

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

**GEOGRAPHY**

**2217/02**

Paper 2

October/November 2004

**2 hours 15 minutes**

Additional Materials: Answer Booklet/Paper;  
Ruler;  
1:25 000 Survey Map Extract is enclosed  
with this question paper.

**READ THESE INSTRUCTIONS FIRST**

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.  
Write your Centre number, candidate number and name on all the work you hand in.  
Write in dark blue or black pen on both sides of the paper.  
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 in Section A and **one** question in Section B.  
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.  
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.  
The Insert contains Photograph A for Question 5, Fig. 6 for Question 8, Fig. 7 for Question 9 and  
Photograph B for Question 9.

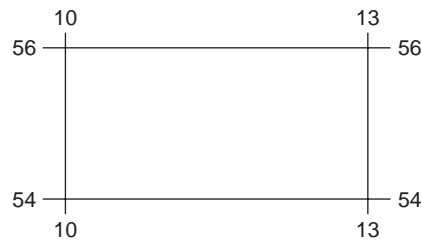
This document consists of **11** printed pages, **1** blank page and **1** insert.

## Section A

Answer **all** questions in this section.

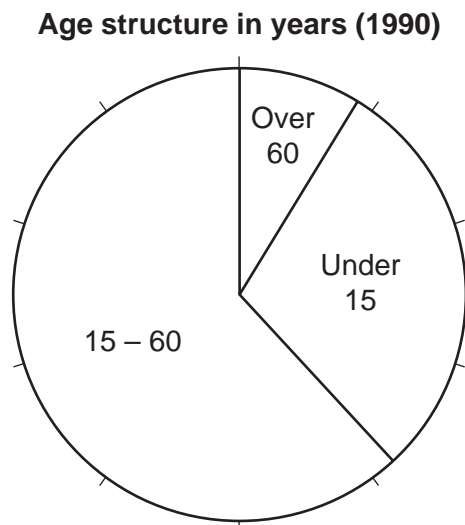
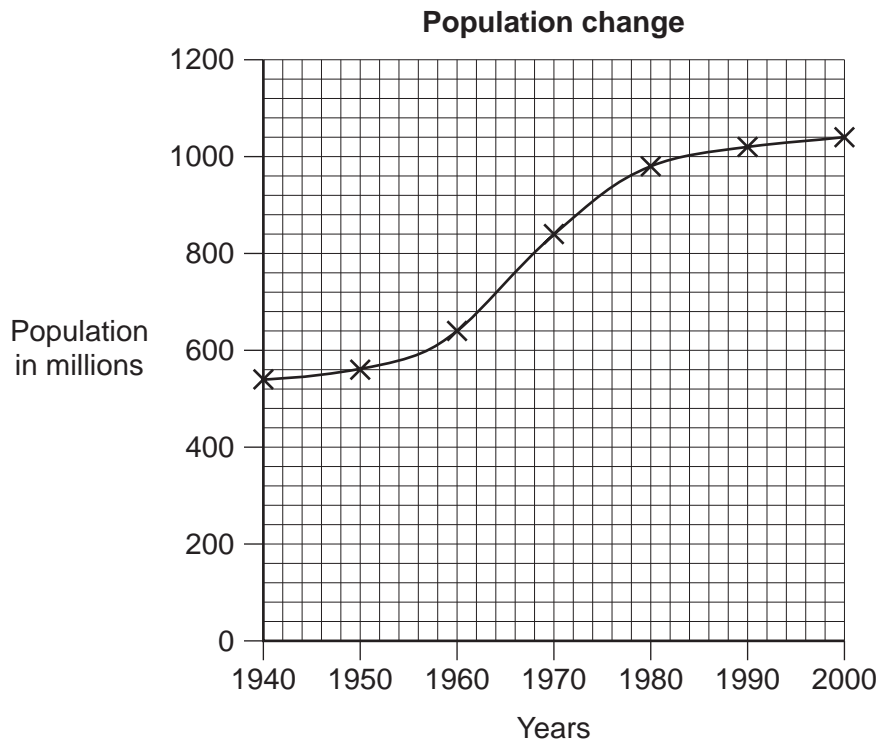
Study the map of part of the island of St Lucia on a scale of 1:25000 and answer the following questions.

