



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

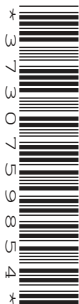
CANDIDATE
NAME

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GEOGRAPHY

0460/43

Paper 4 Alternative to Coursework

October/November 2015

1 hour 30 minutes

Candidates answer on the Question Paper.

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 an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

The Insert contains Photograph A, Table 1 and Figs 2 and 3 for Question 1, and Tables 2 and 3 and Figs 5 and 9 for Question 2.

The Insert is **not** required by the Examiner.

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.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **15** printed pages, **1** blank page and **1** Insert.

- 1 A group of students went on a field visit to some coastal sand dunes. Having studied the formation of sand dunes in class, the students wanted to find out more about their shape and the different vegetation that grows on them.
An area of coastal sand dunes is shown in Photograph A (Insert).

The students agreed on the following two hypotheses:

Hypothesis 1: *Vegetation cover on sand dunes increases with distance from the sea.*

Hypothesis 2: *The type of vegetation growing on sand dunes changes away from the sea.*

- (a) (i) To begin their investigation the students used a tape measure to mark a transect line across the sand dunes.

Using Fig. 1 below choose the correct line for the transect. Circle your answer below.

A B C D [1]

Possible sand dune transects

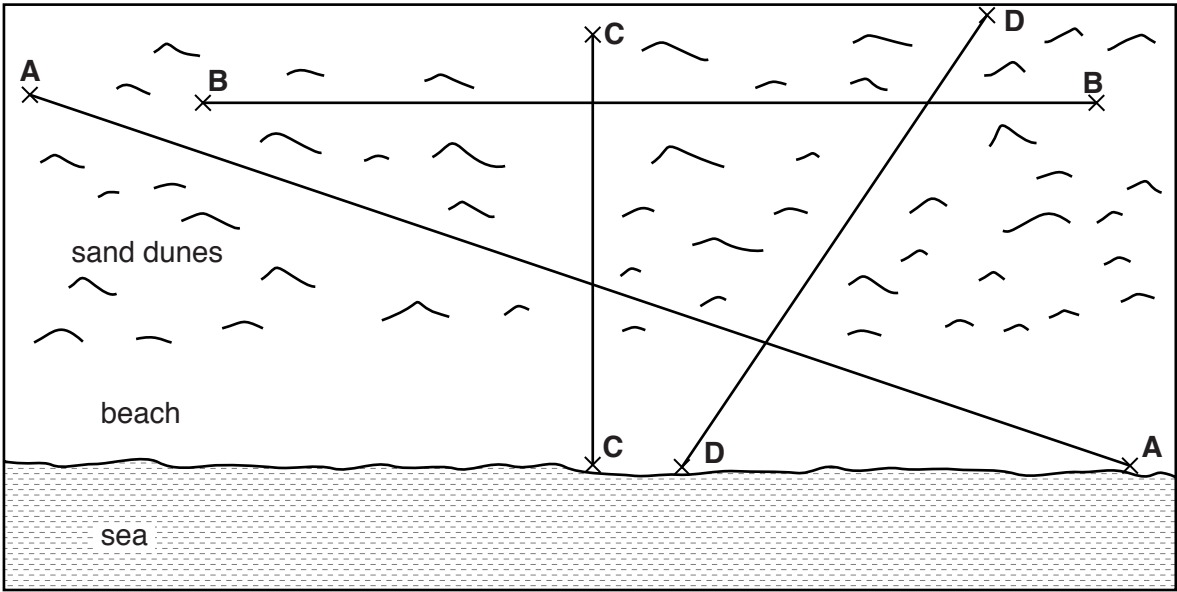


Fig. 1

- (ii) Fig. 2 (Insert) shows some of the equipment used to measure the angle of slope along a transect line. Which **two** of the following pieces of equipment are shown?

Equipment	Tick (✓)
callipers	
clinometer	
flowmeter	
hygrometer	
ranging poles	

[2]

3

(iii) Explain how the students would measure the changing angle of slope along a transect line across the sand dunes.

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.....[4]

(iv) From their measurements the students drew a profile of their transect to show the main types of dune. This is shown in Fig. 3 (Insert).

