Cambridge O Level

Cambridge Assessment International Education
Cambridge Ordinary Level

CANDIDATE NAME	

CENTRE NUMBER						CANDIDATE NUMBER				

0131842270

GEOGRAPHY **2217/22**

Paper 2 **May/June 2019**

2 hours 15 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler
Calculator
Protractor
Plain paper

1:50 000 Survey Map Extract is enclosed with this question paper.

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.

Write your answer to each question in the space provided.
If additional space is required, you should use the lined pages at the end of the booklet. The question number(s) must be clearly shown.

Section A
Answer **all** questions.
Section B
Answer **one** question.

The Insert contains Fig. 4.1 for Question 4 and Figs. 7.1, 7.2 and 7.5 for Question 7, and Tables 8.1, 8.2 and 8.3 for Question 8.
The Survey Map Extract and the Insert are **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.

This document consists of **26** printed pages, **2** blank pages and **1** Insert.

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Cambridge Assessment International Education

Section A

Answer **all** questions in this section.

1 Study the map extract of Clavier, Belgium. The scale is 1:50 000.

(a) Fig. 1.1 shows some features in the north of the map.

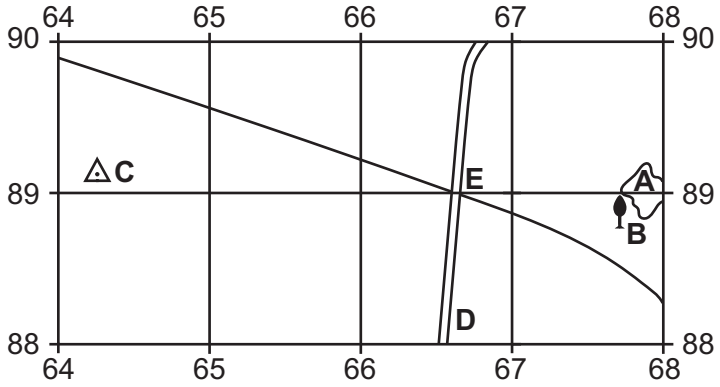

Fig. 1.1

Use the map extract to identify the following features shown on Fig. 1.1:

(i) land use at **A**

..... [1]

(ii) feature **B**

..... [1]

(iii) feature **C**

..... [1]

(iv) type of road at **D**

.....

..... [2]

(v) height of the land at the road junction **E**.

..... [1]

(b) **(i)** Suggest why there are two north–south road routes at Bois-et-Borsu.

.....

..... [1]

(ii) Suggest why the linking road (shown in yellow) from Bois crosses the N63 by a bridge in grid square 6685.

.....

.....

.....

..... [2]

(iii) What is the settlement pattern at Bois?

..... [1]

(c) **(i)** What is the six-figure grid reference of the church at Borsu?

..... [1]

(ii) What is the distance from the church at Borsu to the road junction at Atrin, to the north east? Give your answer in metres.

..... [1]

(d) Fig. 1.2 shows a north west to south east (NW–SE) cross-section from 660880 to 700840.

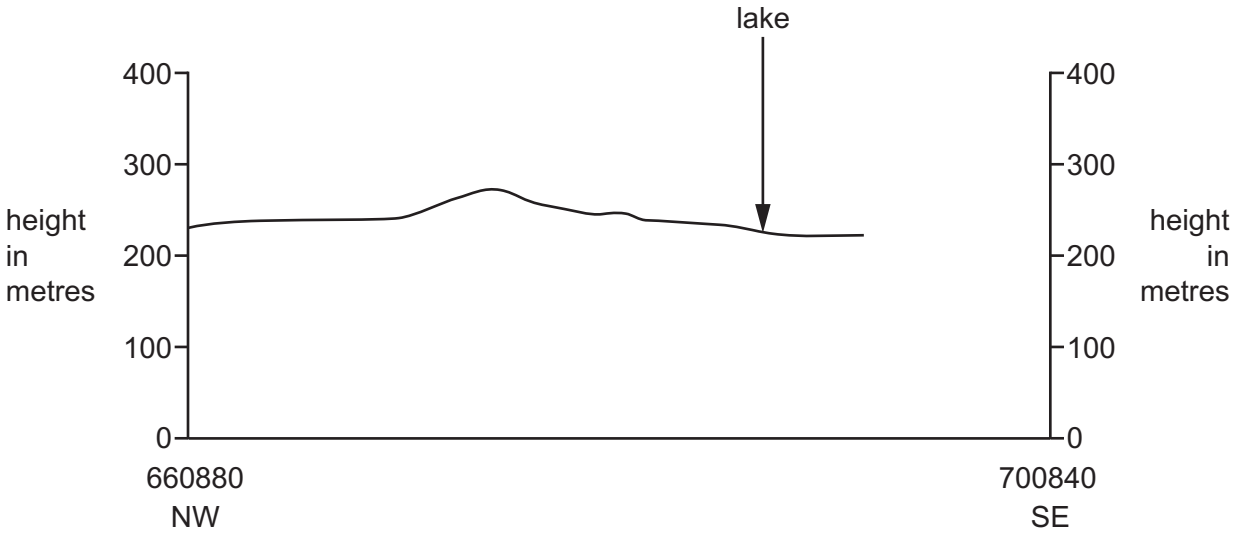

Fig. 1.2

Using the map extract:

(i) **complete the cross-section** on Fig. 1.2 [2]

(ii) **add labelled arrows to Fig. 1.2** to show the position of:

- the N63 road
- the castle at Vervoz.

