

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**GEOGRAPHY**

**0460/01**

Paper 1

May/June 2004

Additional Materials: Answer Booklet/Paper;  
Ruler

**1 hour 45 minutes**

**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 **three** questions.

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.  
The insert contains Figs 3 and 4 for Question 2 and Fig. 6 for Question 3.

This document consists of **12** printed pages and an insert.

- 1 (a) Read the information about population growth in Nigeria, a developing country in Africa (Fig. 1).  
With the help of this information answer the following.
- (i) Why did Nigeria not worry about controlling the rate of population increase before 1980? [2]
- (ii) Why was a policy for population control introduced in the 1980s? [2]
- (iii) How did the population problem worsen in the 1990s? [3]
- (iv) Why are improvements in education important if Nigeria is to reduce its population growth? [2]
- (v) Give reasons why it is difficult for governments of developing countries, such as Nigeria, to achieve a reduction in the rate of population growth. [6]

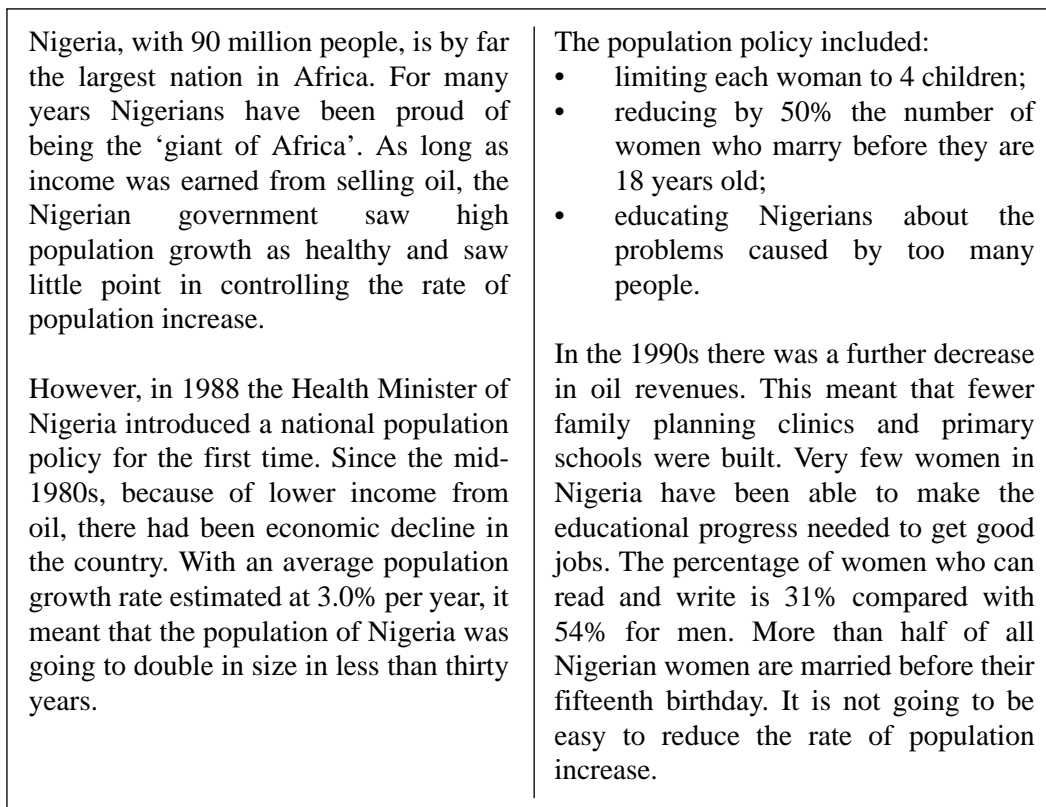


Fig. 1

- (b) Fig. 2 shows percentage changes in the fertility rate for women in different age groups in a number of developed countries.  
(Fertility rate is the average number of children born to each woman.)