- 1 (a) (i) Give the six figure grid reference of the main trigonometrical station on Mount Pimard at the southern end of Rodney Bay. [1]
- (ii) What is located at grid reference 124518? [1]
- (iii) What is the compass direction of the trigonometrical station of Mount Jambe (138522) from the trigonometrical station on Mount Pimard? [1]
- (iv) What is the distance between these two points?  
Give your answer in metres. [1]
- (b) Describe the physical landscape, including the coastline, of the area shown below. [5]



- (c) (i) Describe the land on which the cultivation and plantation takes place. [2]
- (ii) Name **two** plantation crops which the map shows are cultivated on this land. [2]
- (d) State map evidence which shows how Castries receives its water supply. [3]
- (e) (i) Describe **three** advantages of the site of Castries. [3]
- (ii) Give **one** piece of evidence which suggests that Castries is expanding economically. [1]

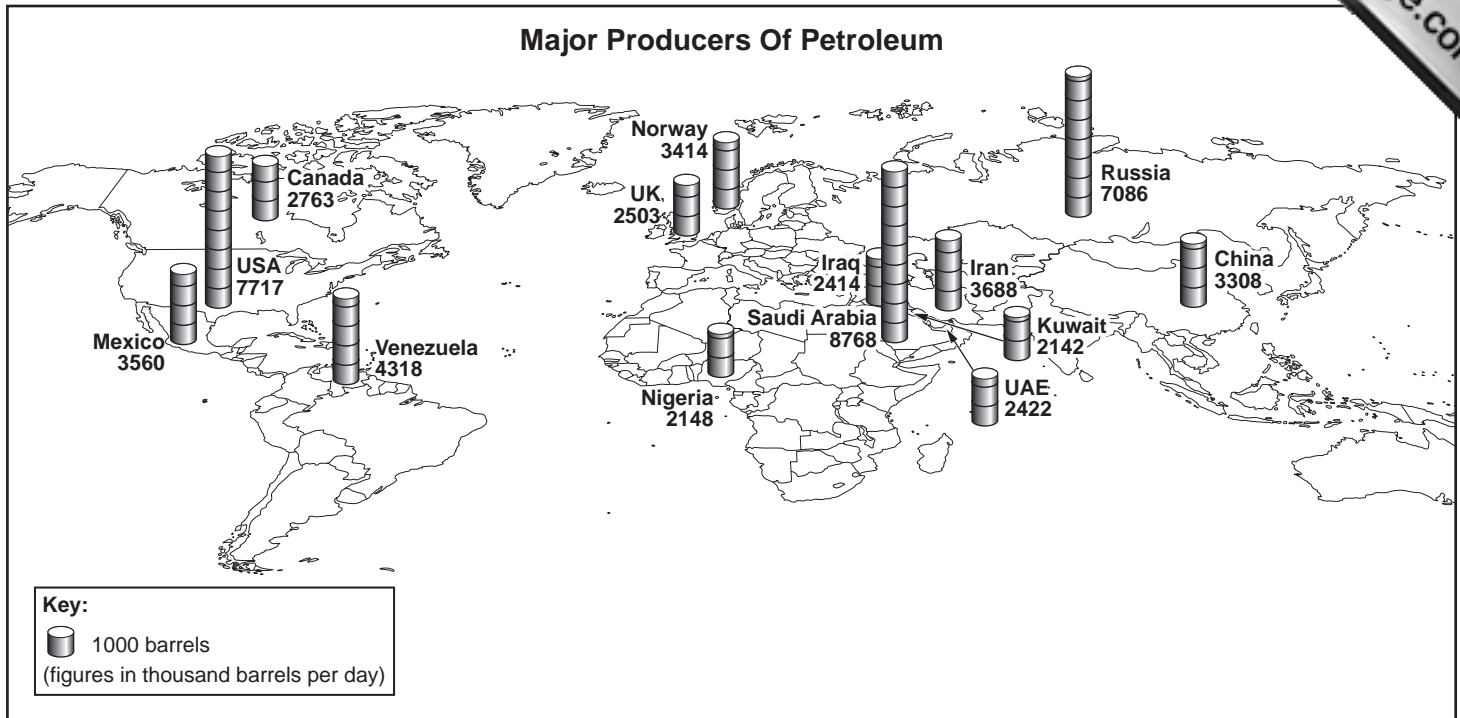
- 2 Fig. 1 shows the changes in population and the age structure of China, a large country.