An example, lake, has been completed for you. [2]

(e) Study the area of the map shown in Fig. 1.3.

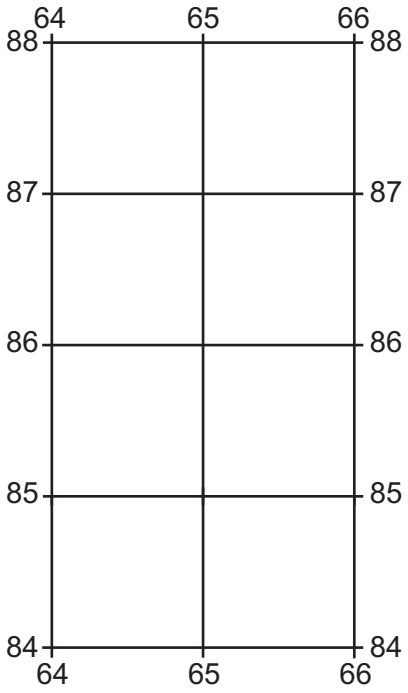

Fig. 1.3

Tick **four** correct statements to describe the relief and drainage of the area shown in Fig. 1.3.

	Tick (✓)
There is a deep valley.	
There are gentle slopes.	
There is a lack of surface drainage.	
The land rises over 300 m.	
There is a marsh.	
There is a pond.	
There is a ridge.	
There is a small round hill.	
There are very steep slopes.	

[4]

[Total: 20]

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2 Study Fig. 2.1, which shows the sparsely populated areas of the world.

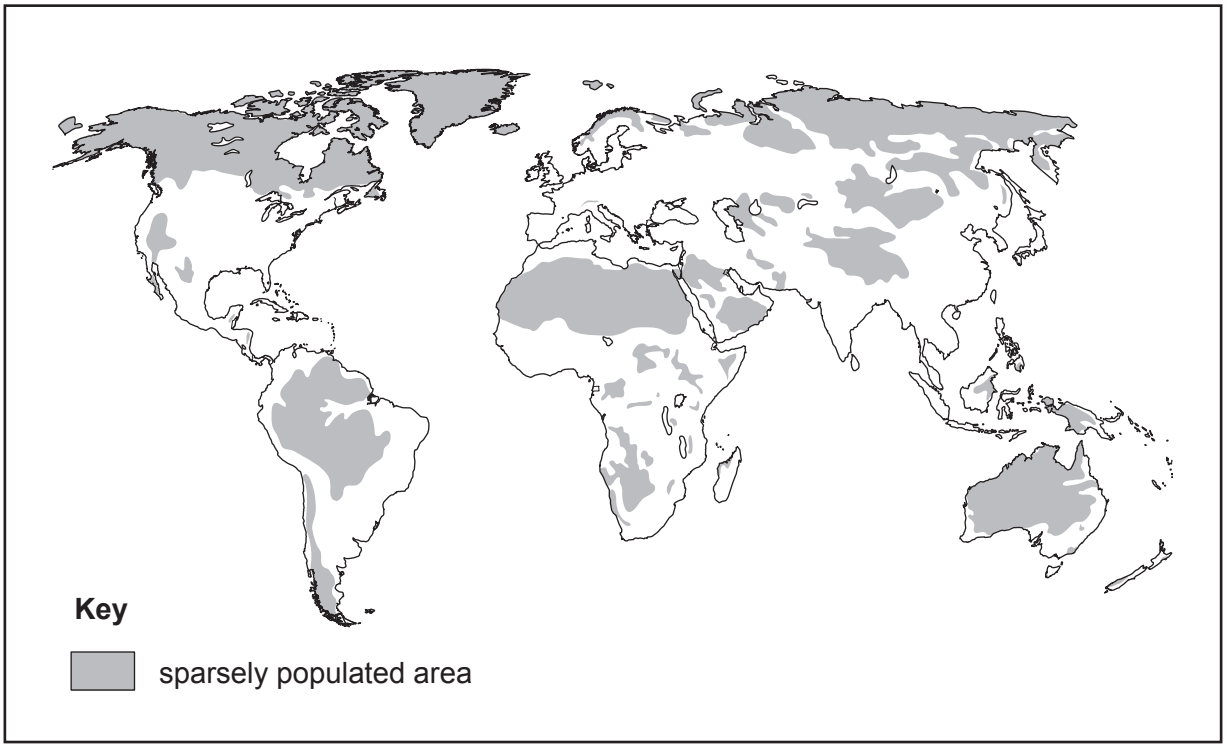

Fig. 2.1

(a) Describe the distribution of the sparsely populated areas.