Percentage changes in fertility rate over a 20 year period

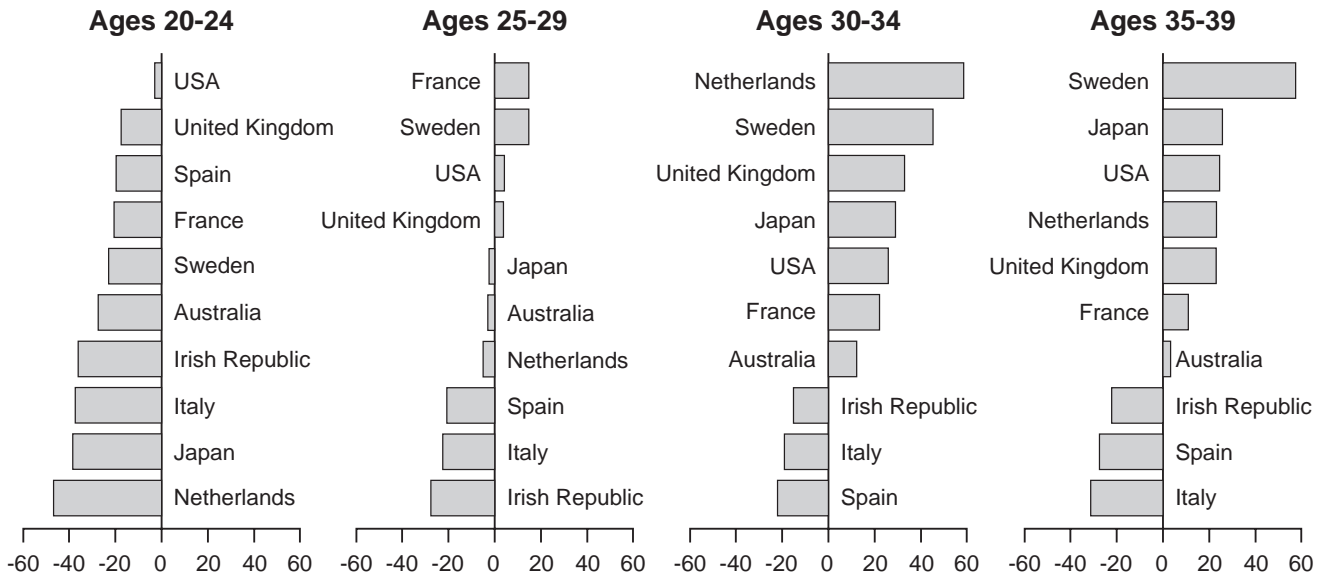
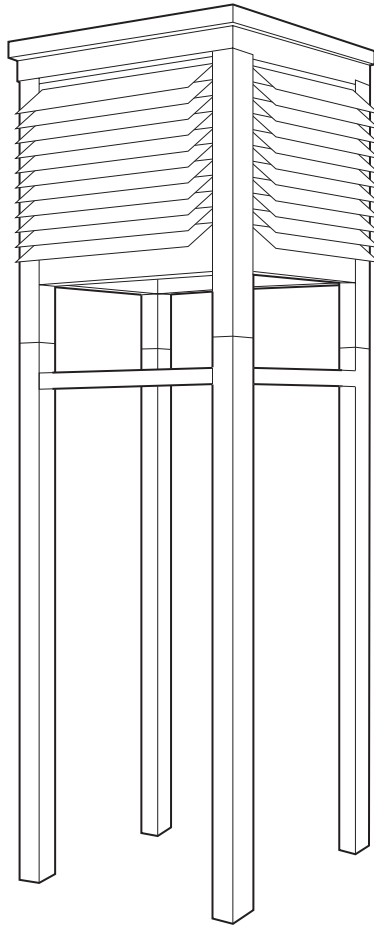


Fig. 2

- (i) What is the main difference in the percentage change when the 20-24 year age group is compared with the 30-34 year age group? [1]
- (ii) State the percentage change shown for Spain for the age group 30-34 years. [1]
- (iii) Describe, using data, how changes in the fertility rates in Sweden compare with those in the Irish Republic. [4]
- (iv) Suggest reasons why a greater number of women in developed countries now have their children later in life. [4]

