

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

GEOGRAPHY

0460/5

PAPER 5 Alternative to Coursework

MAY/JUNE SESSION 2002

1 hour 45 minutes

Additional materials:
Answer paper
Ruler

TIME 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

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

Answer **all** questions.

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.

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

The insert contains the diagrams referred to in the question paper.

At the end of the examination, attach the insert to your answer papers.

This question paper consists of 4 printed pages and an insert.

- 1 Students completed fieldwork at a beach. The aim was to investigate changes in beach material to test the following hypothesis:

'As distance from the low water mark increases, beach material becomes larger in size'.

- (a) Students used a transect line and a quadrat (a measuring frame) to sample the beach material at six sites from the low water mark to the cliff.
- (i) Draw a labelled diagram of a quadrat. [2]
 - (ii) Explain how a quadrat was used systematically to measure the percentage of different types of beach material along the transect. [2]
 - (iii) Quadrats can also be placed at random to sample beach material. Describe the advantages and disadvantages of this method. [3]
- (b) Study Table 1 (Insert) which shows the results of the beach survey.
- (i) Complete the divided bars for Sites 2 and 4 on Fig. 1 (Insert). [2]
 - (ii) Shade the bars using the symbols shown on Table 1. [2]
- (c) Is the hypothesis correct? With reference to Fig. 1, give reasons for your answer. [3]
- (d) The students also measured the changing slope of the beach. The profile is shown on Fig. 1.
- (i) Describe the link between the beach material and the angle of slope of the beach. You should state clearly the site data that supports your description. [4]
 - (ii) Suggest a hypothesis to reflect the relationship you have described in (i). [1]
- (e) Pebbles can be investigated by measuring their weight, shape and size.
- (i) Describe and explain why pebbles may have different shapes and sizes. [5]
 - (ii) Devise a recording sheet to show the results of the measurement of 20 beach pebbles. The sheet should also include a section of necessary information for future reference. [6]

- 2 Students investigated some urban problems in their local town. They selected four sites located at different distances from the town centre. The hypothesis to be tested was

'The quality of the environment changes with distance from the town centre'.

The students measured environmental quality and counted the traffic at the four sites.

Environmental Quality

The geography students devised a scoring system to record environmental quality. They used a score of 1 to 5 as shown in Table 2 (Insert). The results are presented on Fig. 2 (Insert).

- (a) Draw short horizontal lines on Fig. 2 to show the average score at **each** site. [2]
- (b) (i) Study Table 2, Table 3 and Fig. 2. Use the data to describe the changes in environmental quality as distance from the town centre increases. [5]
- (ii) Suggest one possible cause for the high noise level recorded at site D. [1]
- (iii) State one advantage and one disadvantage of using only average scores in the analysis of data. [2]
- (iv) Write a brief conclusion to link the results of this data collection to the hypothesis. [2]
- (v) Suggest two other measures of environmental quality which could be included in the scoring system. [2]
- (c) Suggest why the quality of the environment may change with distance from a town centre. [3]

(Question 2 continues on page 4)

Traffic

The students decided that traffic contributed to the environmental quality of an area. Therefore traffic was counted three times during one weekday at the four chosen sites. The results of the traffic surveys are shown in Table 4.

- (d) (i) Draw one bar graph to show the **total** traffic recorded at the different sites. Care should be taken with the labelling and layout of the graph. [6]

Table 4

	Site and distance from town centre			
TIME OF SURVEY	A $\frac{1}{2}$ km	B 1 km	C $1\frac{1}{2}$ km	D 2 km
08.30 – 09.00	110	74	73	45
12.00 – 12.30	83	26	46	32
16.30 – 17.00	97	43	60	45
Total	290	143	179	122

- (ii) Briefly compare the volume of traffic recorded at Site B and Site D as shown in Table 4. [2]
- (iii) With reference to the hypothesis of the investigation, comment on these traffic results. [1]
- (e) Explain why the central areas of towns often have more traffic throughout a weekday than other areas of towns. [4]