.....

.....

.....

.....

.....

.....

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..... [4]

(b) Suggest reasons for the sparse population density in these areas.

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.....

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..... [4]

[Total: 8]

3 Study Fig. 3.1, which shows urban growth in a city in Asia.

Key

- urban area in 1971
- urban area added between 1971 and 1981
- urban area added between 1981 and 1991
- urban area added between 1991 and 2001
- roads

Fig. 3.1

(a) **(i)** What was the maximum distance from west to east across urban area **A** in 1971?

..... [1]

(ii) How many separate urban areas were there in 1971?

..... [1]

(b) **(i)** How many new urban areas were added by 1981?

..... [1]

(ii) Describe the locations of the urban areas added between 1981 and 1991.

.....

.....

.....

..... [2]

(c) Suggest reasons for the locations of the urban areas added since 1971.

.....

.....

.....

.....

.....

..... [3]

[Total: 8]

4 Study Fig. 4.1 (Insert), a photograph of a coastal area.

(a) Describe the cliff shown in the photograph.

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.....

.....

.....

.....

.....

.....

..... [4]

(b) Explain how the rock at **X** has separated from the headland.

.....

.....

.....

.....

.....

..... [3]

(c) Which statement defines a wave-cut platform? Tick the correct answer.

	Tick (✓)
A gently sloping area of rock, formed by erosion, at the top of a cliff.	
A gently sloping area of rock, formed by deposition, at the top of a cliff.	
A vertical area of rock, formed by erosion, on the face of a cliff.	
A vertical area of rock, formed by deposition, on the face of a cliff.	
A gently sloping area of rock, formed by erosion, at the bottom of the cliff.	
A gently sloping area of rock, formed by deposition, at the bottom of the cliff.	

[1]

[Total: 8]

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5 Study Fig. 5.1, which shows two different plants in an area of desert.

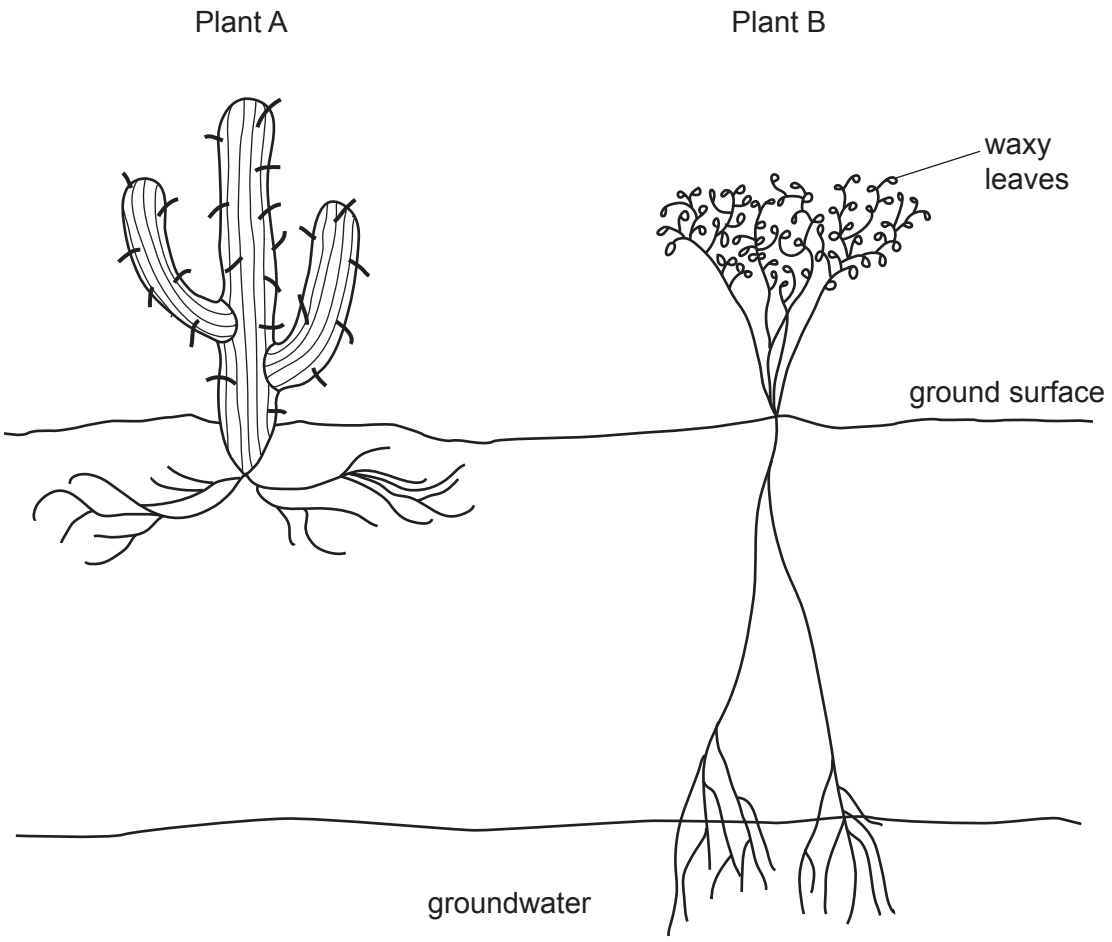

Fig. 5.1

(a) **Add labels to Fig. 5.1** to show how the two plants have adapted to dry conditions.
An example, waxy leaves, has been completed for you. [4]

(b) How does each plant obtain most of its water?

