



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

CANDIDATE  
NAME

CENTRE  
NUMBER

--	--	--	--	--

CANDIDATE  
NUMBER

--	--	--	--



**GEOGRAPHY**

Paper 2

**0460/21**

**May/June 2012**

**1 hour 30 minutes**

Candidates answer on the Question Paper.

Additional Materials:     Ruler  
                                  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 a soft pencil for any diagrams, graphs or rough working.  
Do not use staples, paper clips, highlighters, glue or correction fluid.  
**DO NOT WRITE ON ANY BARCODES.**

Answer **all** questions.

The Insert contains Photograph A for Question 3.  
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.

For Examiner's Use	
<b>Q1</b>	
<b>Q2</b>	
<b>Q3</b>	
<b>Q4</b>	
<b>Q5</b>	
<b>Q6</b>	
<b>Total</b>	

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



1 Study the map extract, which is for Chinhoyi, Zimbabwe. The scale is 1:50 000.

(a) Study the main settlement at Chinhoyi, in the south of the map extract. Name **six** services or functions found at the settlement.

- 1 .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....
- 6 .....

[3]

(b) Fig. 1 shows the location of three hills, Kanami, Baruka and King Peak, in the south west part of the map extract. Find these hills on the map extract and answer the questions on the opposite page.

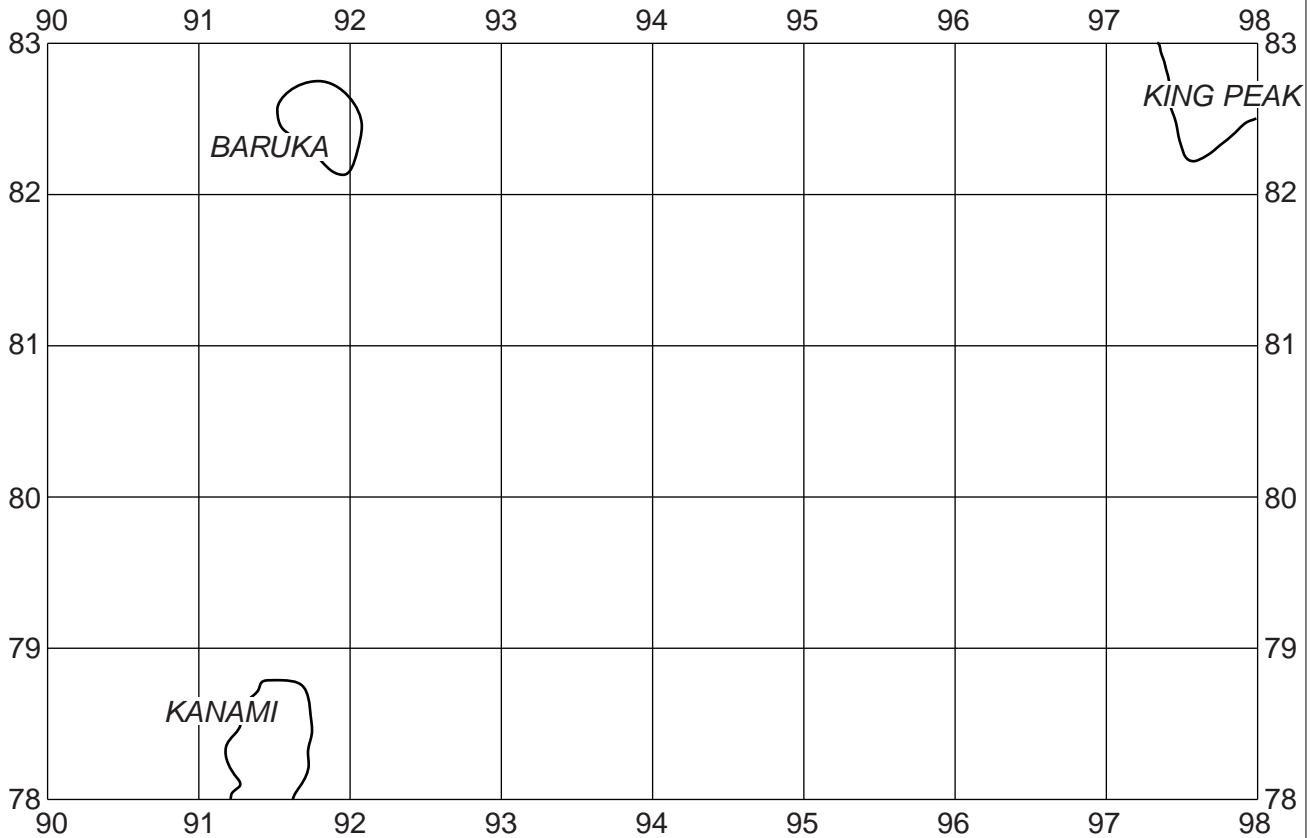


Fig. 1

(i) What is at the summit (highest point) of each hill shown in Fig. 1?

..... [1]

(ii) What is the compass direction of King Peak from Kanami Hill?

..... [1]

(iii) Measure the distance between the summit of Kanami Hill and the summit of Baruka Hill. Give your answer in metres.

..... metres [1]

(iv) Give the six figure grid reference of the summit of King Peak.

..... [1]

(v) Complete the table below to show the height above sea level of the summit of Baruka Hill.

Hill	Summit height
Kanami	1331.8 metres
King Peak	1356.2 metres
Baruka	

[1]

(c) Fig. 2 is a cross section drawn along northing 84 from 950840 to 020840.

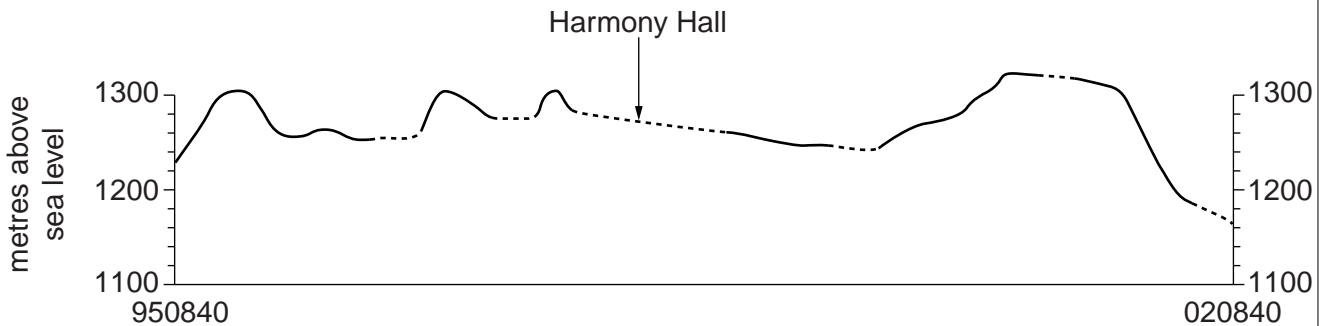


Fig. 2

(i) On Fig. 2, using labelled arrows, mark the positions of:

- A the Hunyani Range;
- B a hill slope facing west.

[2]

(ii) Parts of the cross section are shown by a dotted line. What is the land use in these areas?

..... [1]

(d) Fig. 3 shows the location of two grid squares in the south east part of the map extract. These are grid squares 0380 at Fernlea and 0680 at Hunyani.