**Fig. 1**

- (a) (i) What was the population of this country in 1970? [1]  
(ii) Describe the trend of population change during the period shown. [2]
- (b) What percentage of the population of this country can be described as the dependent population? [1]
- (c) (i) Which age group would be the most likely to expand in the next twenty years? [1]  
(ii) What evidence from Fig. 1 can you supply to support this view? [2]

- 3 Study Fig. 2A which is a world map showing the main petroleum producing countries and Fig. 2B which shows the total monthly production of two petroleum exporting countries in 1999.



**Fig. 2A**

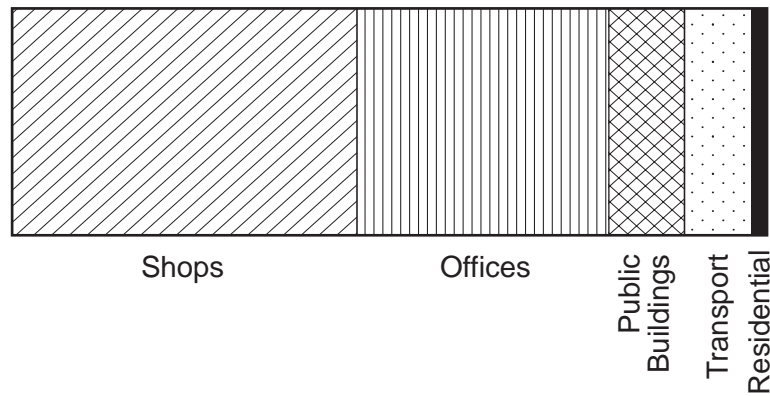
Month	Country A	Country B
January	3691	3124
February	3947	3136
March	3820	3107
April	3502	3088
May	3465	3045
June	3492	2846
July	3345	3279
August	3211	2967
September	3225	2996
October	3484	3181
November	3534	3439
December	3455	3472

(Figures in thousand barrels per day)

**Fig. 2B**

- (a) (i) Which country is the world's largest producer of petroleum? [1]
- (ii) Describe the distribution of the major petroleum producing countries.
- (b) (i) Describe the pattern of production in 1999 shown in Fig. 2B.
- (ii) Suggest a reason for the seasonal variation in petroleum production in these countries. [1]

- 4 Study Fig. 3 which shows the percentage of different types of land use in one area of a city.



**Fig. 3**

- (a) Name the type of graph which is used to show these data. [1]
- (b) (i) Which type of land use has the highest percentage? [1]  
(ii) Name **two** types of land use which are not found in this area. [2]
- (c) (i) Which part of the city is represented by these data? [1]  
(ii) Suggest why there is only a small extent of residential land use in this area. [1]
- 5 Study Photograph A which shows a scene in a rural area of a tropical country.
- (a) Describe the location and distribution of the settlement in the photograph. [2]
- (b) What evidence is there of farming in this area? [2]
- (c) Suggest what the photograph shows about the climate of this area. [1]
- (d) Explain how running water has affected **both** the landscape and farming. [2]

- 6 Study Fig. 4 which shows rainfall data for April and December as well as annual rainfall at a weather station.