Plant A .....

Plant B ..... [2]

(c) Why does Plant A have an unreliable water supply?

.....

.....

.....

..... [2]

[Total: 8]

6 Study Fig. 6.1, which shows data for six states in India.

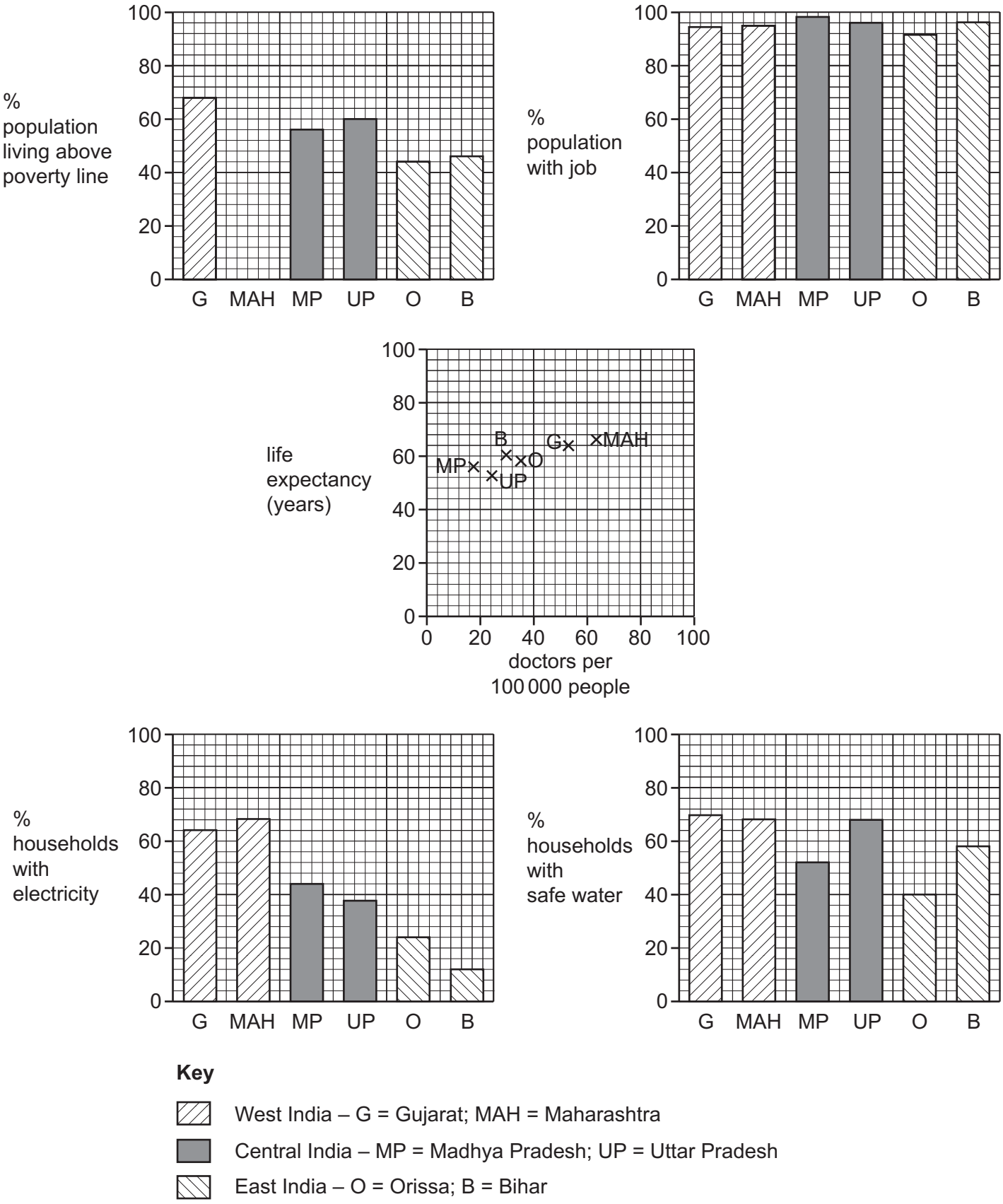

Fig. 6.1

(a) **(i)** **Complete Fig. 6.1** to show 60% of the population living above the poverty line in Maharashtra. [2]

(ii) What percentage of the population is living above the poverty line in Orissa?

..... [1]

(iii) Which state has the lowest percentage of the population with a job?