Match the following descriptions to three types of dune shown in Fig. 3. Write your answers in the table below.

Description	Type of dune
Oldest dunes which are furthest inland	
Most recently created dunes	
Tallest dunes	

[1]

(v) Explain how sand dunes, like the ones shown in Photograph A (Insert), are formed.

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4

- (b) (i) To investigate **Hypothesis 1: Vegetation cover on sand dunes increases with distance from the sea**, the students used a quadrat to measure the vegetation cover every 20 metres along the transect. Describe how they would do this task.

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.....[3]

- (ii) The students' results are shown in Table 1 (Insert).

Plot the results at 190m and 210m from the high water mark of the sea on Fig. 4 below. [2]

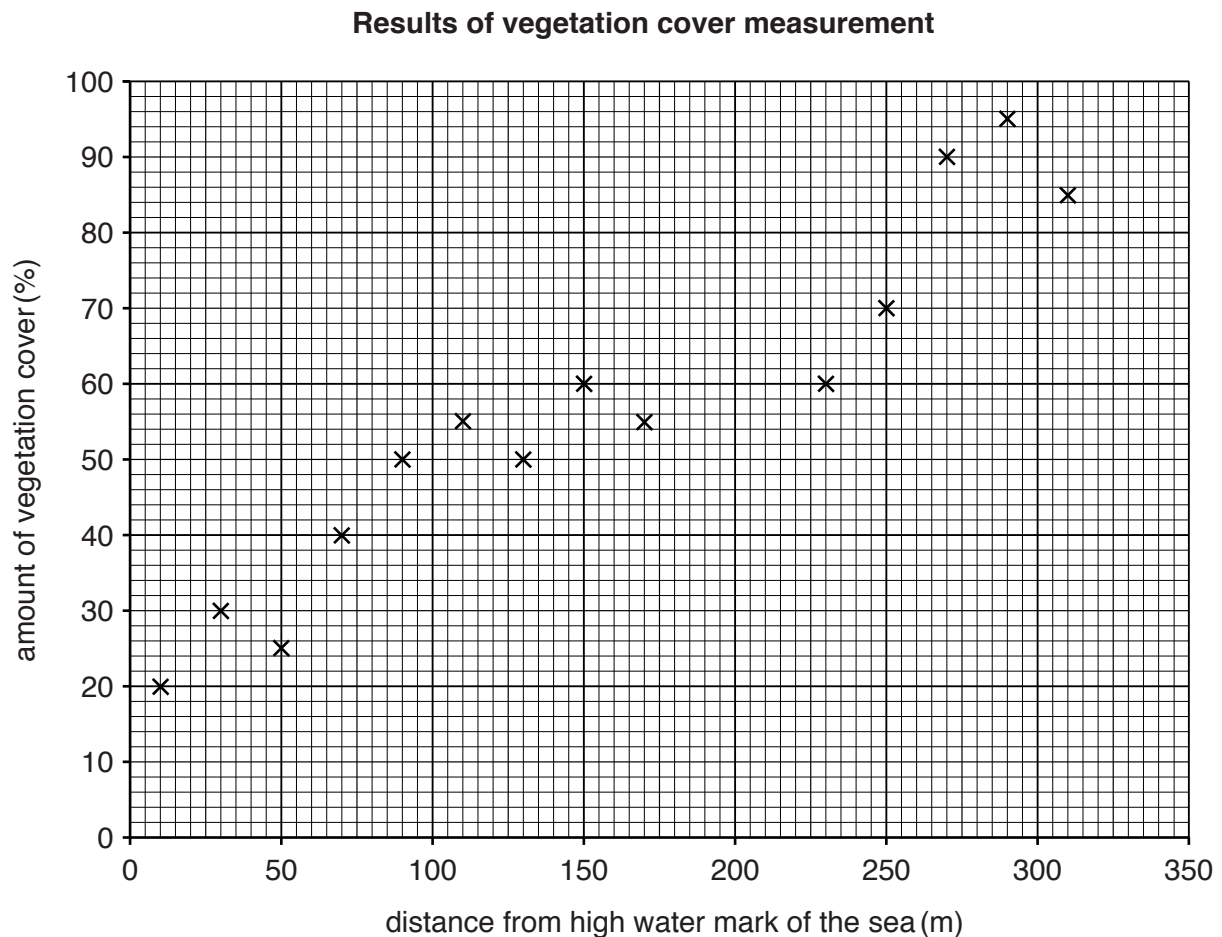


Fig. 4

- (iii) To what extent is **Hypothesis 1**: *Vegetation cover on sand dunes increases with distance from the sea* true? Use evidence from Fig. 4 and Table 1 to support your conclusion.