For  
Examiner's  
Use

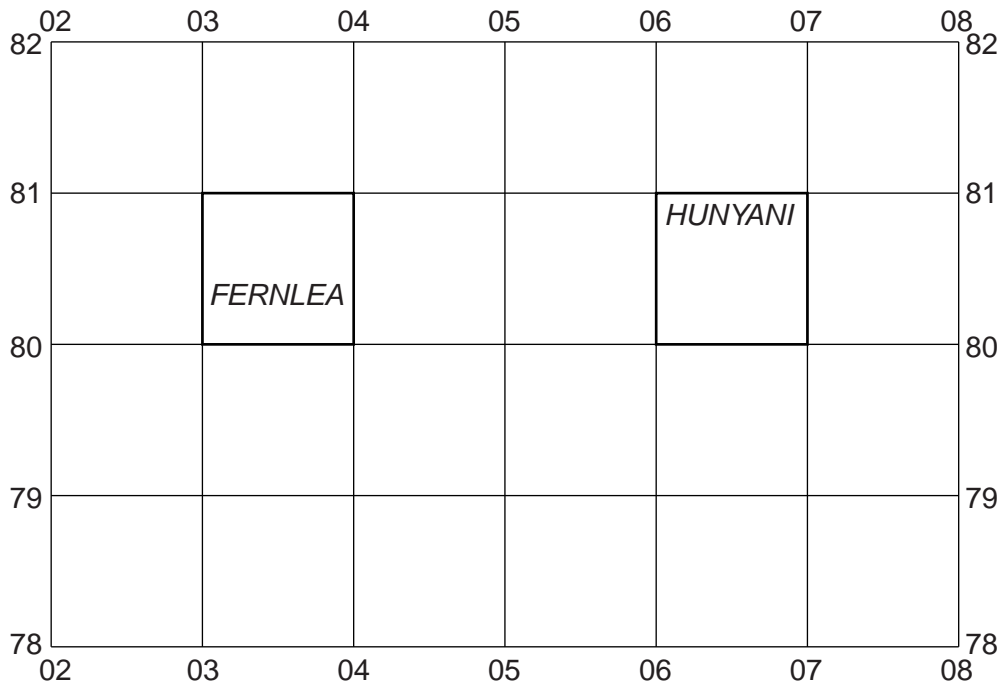


Fig. 3

The table below compares the features of the two grid squares. Complete the table by putting ticks in the correct **five** boxes. Use only **one** tick for each row.

	Fernlea (0380)	Hunyani (0680)	Both of these areas	Neither of these areas
Example: dip tank		✓		
railway				
huts and buildings				
power line				
river flowing west				
wide tarred road				

[5]



2 A student was researching the tropical rainforests of Africa on the internet. She found two maps, Fig. 4 and Fig. 5, which showed the distribution of these rainforests.