- 2 (a) Fig. 3 (Insert) shows the distances that people from a residential area in a large town obtain a selected number of services.
- (i) How far will people from this area travel to visit:  
**A** a cinema;  
**B** a hospital? [2]
- (ii) Two services have been left off the diagram;
- a gymnasium 4 km from the centre of the residential area,
  - a post office 1 km from the centre of the residential area.
- Add these positions to Fig. 3. [2]
- (iii) Explain why people are willing to travel greater distances for some services than for others. [3]
- (b) Now study Fig. 4A (Insert) which shows a section across a major city in the developed world.
- (i) On Fig. 4B (Insert), draw a line graph to give a general idea of the differences in *residential* population density across the city. [3]
- (ii) Add notes to Fig. 4B to justify the shape of your graph. [3]
- (iii) There is a plan to remove older houses in Zones 2 and 3 to use the land for other purposes.
- A** Suggest reasons why such urban renewal takes place in cities. [3]  
**B** Why do some people prefer the houses in these zones to remain and to be improved? [3]
- (c) For a residential area in a named settlement you either know or have studied, describe the changes which have been caused by **either** an inward **or** an outward movement of people. Include in your answer changes in housing, services and amenities. [6]

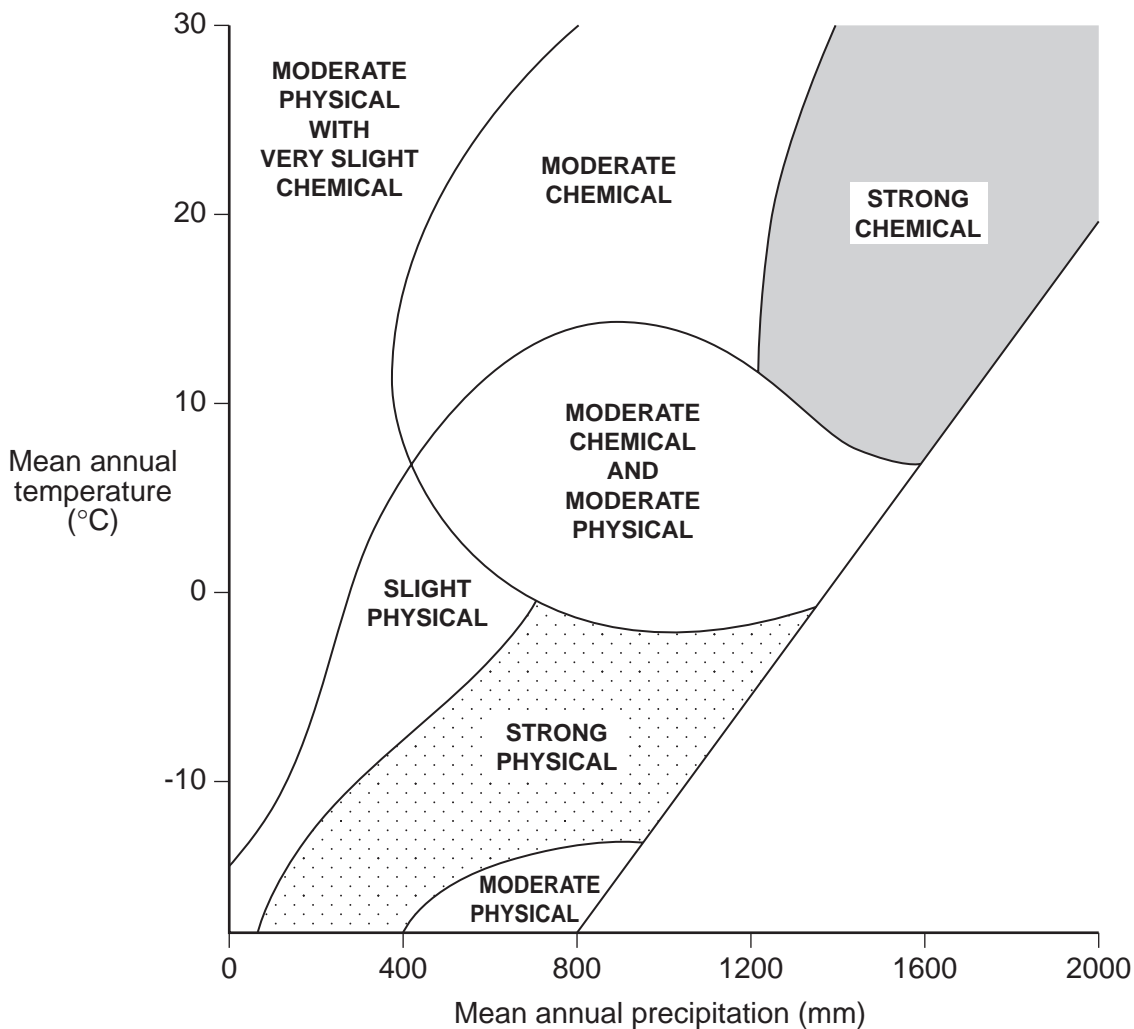
- 3 (a) (i) **A** What name is given to the wooden box shown in Fig. 5 which houses some weather instruments at a weather station?  
**B** Describe its main features.  
**C** Why is it used at weather stations?



