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|---------------|------------------|------|
| Centre Number | Candidate Number | Name |
|---------------|------------------|------|

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**GEOGRAPHY**

**0460/04**

Paper 4 Alternative to Coursework

May/June 2006

**1 hour 30 minutes**

Additional Materials: Ruler  
Calculator

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name in the spaces provided.  
Write in dark blue or black pen.  
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.  
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

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.

| For Examiner's Use |  |
|--------------------|--|
| Q1                 |  |
| Q2                 |  |
| <b>Total</b>       |  |

This document consists of **11** printed pages and **1** blank page.



1 Students investigated two shops in a city. The simple hypothesis for this coursework was

*'shop B is larger, busier and more important than shop A'.*

The students visited both shops and interviewed the managers, counted customers, measured the fronts of the shops and studied the car parking areas. Table 1 shows their results.

**Table 1**

| Data collection method  | Shop A                           | Shop B  |
|---|----------------------------------|---|
| Interview with the manager to gain information about the shop | ½ km from city centre            | 2½ km from city centre                        |
|   | located on busy main road        | located at the junction of several main roads |
|   | employs 3 staff                  | employs 220 staff                             |
|   | owned by manager                 | owned by international company                |
| Observations from a walk around inside of shop                | selling mainly convenience items | selling convenience and comparison items      |
| Measurement of frontage of shop                               | 12 paces                         | 128 paces                                     |
| Customer count for 10 minutes at 12.00 hours                  | 64 people (at only door)         | 213 people (at main door)                     |

**(a) (i)** What is a 'convenience item'?

.....  
 .....

Give one example of a 'convenience item'.

.....[2]

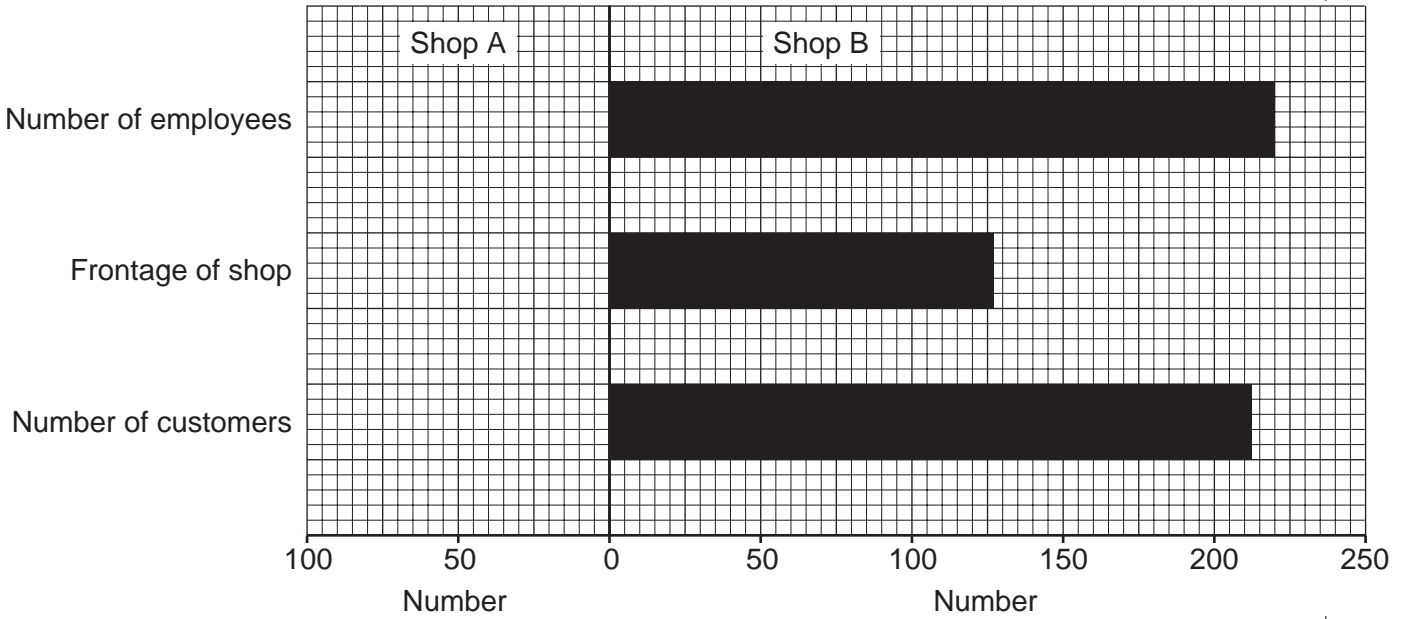
**(ii)** When deciding where to locate a shop, the owner needs to consider the cost of the land and the accessibility of the site by road. Complete Fig. 1 by describing how these change as distance from a city centre increases. Give a reason for each change.