..... [1]

(b) Do the graphs indicate a relationship between life expectancy and doctors per 100 000 people? Tick the correct answer.

	Tick (✓)
Yes, there is a positive relationship.	
Yes, there is a negative relationship.	
No, there is no relationship.	

Explain your answer.

.....

..... [2]

(c) Considering all of the indicators shown on Fig. 6.1, tick **one** correct statement.

	Tick (✓)
Overall the east is more developed than the west.	
Overall the west is more developed than the east.	
Overall the central states are more developed than east and west.	

[1]

(d) Suggest why the Indian government prioritises improving water supply over improving electricity supply.

.....

..... [1]

[Total: 8]

Section B

Answer **one** question from this section.

7 Students in South Korea investigated differences in temperatures around their school. They chose 10 sites at which to measure temperature, 5 in a built-up area and 5 in a rural area. The 10 sites are shown on Fig. 7.1 (Insert).

The students investigated the following hypotheses:

Hypothesis 1: *Temperatures are higher in the built-up area than in the rural area.*

Hypothesis 2: *Daily temperatures differ more in the built-up area than in the rural area.*

(a) To measure the temperature the students used a digital thermometer. This is shown in Fig. 7.2 (Insert).

(i) Give **three** advantages of using a digital thermometer such as the one shown in Fig. 7.2.

1 .....

.....

2 .....

.....

3 .....

..... [3]

(ii) Suggest **two** ways that the students could check that their temperature measurements were correct.

1 .....

.....

2 .....

..... [2]

(b) The students measured the temperature in the morning and afternoon at each of the 10 sites. Their results are shown in Table 7.1 below.

Table 7.1

Students' results

Measuring site location	Morning temperature (°C)	Afternoon temperature (°C)	Average temperature (°C)	Difference between morning and afternoon temperature (°C)
Sites in built-up area				
Pathway next to the canteen	19.2	26.8	23.0	7.6
Centre of the school buildings	18.9	30.3	24.6	11.4
Driveway leading to the school	22.1	39.8	31.0	17.7
Artificial grass next to the sports hall	**17.8**	**27.9**	22.9	10.1
Residential area for students	25.2	32.7	**29.0**	7.5
Sites in rural area				
Tea plantation	21.5	22.5	22.0	1.0
Small open woodland	17.1	18.7	17.9	1.6
Grassland	16.9	25.6	21.3	8.7
Large dense woodland	16.4	16.9	**16.7**	0.5
Large car park	17.5	38.7		

(i) Calculate the average temperature and the difference in temperature between morning and afternoon at the large car park. **Write your answers in Table 7.1.** [2]

(ii) The students decided **not** to use the results from the car park. Look again at Table 7.1 and Fig. 7.1 and suggest why they made this decision.

.....

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..... [3]

(iii) Use the results in Table 7.1 **to complete Fig. 7.3 below by plotting the average temperatures** of the sites in the residential area for students and the large dense woodland. [2]