For  
Examiner's  
Use

Distribution of tropical rainforest

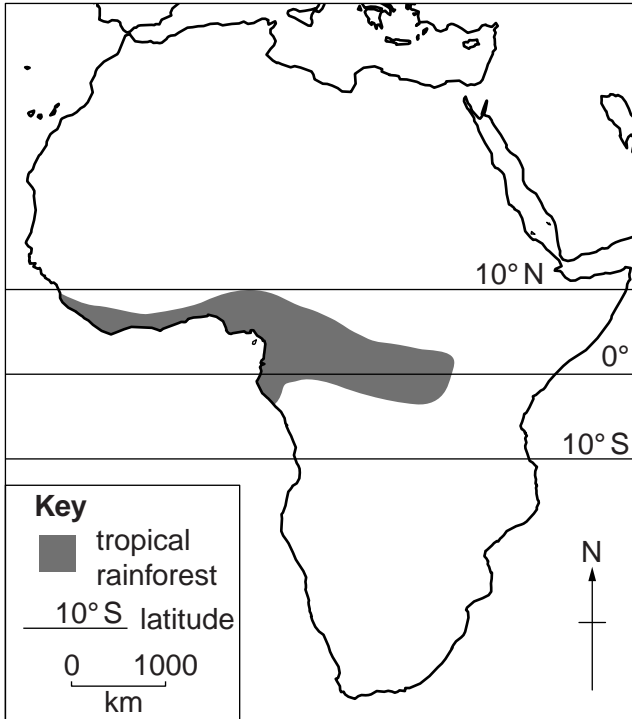


Fig. 4

Distribution of tropical rainforest

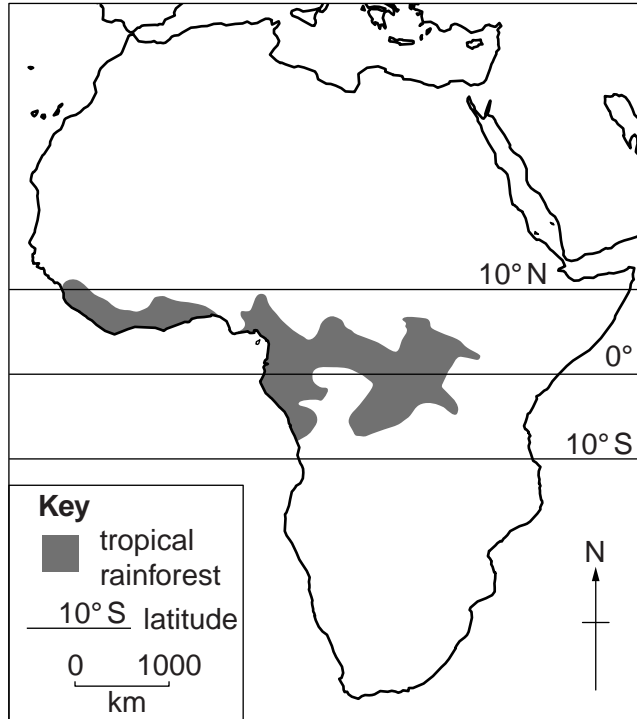


Fig. 5

(a) (i) Describe the distribution of tropical rainforests shown on Fig. 4.

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

(ii) Suggest **two** reasons why the two maps that the student found, Fig. 4 and Fig. 5, showed slightly different distributions.

1 .....  
.....  
2 .....  
.....[2]

(b) Explain how each of the following features of tropical rainforest vegetation is related to the climate:

For  
Examiner's  
Use

(i) rapid growth;

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

(ii) leaves with drip tips;

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

(iii) evergreen forest.

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

[Total: 8 marks]

3 Photograph A (Insert), shows the landscape of an area in Europe.

*For  
Examiner's  
Use*

(a) Describe the physical features of the area shown in Photograph A.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [5]



- (b) The rocks shown in the photograph have been weathered by freeze-thaw action. Draw a labelled diagram (or diagrams) to explain how this type of weathering happens.

*For  
Examiner's  
Use*

[3]

[Total: 8 marks]