**Fig.5**

- (ii) The weather instrument shown in Fig. 6 (Insert) is kept in this wooden box at a weather station.  
**A** With the help of labels added to Fig. 6 describe the main features of this weather instrument. [3]  
**B** Explain how you would take an accurate reading from it. [3]

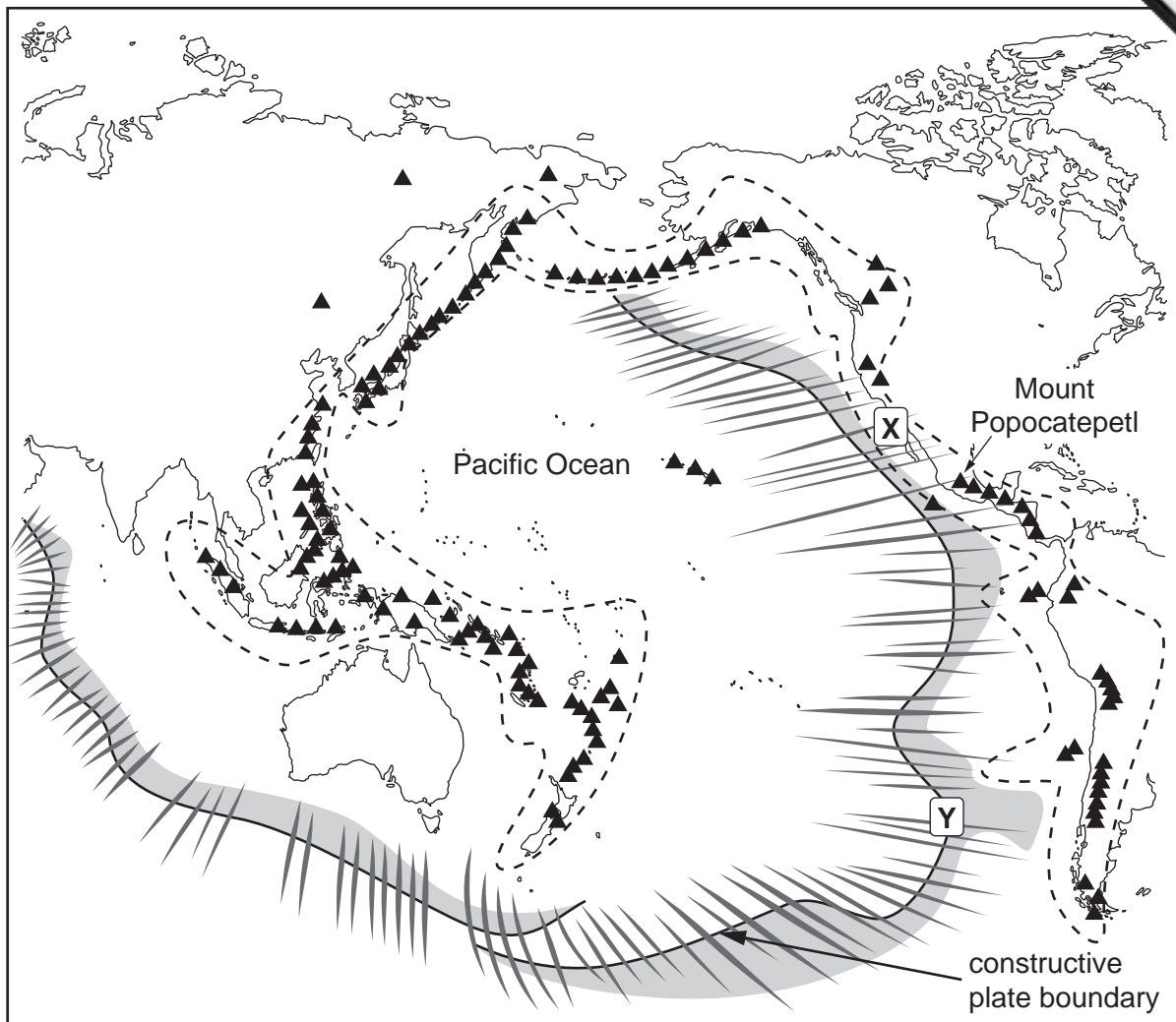
- (b) Fig. 7 shows how types of rock weathering are related to mean annual temperature and annual rainfall.