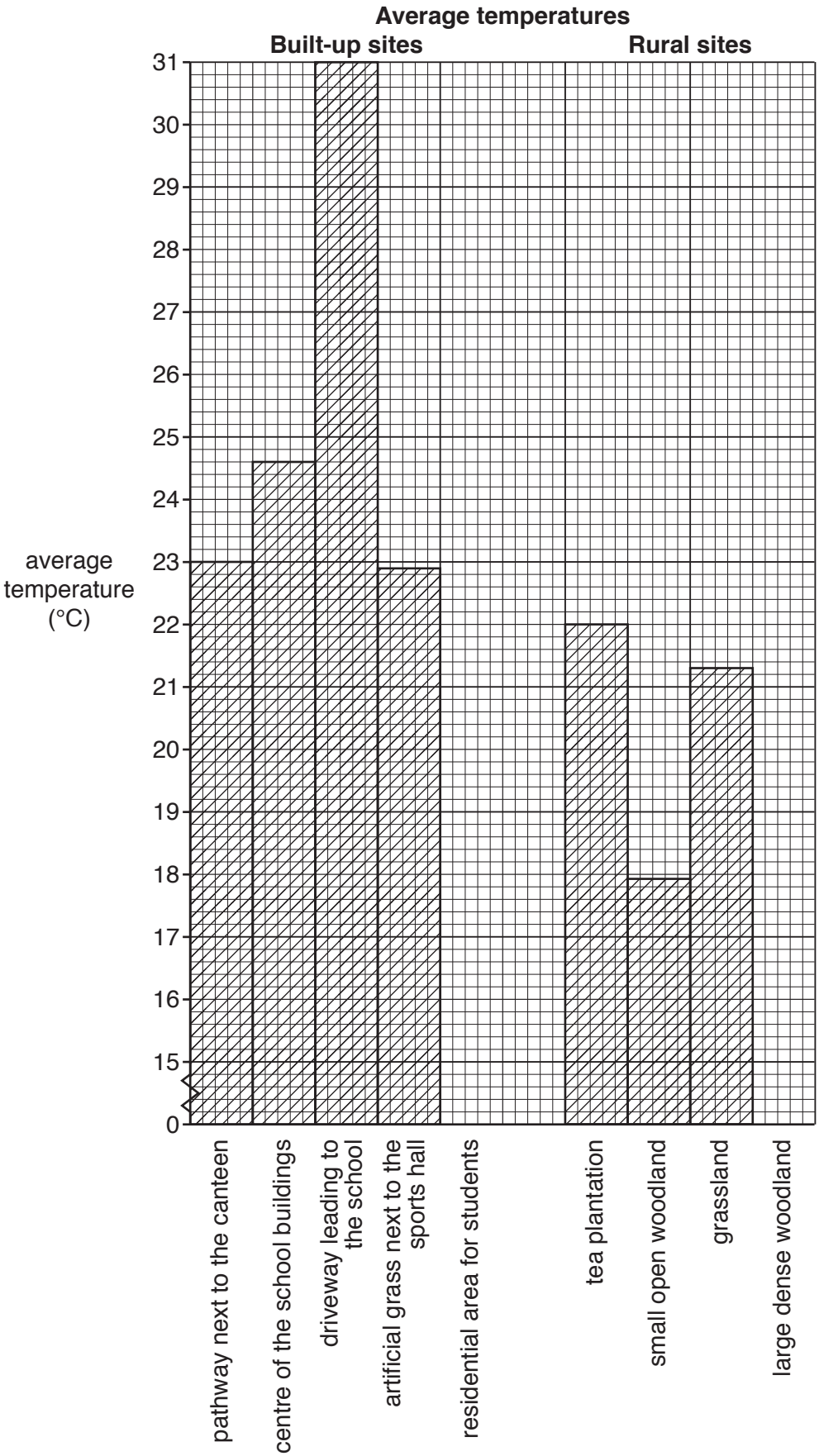

Fig. 7.3

(iv) What is your conclusion to **Hypothesis 1:** *Temperatures are higher in the built-up area than in the rural area*? Support your decision with evidence from Fig. 7.3 and Table 7.1. Do **not** refer to results from the car park in your answer.

.....

.....

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.....

..... [3]

(c) To investigate **Hypothesis 2:** *Daily temperatures differ more in the built-up area than in the rural area*, the students studied the results of their morning and afternoon measurements (not including the car park).

(i) Use the results in Table 7.1 to **plot on Fig. 7.4** below the temperatures of the site on artificial grass next to the sports hall. [2]