|  |                         |
|--|-------------------------|
| Cost of land change: description and reason          | .....<br>.....<br>..... |
| Accessibility by road change: description and reason | .....<br>.....<br>..... |

[4]

**Fig. 1**

0460/04/M/J/06



**Fig. 2**

**(b) (i)** Plot the data from Table 1 for shop A onto Fig. 2 to show the differences between shop A and shop B. [3]

**(ii)** Briefly describe the pattern shown by the graph Fig. 2.

.....  
 .....  
 ..... [2]

**(c)** The students paced the front of each shop to assess the size of the shop. Suggest an advantage and a disadvantage of this method of measurement.

Advantage:.....  
 .....  
 Disadvantage:.....  
 ..... [2]

**Table 2**

|   | Shop A           | Shop B             |
|---|------------------|--------------------|
| Car park size                                     | 6 vehicle spaces | 500 vehicle spaces |
| Number of vehicles in the car park at 12.00 hours | 5                | 175                |

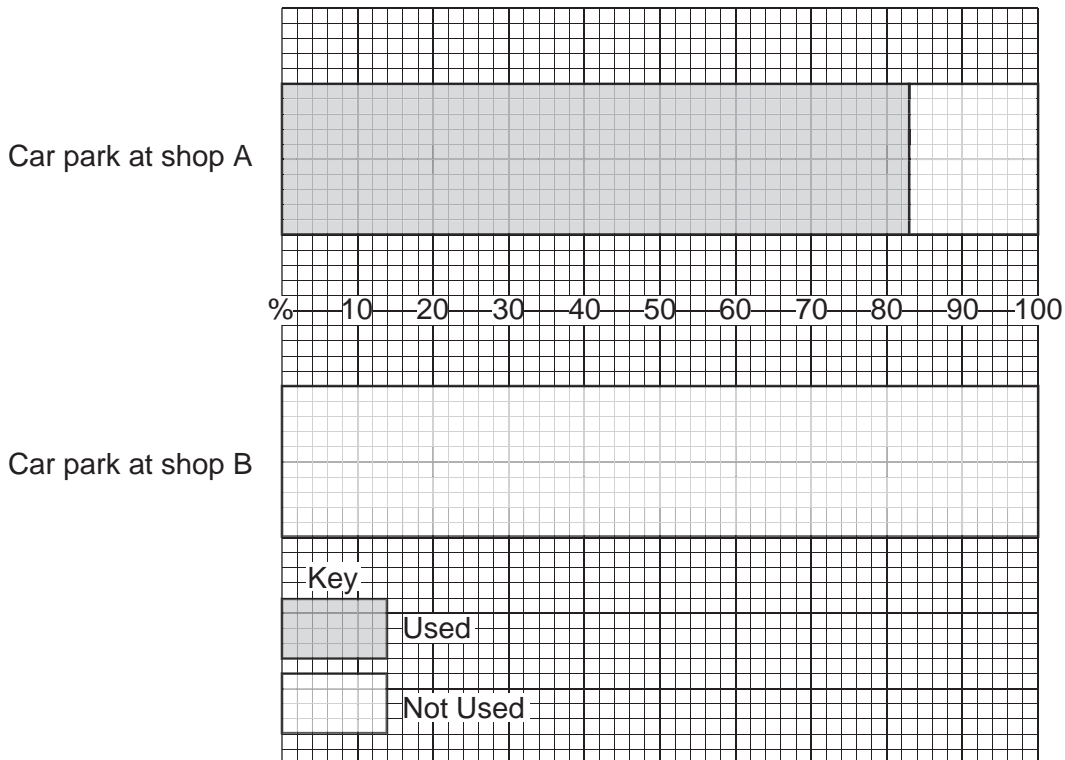
**(d) (i)** Study Table 2. Suggest what the car park size shows about the transport methods of shoppers to shop B.

.....  
 ..... [1]

**(ii)** Using the data in Table 2, calculate the percentage of the car park used at shop B.

Percentage use =  [1]

**(iii)** Complete Fig. 3 by plotting the percentage use for shop B using the key. [2]



**Fig. 3**

(e) The teacher suggested that the cost of items in shop B was cheaper than in shop A.