Year	April	December	Yearly total
1979	36.4	165.4	833.6
1980	18.8	56.4	855.6
1981	55.0	121.1	926.8
1982	25.0	112.9	919.7
1983	105.6	82.7	835.6
1984	13.6	54.6	829.3
1985	35.9	131.3	869.6
1986	72.0	111.2	919.5
1987	63.2	59.1	830.8
1988	63.8	16.8	797.7

(Rainfall in mm)

**Fig. 4**

- (a) Which was the wettest year? [1]
- (b) (i) Describe the pattern of rainfall in December. [2]
- (ii) Compare the rainfall in April with that in December over the period shown. [2]
- (c) Describe the pattern of total annual rainfall over the period shown. [2]

7 Study Fig. 5 which is a diagram showing an industrial system.

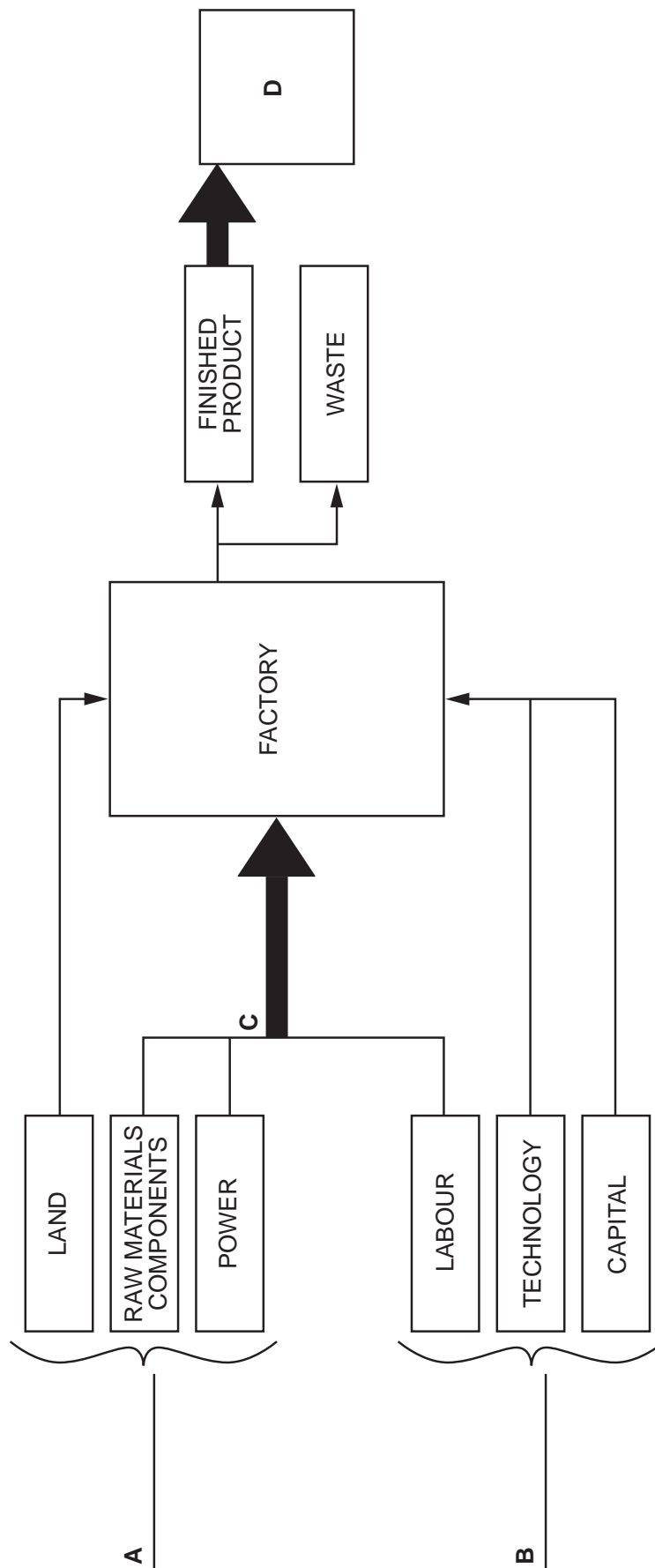


Fig. 5



(a) On your answer paper, write down **A**, **B**, **C** and **D** as a list. Against each, give an appropriate label chosen from the following to complete Fig. 5:

- human inputs
- markets
- physical inputs
- pollution
- processes
- transport

[4]

(b) For **one manufacturing** industry which you have studied, name one raw material used, the main power source and one finished product. [3]

## Section B

Answer **one** question from this section.