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.....[3]

- (c) To investigate **Hypothesis 2**: *The type of vegetation growing on sand dunes changes away from the sea*, the students recorded the main type of vegetation at each sample site along their transect. These results are also shown in Table 1 (Insert).

- (i) At first the students could not identify some of the types of vegetation. Suggest **two** ways that they found out what they were.

1

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2

.....[2]

- (ii) Suggest **one** disadvantage of the students only recording the main type of vegetation at each sampling site.

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.....[1]

- (iii) When they studied their results the students agreed that **Hypothesis 2**: *The type of vegetation growing on sand dunes changes away from the sea* was true. Give **two** pieces of evidence from Table 1 to support their conclusion.

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.....[2]

- (d) (i) While doing their fieldwork the students realised that the sand dunes were a popular destination for tourists.

Describe how tourists may affect the vegetation growing on sand dunes.

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.....[2]

- (ii) Suggest how tourism could be managed to protect the dunes and vegetation from visitors?

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[Total: 30 marks]

TURN PAGE FOR QUESTION 2

8

- 2 A large new shop was opened in the CBD of a town in the UK. Students from a local school decided to investigate the impact of the shop on the town centre. Fig. 5 (Insert) shows the location of the shop in the CBD of the town.

(a) (i) What does *CBD* stand for?

.....[1]

(ii) Which **one** of the following is **least** likely to be located in the CBD of a town? Tick your choice in the table below.

	Tick (✓)
government building	
train station	
factory	
theatre	
bank	

[1]

The students agreed on the following hypotheses:

Hypothesis 1: *Opening the new shop has had a positive economic impact on the town centre.*

Hypothesis 2: *Opening the new shop has had a negative impact on the environment of the town centre.*

(b) To test **Hypothesis 1** the students produced a questionnaire to use with people in the town centre.

(i) The teacher gave the students the questionnaire to use.

Give **three** pieces of advice the teacher would have given the students about how to use it.

1

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2

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.....[3]

- (ii) The questionnaire is shown in Fig. 6 below. In the spaces provided on Fig. 6, add two other age groups which are appropriate for classifying the people interviewed. Two age groups have already been included. [2]

Questionnaire

Hello, I am studying Geography at Rymer College. Please will you complete the following questionnaire to help me complete my geography fieldwork?

Gender Male ☐ Female ☐

Age group

Under 15 ☐ _____ ☐ _____ ☐ Over 60 ☐

What do you think about the large new shop which has been opened in the town centre?

For each of the following statements circle the answer which matches your opinion.

- The shop has brought a larger variety of goods and services to the town centre.
Agree strongly Agree Disagree Disagree strongly
- The shop attracts people to come to the town centre more often.
Agree strongly Agree Disagree Disagree strongly
- The shop has provided more jobs in the town centre.
Agree strongly Agree Disagree Disagree strongly
- The shop has meant increased competition for other shops in the town centre.
Agree strongly Agree Disagree Disagree strongly

Thank you for your time.