(i) Students are going to investigate the difference in price of five items sold at both shop A and shop B. Write a set of instructions for the students to follow. Use the space on Fig. 4. [2]

(ii) Design one recording sheet to record the price of the same five items at both shop A and shop B. Use the space on Fig. 4. [4]

| Differences in price of five items at shop A and shop B |  |
|---|--|
| Instructions to students                                |  |
| Recording Sheet   |  |

**Fig. 4**



- 2 For eight days in January, students measured atmospheric pressure and wind speed at their school (school X) which is located in the northern hemisphere at 25°N. The climate at school X is described as a desert climate. Further data was collected from school Y in a different climatic area. The hypothesis used in the investigation was

*'as atmospheric pressure increases the wind speed decreases'*.

- (a) Write the descriptions from Table 3 into Table 4 to show the characteristics of high and low atmospheric pressure. [3]

**Table 3**

| Characteristics                    |
|------------------------------------|
| Sinking air                        |
| Rising air                         |
| Stable unchanging conditions       |
| Unstable and changeable conditions |
| Expected dry weather               |
| Expected wet weather               |

**Table 4**

| High pressure | Low pressure |
|---------------|--------------|
|               |              |

- (b) (i) The students used a barometer and recorded the atmospheric pressure at 08.00 hours each day. The results are shown on Table 5 below. Why were the measurements taken at the same time each day?

.....  
 ..... [1]

- (ii) Read the barometer for 7th January at school X on Fig. 5 and fill in the pressure reading on Table 5. Use this reading to complete the line graph for School X on Fig. 6.

- (iii) Explain how and why the index pointer on the barometer is used.

.....  
 .....  
 .....  
 ..... [2]

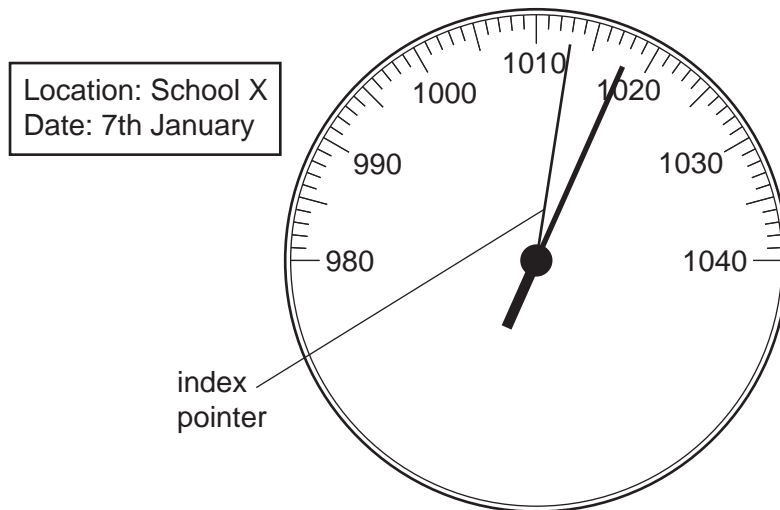


Fig. 5

Table 5

|                           |          | 7th Jan | 8th Jan | 9th Jan | 10th Jan | 11th Jan | 12th Jan | 13th Jan | 14th Jan |
|---------------------------|----------|---------|---------|---------|----------|----------|----------|----------|----------|
| Atmospheric pressure (Mb) | School X |         | 1019    | 1016    | 1019     | 1016     | 1020     | 1016     | 1016     |
|                           | School Y | 1012    | 1013    | 1013    | 1013     | 1012     | 1012     | 1012     | 1011     |
| Wind Speed (km/hr)        | School X | 4       | 4       | 12      | 13       | 11       | 9        | 5        | 3        |
|                           | School Y | 4       | 7       | 4       | 5        | 8        | 5        | 7        | 8        |

For information:

Light Wind = 6–12 km/hr      Strong Breeze = 41–50 km/hr      Gale Force = 75–89km/hr