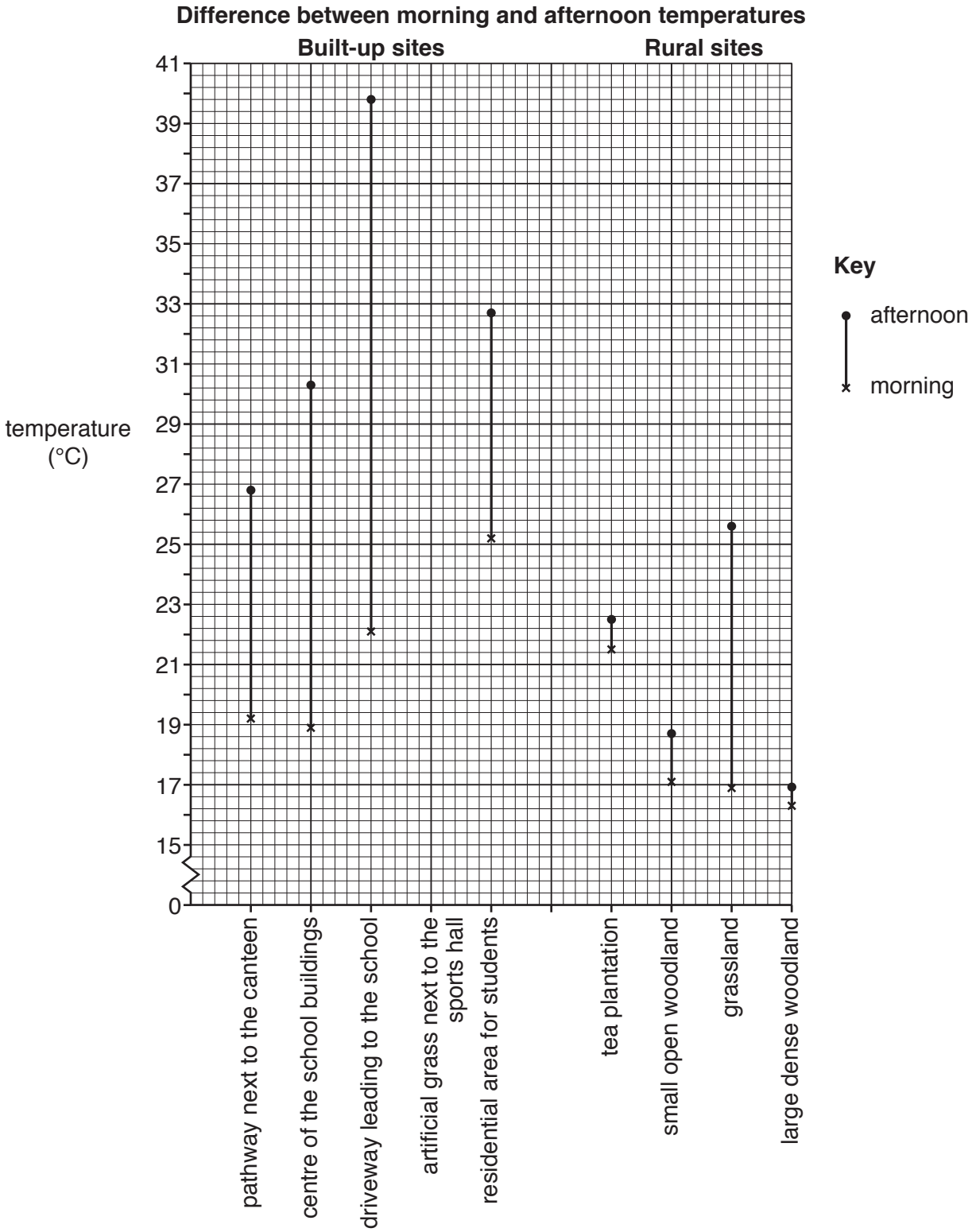

Fig. 7.4

(ii) Which conclusion to **Hypothesis 2:** *Daily temperatures differ more in the built-up area than in the rural area* is most accurate? Tick your decision and support your answer with data from Fig. 7.4 and Table 7.1. Do **not** refer to results from the car park in your answer.

Conclusion	Tick (✓)
Hypothesis 2 is completely true.	
Hypothesis 2 is partially true.	
Hypothesis 2 is not true.	

.....

.....

.....

..... [3]

(iii) Suggest reasons for the difference in temperatures between built-up and rural areas shown in Fig. 7.4 and Table 7.1.

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..... [4]

(d) Explain how and why an increase in the amount of cloud cover might affect daytime temperatures in the area around the school.

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..... [2]

(e) Whilst measuring the temperatures at different sites the students realised that wind speed varied. An instrument to measure wind speed is shown in Fig. 7.5 (Insert).

(i) What is the instrument used to measure wind speed called?

..... [1]

(ii) Explain how this instrument measures wind speed.

.....

.....

.....

.....

.....

..... [3]

[Total: 30]

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8 Students from a popular tourist town in England wanted to find out how tourism affected traffic in the town. They decided to do a traffic survey to investigate this issue. Each student chose different hypotheses to investigate.

One student tested the following hypotheses:

Hypothesis 1: *Cars are the main category (type) of vehicle in the town throughout the day.*

Hypothesis 2: *The percentage of tourist coaches varies during the day.*

(a) To investigate the hypotheses the students did a traffic survey at four sites around the town centre.

The table below shows different features of a reliable traffic survey. **Complete the table** to explain how each feature makes a survey reliable. The first explanation has been done for you.

Feature	Explanation
Students must not stand too near the side of the road.	To make sure they are not in danger from traffic
Counting must start and finish at the same time at all counting sites.	....
At each site traffic must be counted moving past in both directions.	....
Students need to agree on the different categories in which to count vehicles.	....
A tally method is used to count and record vehicles.	....
A data recording sheet must be completed at each site.	....

[5]

(b) The students agreed to count the traffic in different parts of the town for 30 minutes at six times during the day. The results of the traffic counts between 08:30 and 09:00 and between 10:30 and 11:00 are shown in Tables 8.1 and 8.2 (Insert).

(i) Which category (type) of vehicle has the same total at both times?

..... [1]

(ii) What do the results show about the number of cars counted between 08:30 and 09:00 and between 10:30 and 11:00?
Tick (✓) your answer below.

	Tick (✓)
The number of cars goes up.	
The number of cars is the same.	
The number of cars goes down.	

[1]

(iii) An example of the students' recording sheet is shown in Fig. 8.1 below. Use the data in Table 8.3 (Insert) to **complete the recording sheet**. [3]

Recording sheet

Site 1:		Time: 12:30 – 13:00
Vehicle category	Tally	Total
Car	𝍸 𝍸 𝍸 𝍸 IIII	24
Local bus / minibus	IIII	4
Lorry / van	𝍸 𝍸 𝍸 𝍸 𝍸 II	27
Tourist coach	𝍸 IIII	9
Motorbike		
Taxi		
Bicycle		
Total of all vehicles		

Fig. 8.1

(c) The students constructed divided bar graphs from the total results of their traffic survey. These are shown in Fig. 8.2 below.