4 Fig. 6 shows settlements in a rural area.

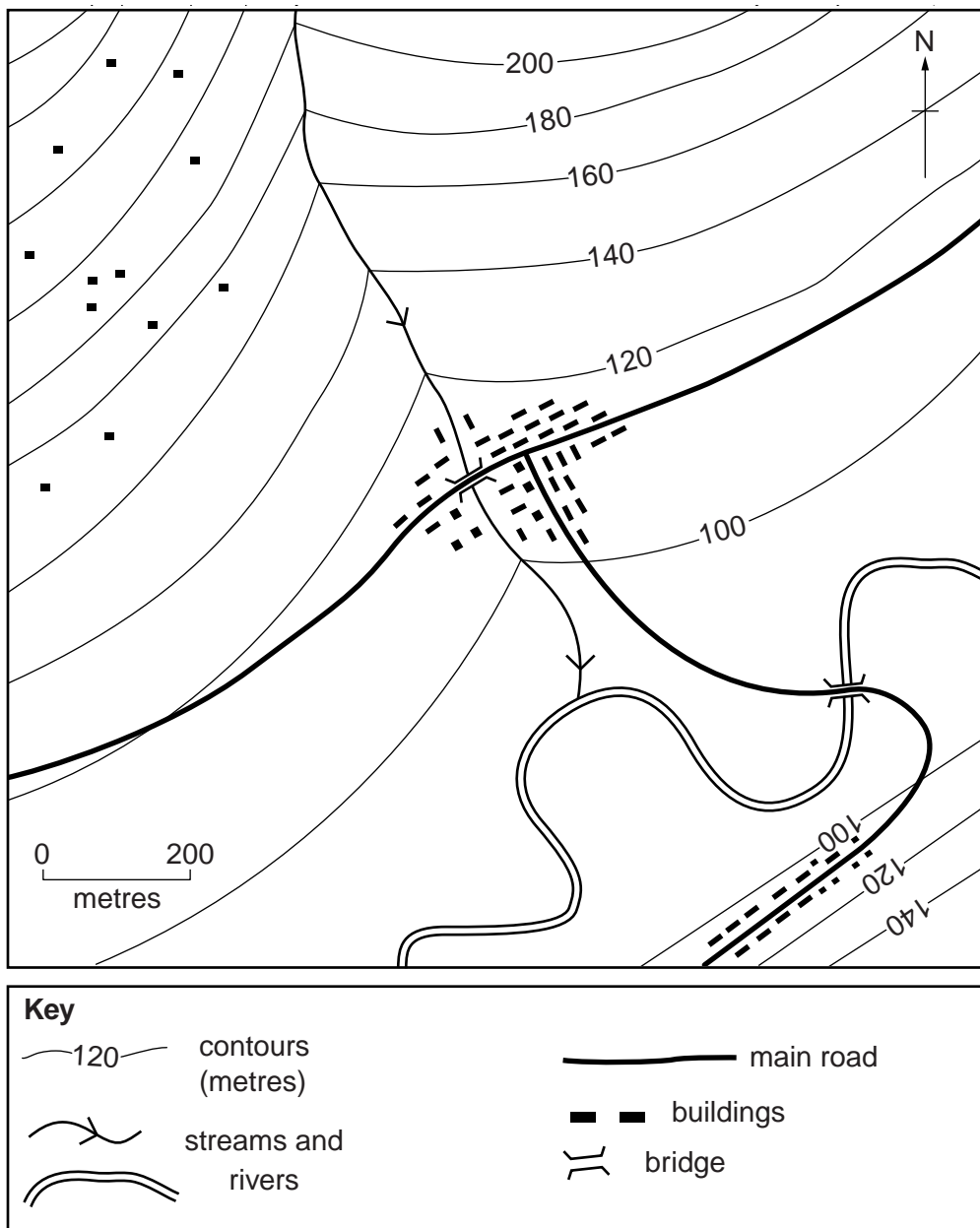


Fig. 6

(a) On Fig. 6, use the letter indicated to mark the position of an area of:

- (i) dispersed settlement (D); [1]
- (ii) linear settlement (L); [1]
- (iii) nucleated settlement (N). [1]

(b) Look at the settlement in the centre of Fig. 6. Explain how the site and position of this settlement have been influenced by each of the following factors:

For  
Examiner's  
Use

(i) transport and accessibility;

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

(ii) water supply;

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

(iii) relief and drainage.

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

[Total: 8 marks]

- 5 High technology industries use or make products such as silicon chips, software, robots and aerospace components. Fig. 7 gives information about Ottawa, Canada's main high technology centre.

### High technology industries in Ottawa, Canada

High technology industries have developed rapidly in Ottawa in the past 20 years. Ottawa has two universities which are famous for science and engineering and have strong links to the newly developing industries. In addition, the area also has government funded laboratories, such as the Atomic Energy of Canada laboratory. Many of the high technology industries have links to these organisations. Some high technology companies began with help from government grants and rely on government contracts for work. As well as government help, the region has good access to financial institutions which has been vital in providing the start-up costs of many new companies. Ottawa is a very pleasant place to live which helps firms attract highly skilled workers.

Fig. 7

- (a) The table below shows some of the factors which can affect the location of industry. Using information from Fig. 7 **only**, which of these **four** factors have been important in the development of high technology industries in Ottawa? Tick only **four** boxes in the table below.