**Fig. 7**

- (i) Describe the conditions of temperature and rainfall where  
**A** strong chemical weathering takes place,  
**B** strong physical weathering takes place. [2]
- (ii) Describe **one** main weathering process and the results of this weathering in areas of strong physical weathering in the conditions shown on Fig. 7. [5]
- (iii) Explain how **one** named process of chemical weathering operates in areas of strong chemical weathering. [3]
- (c) Describe **two** rock features which influence the rate of weathering. [2]

- 4 Fig. 8 shows the 'Ring of Fire' region around the Pacific Ocean.



**Key:** ▲ Active volcanoes  
 --- Ring of Fire

**Fig. 8**

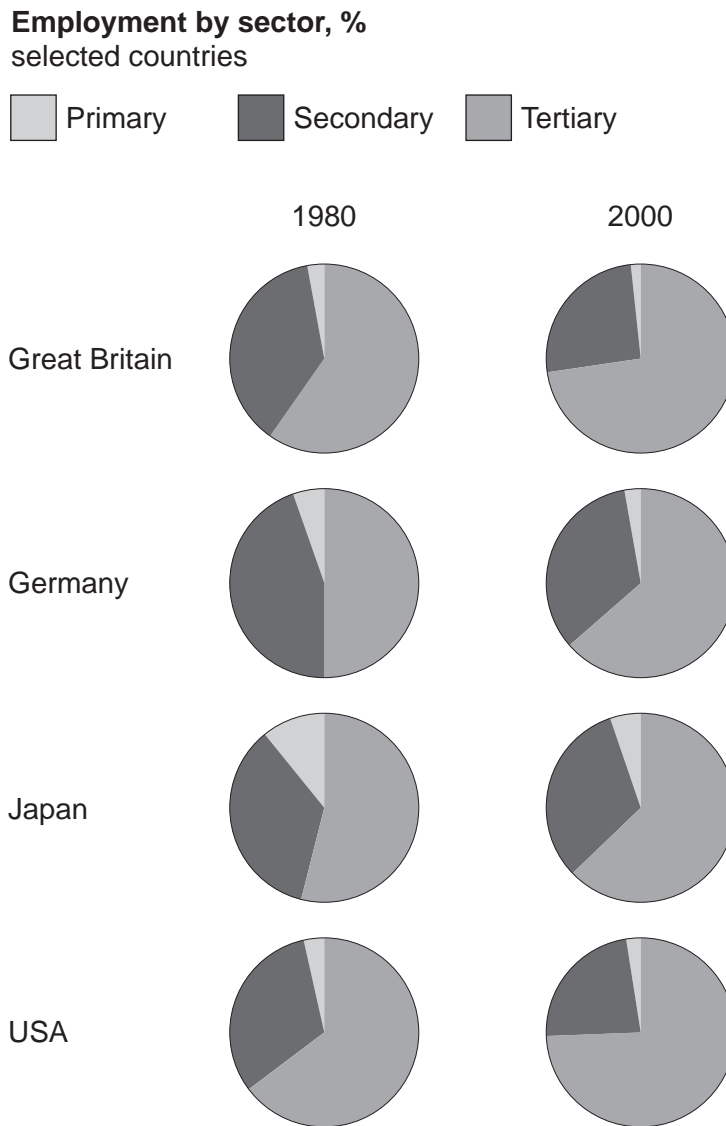
- (a) Give **four** reasons why volcanic eruptions are concentrated in certain areas of the world such as the 'Ring of Fire' region. [4]
- (b) Mount Popocatepetl in Mexico, shown in Fig. 8, is a composite volcanic cone and when it erupted in 2000 it developed mudflows.
- (i) With the aid of a labelled diagram, describe **four** of the main features of a composite volcanic cone. [4]
- (ii) **A** Why do mudflows develop with some volcanic eruptions? [2]  
**B** Why may mudflows present problems for people living around such volcanoes? [2]
- (c) Describe the processes and structural features associated with a mid-oceanic plate boundary such as the one labelled **Y** on Fig. 8. [4]

