

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**GEOGRAPHY**

**0460/04**

Paper 4 Alternative to Coursework

October/November 2005

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 **all** 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 all the Figures, Tables and Photograph referred to in the Questions.

- 1 Students investigated the weather every day at 08.00 during one week in December at their school. The hypothesis used by the students was

*'the temperature in the school grounds varies throughout the year'.*

- (a) The maximum and minimum thermometer (Six's thermometer) was kept in a Stevenson Screen as seen in Fig. 1 (Insert).
- (i) For each characteristic of the Stevenson Screen labelled on Fig. 1 (Insert), state a possible reason for the design in the space provided on Fig. 1. [3]
  - (ii) What are the maximum and minimum temperatures shown on the thermometer on Fig. 2? [2]
  - (iii) Suggest why the temperature was recorded daily at 08.00. [1]
- (b) The results recorded by the students are shown in Table 1 (Insert).
- (i) Calculate the average temperature for Wednesday in December and fill in the answer on the table in the space provided. [1]
  - (ii) Complete the graph (Fig. 3 Insert) by plotting the minimum December temperature figures using the appropriate key. [3]
  - (iii) Add labels to the graph to indicate
    - the highest temperature and the lowest temperature
    - the smallest daily temperature range. [2]
  - (iv) Explain why calculating the average daily temperature is useful in the analysis of the data. [1]
- (c) (i) Use both Fig. 3 and Table 1 to compare the temperatures on Monday and Thursday in December. You should support your comments with data. [3]
- (ii) Suggest **one** reason why the temperatures recorded on Monday and Thursday may not be representative of temperature in December. [1]
- (d) The location of the school is on the 33°S line of latitude, 10km from the sea and 175m above sea level. Explain in detail how the location of this school may influence the temperature recorded during a year. [6]
- (e) The students repeated the measurements for a week in July. Study Table 1 again. Describe and explain the differences between the July and December average temperatures. [3]
- (f) It was decided that the hypothesis and the investigation were too simple. Suggest practical methods by which the students may improve the weather investigation. You should include a new hypothesis, the use of other instruments, data collection times and the use of secondary sources. [4]

[Total: 30 marks]

- 2 A group of students investigated the impact of tourism on their town. It was suggested that tourism had a negative impact on the environment but a positive impact on the economy of the town.
- (a) Reword this suggestion to form a simple hypothesis. A hypothesis is a statement that can be tested. [1]
- (b) The students devised a bi-polar scoring system to measure the quality of the environment in several areas of the town. Table 2 (Insert) shows the final recording sheet after the students completed a pilot survey.
- (i) What is a pilot survey and why is it important to an investigation? [2]
- (ii) Write simple instructions for a student to complete the environmental survey using the recording sheet. [2]
- (iii) State **two** possible problems of using this environmental survey to investigate reliably the impact of tourists on the town. [2]
- (c) The students also recorded the environmental quality by using photographs. The photograph (Fig. 4 Insert) shows one of the areas surveyed by the students.
- (i) Use the features listed in the bi-polar recording sheet to add three labels to the photograph on the Insert to show the environmental quality of this area. [3]
- (ii) Add another label to the photograph to show how the authorities provide services in the area. [1]
- (iii) To what extent does the site shown in the photograph show the impact of tourism on the environment of this town? [2]
- (d) The students' results of the environmental quality survey for two areas are shown on Table 3 (Insert).
- (i) The results from area A are already on the graph Fig. 5 (Insert). Complete the bi-polar graph (Fig. 5) for area B and complete the key. [2]
- (ii) Describe the similarities and differences between areas A and B. [2]
- (e) The economic impact of tourism on the town was also investigated. One student suggested visiting all the hotels in the town. The students finally used a sample of hotels and secondary data.
- (i) State **one** advantage and **one** disadvantage of sampling. [1]
- (ii) What is secondary data? State an example of a useful source of secondary data for this investigation. [2]

(Question 2 continues on page 4.)

- (f) Another student decided to survey all 68 buildings along the main street of the town and Fig. 6 show the results of this land use survey.
- (i) What are the possible economic effects of tourists visiting a town? Suggest how this might change the land use of a town. [1]
  - (ii) Describe the pattern of the results shown on the pie chart (Fig. 6). [2]
  - (iii) For the land use survey only, evaluate the data collection method used by this student. You should comment on the classification of buildings and the limitations of this investigation. [3]

[Total: 30 marks]

---

*Copyright Acknowledgements:*

Photograph Mrs A. Tooke © UCLES

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.