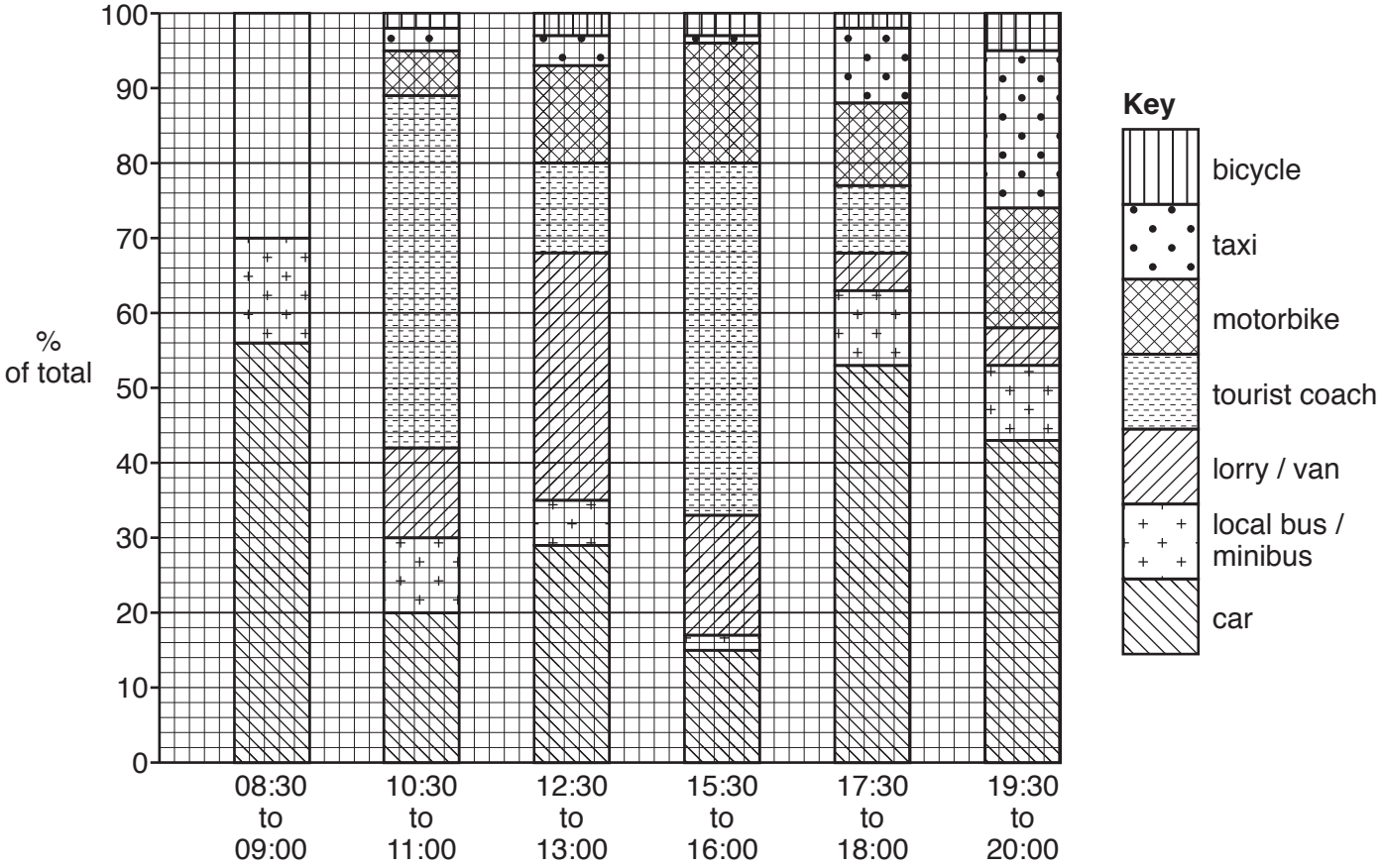

Fig. 8.2

(i) Use the results for the period 08:30 to 09:00 in Table 8.1 (Insert) to **complete the graph** in Fig. 8.2. [3]

(ii) At which survey time was the percentage of taxis greater than the percentage of motorbikes?

..... [1]

(iii) What conclusion would you make about **Hypothesis 1:** *Cars are the main category (type) of vehicle in the town throughout the day*? Support your decision with evidence from Fig. 8.2.

.....

.....

.....

.....

.....

.....

.....

..... [4]

(iv) Suggest **different** reasons for the variation in the percentage of cars and lorries/vans during the day.

Cars

.....

.....

Lorries/vans

.....

..... [2]

(d) The student decided that **Hypothesis 2:** *The percentage of tourist coaches varies during the day* was **true**. Use evidence from Fig. 8.2 to support this conclusion.

.....

.....

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.....

..... [3]

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(e) To extend her fieldwork the student decided to use a questionnaire to find out what opinions people had about the traffic-free zone in the centre of the town.

(i) Name and describe a sampling method to use with the questionnaire.

Name of sampling method .....

Description of method

.....

.....

.....

..... [3]

(ii) Give **two** advantages and **two** disadvantages of a traffic-free zone in a town centre.

Advantages

1 .....

.....

2 .....

.....

Disadvantages

1 .....

.....

2 .....

..... [4]

[Total: 30]

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Additional Pages

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