempts at reducing the birth rate in less economically developed countries (LEDCs) had only limited success? [10]

Settlement dynamics

- 11 (a) (i) Give **two** reasons for the intense competition for land near the centres of towns and cities. [7]
- (ii) What evidence may be seen in the urban landscape of this competition for central space? [7]
- (b) Using examples, describe the attempts that have been made in more economically developed countries (MEDCs) to control the spread of urban areas. [8]
- (c) Choose **one** rural settlement or rural area which is undergoing change. How positive are the changes that have taken place there recently? [10]

Copyright Acknowledgements:

Table 1 M Pacione. *Geography Vol. 86 Part 3*. Published by The Geographical Association. © United Nations.
Figure 4 John Dickenson et al. *A Geography of the Third World*. Published by Routledge. © John Dickenson.

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