Fig. 6

- (iii) The students used the questionnaire with 100 people. Their results are shown in Table 2 (Insert).
Use these results to complete Fig. 7 below. [2]

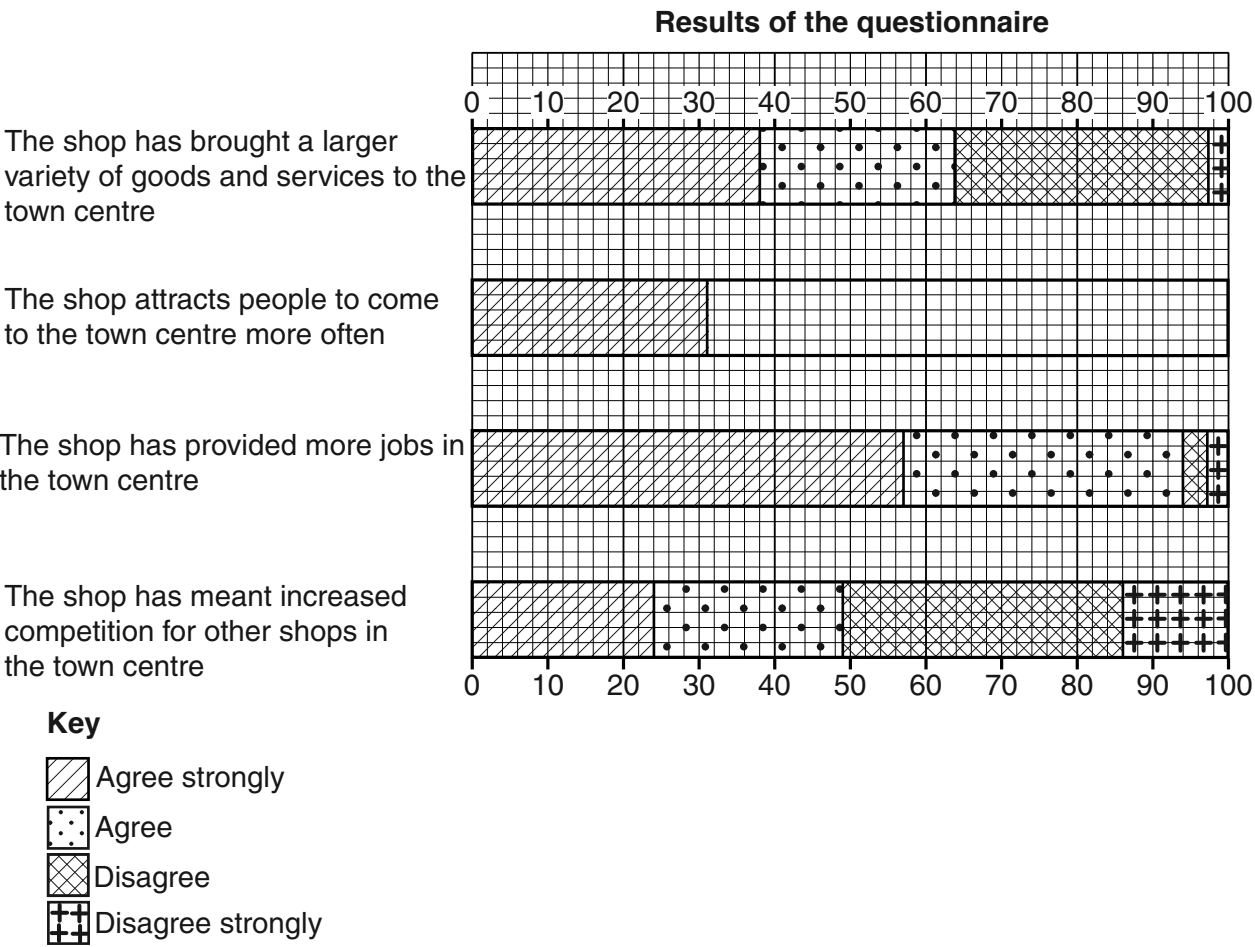


Fig. 7

- (iv) One student did a further calculation for each statement to see how positive people were about the shop. This calculation is shown for Statement 1 below.

Statement 1: The shop has brought a larger variety of goods and services to the town centre.

Opinion	Number of answers	Weighting	Score
Agree strongly	38	+2	+76
Agree	26	+1	+26
Disagree	33	−1	−33
Disagree strongly	3	−2	−6
Total score			+63

Complete the table below to show the student’s calculation for Statement 2.

Statement 2: The shop attracts people to come to the town centre more often.

Opinion	Number of answers	Weighting	Score
Agree strongly	31	+2	
Agree	40	+1	
Disagree	20	−1	
Disagree strongly	9	−2	
Total score			

[2]

(v) Plot the total score which you calculated for Statement 2 in Fig. 8 below.