- (d) (i) Earthquakes often occur in the same regions as volcanoes. Short-term effects of earthquakes on people include loss of life and injuries, damage to buildings and communications. What may be done before an earthquake occurs to reduce these short-term effects?
- (ii) Long-term effects may occur in the weeks or months after a large earthquake. Explain why these long-term effects might be difficult to deal with.

[5]



- 5 (a) Fig. 9 shows pie graphs which describe how employment in different types of industry has changed in four countries of the developed world from 1980 to 2000.



**Fig. 9**

- (i) Why was the percentage employment in primary industries low in all four countries in 2000? [2]
- (ii) Apart from the low percentage employed in primary industries, what other features are common to all of the pie graphs? [2]
- (iii) What changes are shown by the diagrams for all four countries from 1980 to 2000? [3]
- (iv) Suggest reasons for these changes. [4]
- (v) How would you expect a pie graph showing employment sectors for a developing country to differ from the general structure shown by the pie graphs in Fig. 9? [3]
- (vi) Explain the differences you have given in your answer to (a) (v). [3]

(b) For **either** high-technology industries **or** small-scale cash crop farming, explain

- transport,
- labour,
- markets,
- *at least one* other factor

influenced its growth at a named location you have studied.

[8]

- 6 In 2002 a report on the global environment was produced for the United Nations. It contained details of problems for the environment which had occurred over the last 30 years and made forecasts for the next 30 years. Some of the information in the report is given in Fig. 10 below.



Fig. 10

- (a) (i) What is meant by each of the terms
- urban sprawl,
  - overgrazing, and
  - deforestation?
- [3]
- (ii) What evidence is given in Fig. 10 that there will be problems in providing sufficient food in 30 years time?
- [2]
- (iii) Why are many species of birds and mammals threatened with extinction?
- [2]
- (b) With reference to Fig. 10 and studies you have made, explain the causes of **two** of the following problems:
- urban sprawl,
  - high concentrations of carbon dioxide in the atmosphere,
  - deforestation,
  - shortages of drinking water,
  - soil erosion.
- [4,4]

- (c) Two encouraging features in the report concern the reduction in the thinning of the ozone layer and the expansion of the parts of the natural world which are protected for development.
- (i) Why is it important to reduce the depletion of the ozone layer?  
How is this being achieved? [2]
- (ii) Give your views, with reasons, on the importance and difficulties of extending protected areas in the world. [8]

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*Copyright Acknowledgements:*

- Question 1.            *'Falling prosperity hurts family planning'*. © Financial Times. 2nd September 1994.  
Question 2.            *Age specific fertility rates*. Thomas Nelson and Sons.  
Question 2.            D. WAUGH. *Europe*. © Thomas Nelson and Sons.  
Question 4.            © *The Straits Times*.  
Question 5.            © *The Economist*.

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