Factor	Tick
raw materials	
energy supplies	
finance	
cheap labour	
unskilled labour	
research facilities	
large flat sites	
water supply	
government influence	
quality of life	

[4]

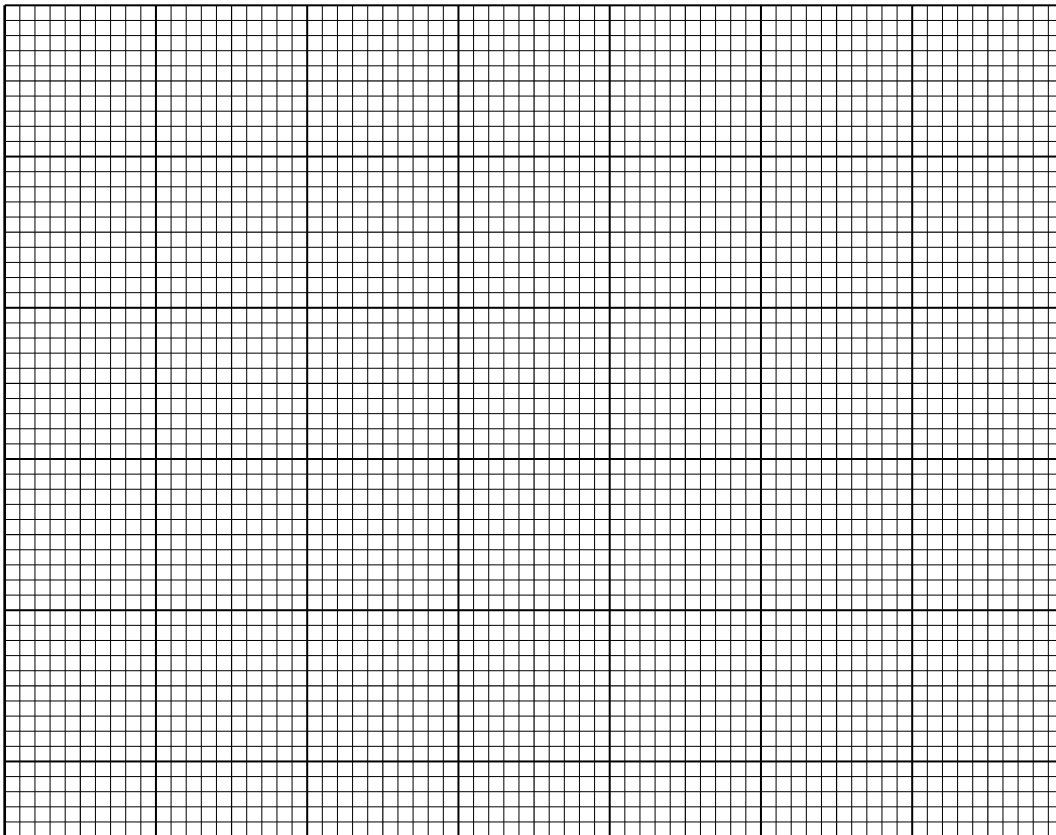
- (b) The number of high technology companies in the Ottawa area has increased greatly as shown in Table 1 below.

For  
Examiner's  
Use

**Table 1**

Year	Number of companies
1997	900
2002	1400
2007	1800

Using the graph paper below, draw a bar graph to show the information given in Table 1. Choose an appropriate scale and label this clearly. Label the three years.



[4]

[Total: 8 marks]