[1]

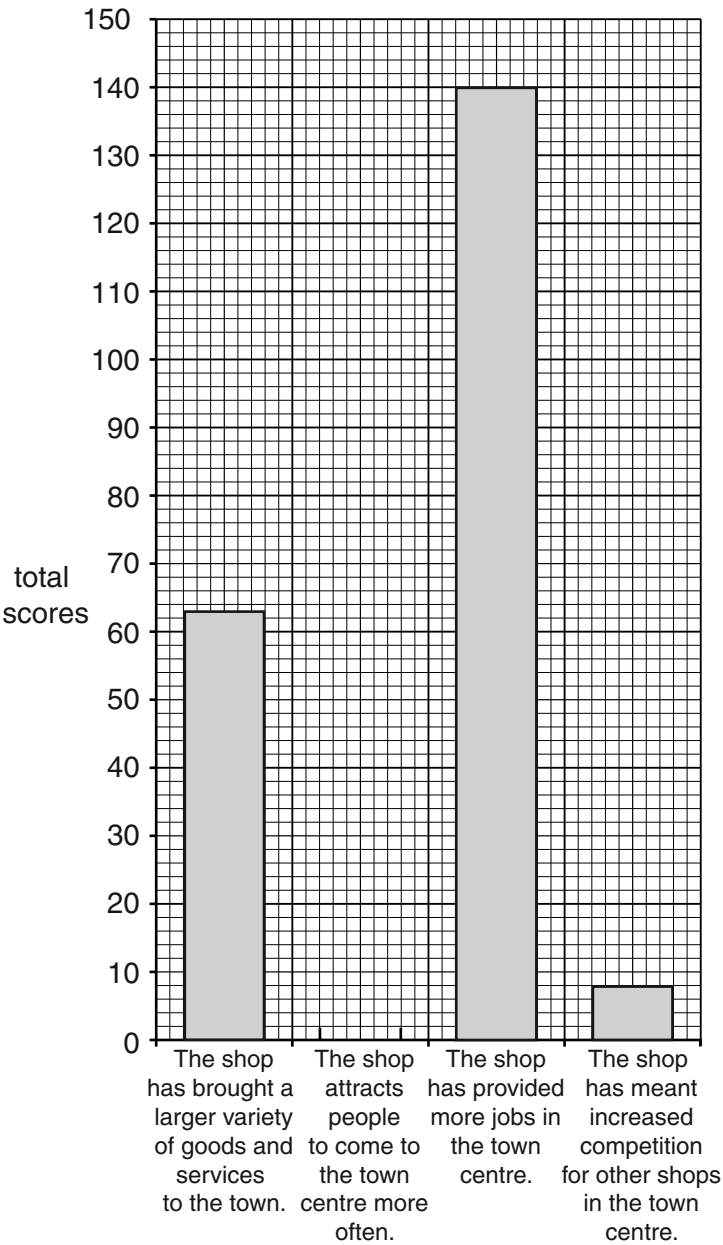


Fig. 8

12

- (vi) What conclusion would the students make about **Hypothesis 1**: *Opening the new shop has had a positive economic impact on the town centre*? Use evidence from Figs 7 and 8 to support your answer.

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.....[4]

- (c) To investigate **Hypothesis 2**: *Opening the new shop has had a negative impact on the environment of the town centre*, the students did an environmental quality survey at five locations in the town centre. The recording sheet which they used is shown in Fig. 9 (Insert).

- (i) How might the following difficulties of using the scoring sheet be overcome?

The scoring is subjective and scores may vary between students.

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The score may vary at different times.