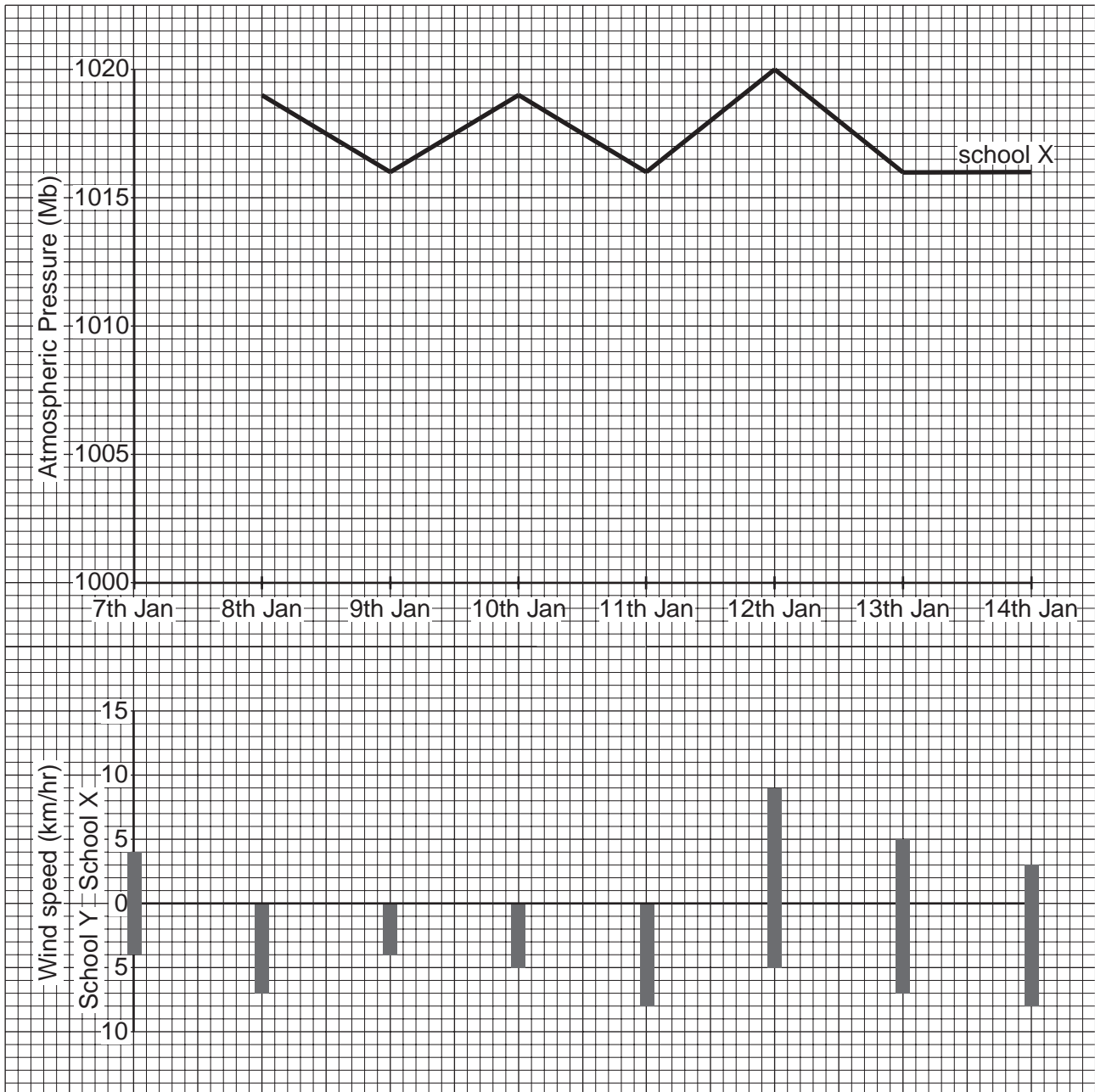


Fig. 6

(c) Study Fig. 6 showing the atmospheric pressure changes during the eight days at school X. Describe the pattern of change.

.....

.....

.....

..... [2]

(d) (i) Wind speed was also measured by the students at 08.00 hours using a hand held digital anemometer. What are the advantages and disadvantages of using this instrument?

.....  
.....  
.....  
.....[2]

(ii) Use Table 5 to complete the wind speed bars for school X on Fig. 6 from 8th January to 11th January. [2]

(e) The teacher at school X suggested that the pressure readings did not show enough change to investigate the hypothesis. School Y was contacted via the internet and atmospheric pressure and wind speed data for the same eight days was exchanged. The results are shown in Table 5. School Y is located at 2°N and is in an area of tropical rainforest climate.

Outline how a tropical rainforest climate is different from a desert climate. Give reasons for your answer.

.....  
.....  
.....  
.....  
.....[3]

(f) (i) Plot the atmospheric pressure data for school Y as a line graph on Fig. 6. [4]

(ii) Compare the atmospheric pressure during the eight days at school X and school Y. Suggest reasons why the atmospheric pressure is different at the two schools in January. [4]

Comparison between school X and school Y

.....  
.....  
.....

Reasons .....

.....  
.....  
.....  
.....



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