CAMBRIDGE INTERNATIONAL EXAMINATIONS

General Certificate of Education Advanced Subsidiary/Advanced Level

GEOGRAPHY 9696/1

PAPER 1 Core Geography

MAY/JUNE SESSION 2002

3 hours

Additional materials:
Answer paper

TIME 3 hours

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces provided on the answer paper/answer booklet.

Answer **all** questions in Section A.

Answer **one** question from Section B.

Answer **one** question from Section C.

Write your answers on the separate answer paper provided.

If you use more than one sheet of paper, fasten the sheets together.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part question.

All the Figures referred to in the questions are contained in the Insert.

Sketch-maps and diagrams should be drawn wherever they serve to illustrate an answer.

You are advised to spend no more than 1 hour 30 minutes on Section A.

This question paper consists of 5 printed pages, 3 blank pages and an insert.

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Section A

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

Hydrology and fluvial geomorphology

1 Fig. 1A shows the catchments of two rivers, X and Y. Fig. 1B shows their hydrographs over 24 hours, during which there was a period of rainfall.

(a) Using Fig. 1B, describe the differences between the discharges of rivers X and Y in response to the rainfall. [4]

(b) Using both Figs 1A and 1B, explain why the discharges of the two rivers are different. [6]

Atmosphere and weather

2 Fig. 2 shows global surface air pressure in January and July.

(a) Describe **one** similarity and **one** difference between the pressure patterns for January and July shown in Fig. 2. [4]

(b) Give brief explanations for the similarity and the difference you have identified in **(a)**. [6]

Rocks and weathering

3 Fig. 3A and Fig. 3B represent stages in the weathering of a jointed crystalline rock.

(a) Describe how the rock joints have affected the shape of the weathered rock. [4]

(b) Suggest what weathering processes could be operating on the rock shown in Figs 3A and 3B. Give reasons for your answer. [6]

Population change

4 The relationship between the fertility of women aged 40–49 and their level of education, for Jordan and Mexico in 1990, is shown in Fig. 4A. The countries' locations are shown on Fig. 4B.

(a) **(i)** State simply the relationship shown between fertility and education level.

(ii) For Mexico, state the actual variation in the average number of children born to women aged 40–49.

(iii) Which level of education has the greatest difference in the average number of children between the two countries? Support your answer with data from Fig. 4A. [4]

(b) Using located examples, discuss **two** factors other than education which may significantly affect fertility rate. [6]

Settlement dynamics

5 The world's largest urban agglomerations, by population size, in 1980, 1990 and 2000, are listed in Table 1.

(a) Compare the changing size and rank of Paris and São Paulo. [4]

(b) To what extent does the demographic transition model help us to understand the rapid growth of India's urban agglomerations shown in Table 1? [6]

Section B: The Physical Core

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

Hydrology and fluvial geomorphology

6 **(a)** **(i)** Define the terms *turbulent flow* and *helicoidal flow*. [4]

(ii) Briefly describe **one** process by which rivers can erode their channels. [3]

(b) **(i)** Draw a labelled diagram to show the main features of a river flood plain. [4]

(ii) Briefly explain how river flood plains are formed. [4]

(c) Explain how river flood plains can be affected by human activities. [10]

Atmosphere and weather

7 **(a)** **(i)** Define the terms *sensible heat transfer* and *latent heat transfer*. [4]

(ii) Give **three** conditions necessary for the formation of dew. [3]

(b) **(i)** Draw **one** labelled diagram to show conditional instability in the atmosphere. [4]

(ii) Describe a circumstance under which conditional instability might occur. [4]

(c) Explain the nature, causes and consequences of urban heat islands. [10]

Rocks and weathering

8 **(a)** **(i)** Briefly describe the nature of the earth's tectonic plates. [4]

(ii) Draw a labelled diagram to show the formation of an ocean trench. [3]

(b) Briefly explain how the shape and development of slopes can be influenced by,

(i) rock type and structure,
(ii) climate. [8]

(c) Describe the types of mass movement that can occur on slopes. How can these mass movements be affected by human activities? [10]

Section C: The Human Core

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

Population change

9 Choose **one** country whose population policy you have studied in detail.

(a) Outline the government's priorities in its population policy. [7]

(b) Explain some of the difficulties of implementing the population policy. [8]

(c) To what extent has the government been successful in its attempts at managing natural increase? [10]

Population change

10 **(a)** Outline the factors which influence a person's *migrability* (how likely they are to migrate). [7]

(b) Using examples, describe the circumstances in which rural-urban migration is likely to occur in less economically developed countries (LEDCs). [8]

(c) Evaluate the impact of rural-urban migration on the rural areas themselves. [10]

Settlement dynamics

11 **(a)** Give the meaning of the terms *functional zonation* and *vertical zonation* in relation to land-use in the Central Business District (CBD) and explain why each occurs. [7]

(b) Describe some of the recent changes **within** the CBD of **one** town or city you have studied. [8]

(c) To what extent is it true that the changes described in **(b)** are evidence of the increasing pressures on the CBD? [10]

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