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.....[2]

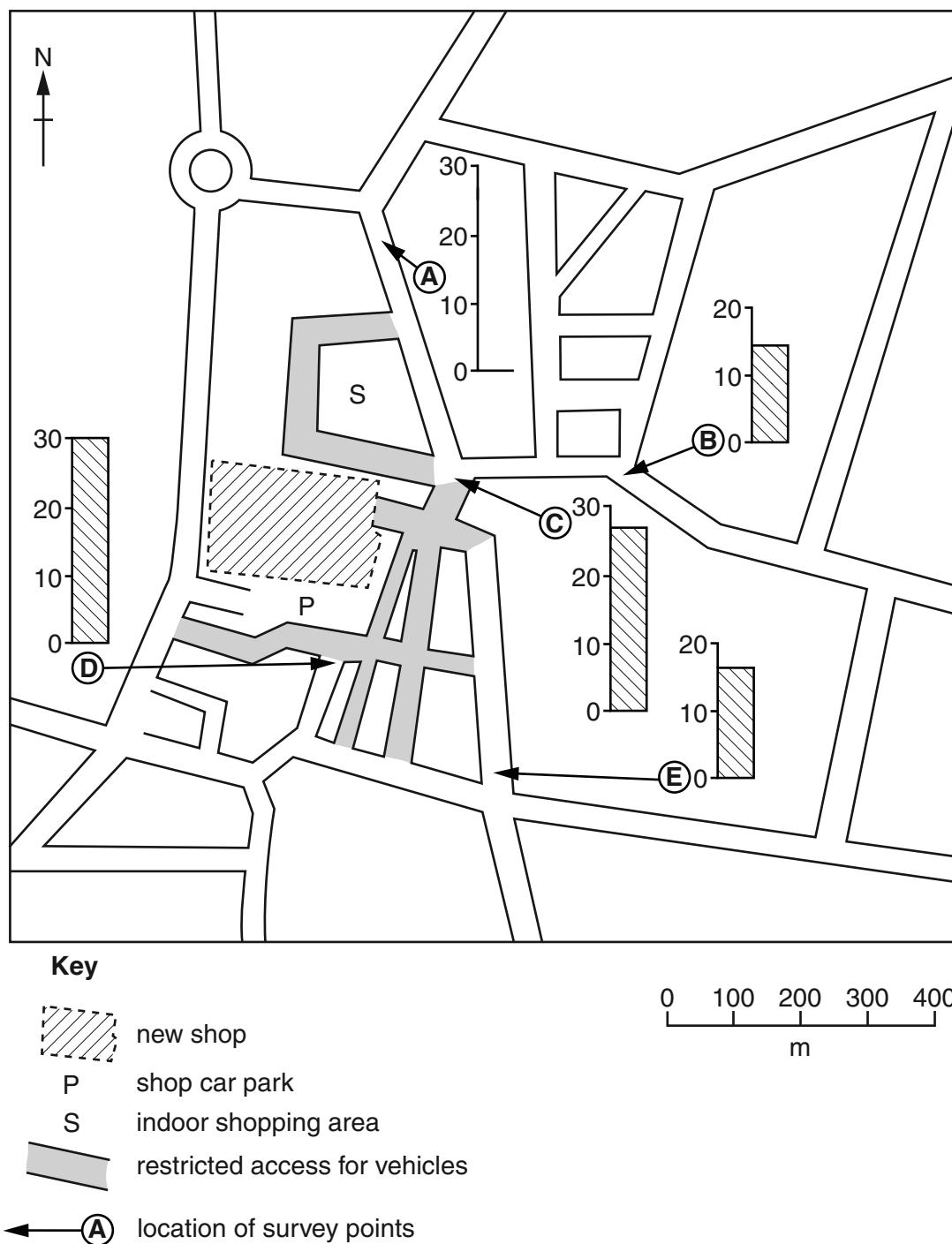
13

(ii) The results of the environmental quality survey are shown in Table 3 (Insert).

Complete Fig. 10 below by plotting the total score for location **A**.

[1]

Results of environmental quality survey



(iii) The students decided that **Hypothesis 2: *Opening the new shop has had a negative impact on the environment of the town centre*** was true. Do you agree with their decision? Support your answer with evidence from Table 3 and Figs 9 and 10.

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(d) Some students did a pedestrian count at the five survey points in the town centre to investigate another possible impact of the new shop.

(i) In the space below draw a recording sheet which the students could have used for the pedestrian count.

[3]

15

(ii) How should the students organise and complete the pedestrian count?

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[Total: 30 marks]

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