6 Fig. 8 is a map giving information about water supply in the western USA.

For  
Examiner's  
Use

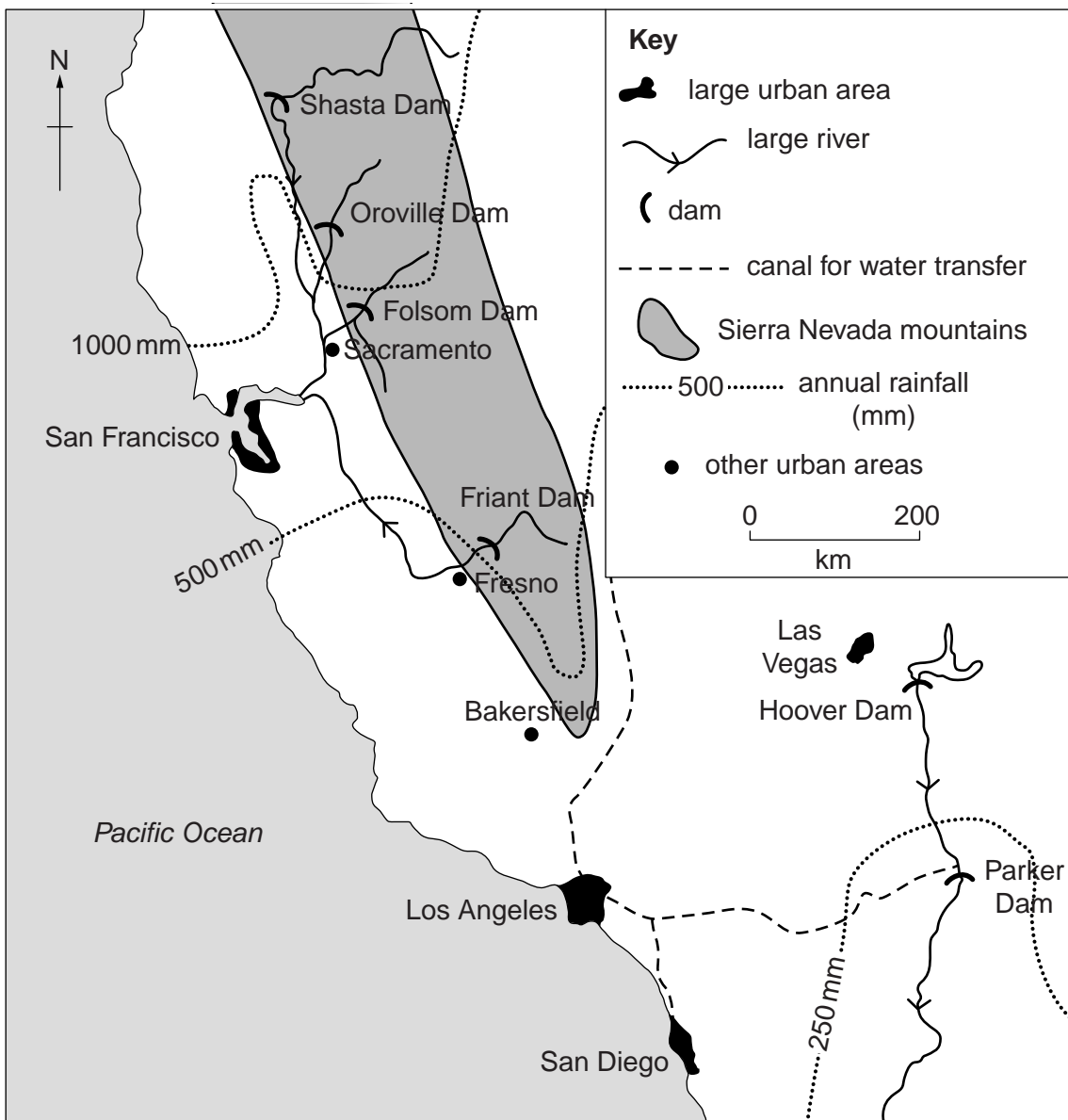


Fig. 8

(a) (i) There is a high demand for water in the area shown on Fig. 8, therefore several storage dams have been built. What is the evidence, shown on Fig. 8, for a high demand for water in the area?

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

(ii) Storage dams have been built because the supply of water was limited. What evidence, shown on Fig. 8, suggests that the area had a limited water supply?

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

(b) Fig. 8 shows the locations of some of the storage dams.

(i) Suggest **two** advantages of the locations of these dams.

- 1 .....
- .....
- 2 .....
- ..... [2]

(ii) Suggest **one** disadvantage of the location of the dams.

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

(c) Some of the urban areas shown on Fig. 8 are supplied with water by canals (artificial channels) which transfer water to where it is needed.

Using evidence from Fig. 8, suggest disadvantages of using this method of water supply for some of the urban areas.

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

[Total: 8 marks]

**BLANK PAGE**

---

*Copyright Acknowledgements:*

Question 3 Photograph A

D A Kelly © 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 Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.