**8** Students studied the characteristics of the CBD of a town. A map of the CBD is shown on Fig. 6 (Insert). The students decided to count pedestrians and then interview shopkeepers in the town. The hypothesis investigated was  
*'the number of pedestrians decreases away from the central point of the CBD'.*

- (a) The point marked **X** on Fig. 6 was identified as the central point of the CBD. State four characteristics which may be used to recognise the central area of a CBD. [4]
- (b) Students walked for 100 paces in different directions from **X**. Students counted and recorded on a recording sheet pedestrians passing them from 10 00 hrs for ten minutes.
- (i) Describe **one** advantage and **one** disadvantage of this method of selecting the sites for recording pedestrian numbers. [2]
- (ii) Name **two** pieces of information which should be recorded, apart from the results, on every recording sheet by each student. [2]
- (c) The results of the pedestrian count are shown as isolines on the map (Fig. 6 Insert).
- (i) On Fig. 6, draw the isoline to show 30 pedestrians. [4]
- (ii) Using the key provided, shade in the area on the map recording more than 50 pedestrians. [2]
- (d) (i) Describe the changes in the number of pedestrians away from **X**. [2]
- (ii) Using other information from the map, suggest reasons for these changes. [4]
- (e) Students decided to interview shopkeepers to find out the busiest time of the day in the CBD. From the 60 shops in the central area, 20 shops were selected, some selling convenience goods and some selling comparison goods.
- (i) What are comparison goods? Name an example. [2]
- (ii) Suggest how the shops would have been selected in order to ask a representative sample of shopkeepers. [2]
- (f) The results of the question to the shopkeepers are shown in Table 1.

Question: <i>Which is the busiest time of the day in this shop?</i>				
0800 – 1000 hrs	1000 – 1200 hrs	1200 – 1400 hrs	1400 – 1600 hrs	1600 – 1800 hrs
1	5	10	4	0

**Table 1**

- Explain why the results of the question to the shopkeepers may not be reliable. [2]
- (g) Write a conclusion to this investigation. You should refer to the hypothesis and suggest ways to improve the investigation. [4]

9 Students investigated a straight stretch of a stream. The width and depth of the stream were measured and the speed of the water was recorded. The investigation was to test the hypothesis 'water flows faster where the channel is deeper'.

(a) Explain how the students measured the depth of the stream regularly at 0.5 metre intervals from one bank to the other using a rope and a measuring stick. A labelled diagram may be drawn to help the explanation. [3]

(b) Study Table 2 below showing the depth measurements recorded by the students.

(i) Complete the cross-section on Fig. 7 (Insert) using the data in Table 2. [2]

(ii) Describe the changes in depth from **A** to **B**. [2]

<b>Distance (m) from A</b>	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
<b>Depth (mm)</b>	150	170	400	490	590	580	490	390	0
<b>Average Time (seconds)</b>	37.9			27.7			32.7		
<b>Velocity</b>	0.26 m/sec			0.36 m/sec			0.31 m/sec		

**Table 2**

The students used a floating object to measure the speed of the water over a distance of ten metres. The object was measured floating in the centre of the stream and close to each bank. Each measurement was repeated five times. The average time for each set of measurements was calculated and is shown in Table 2.

(c) (i) Why was the measurement repeated five times in each location? [1]

(ii) Explain how the velocity figures in Table 2 were calculated. [1]

(iii) Complete the histogram / bar graph on Fig. 7 to show the velocity. [3]

(d) (i) Describe the link between the velocity and the depth results shown in Fig. 7. Give reasons for the relationship you have identified. [4]

(ii) Describe **two** possible problems in measuring the velocity that may cause the results to be unreliable. [2]

(e) Photograph B (Insert) shows a location further downstream of the same stream.

(i) Label the photograph with arrows to show

- a slip-off slope
- the flood plain
- undercutting. [3]

(ii) How and why will the depth and velocity differ at this location from the cross-section shown in Fig. 7? [3]

(f) (i) Write a conclusion to the investigation. Reference should be made to the hypothesis and to relevant data from Table 2 which is used as evidence. [3]

(ii) Suggest how the investigation of the hypothesis could be extended to improve the reliability of the results. [3]

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*Copyright Acknowledgements:*

Fig. 2A and B                      [http://www.bpamoco.co.uk/statistical review](http://www.bpamoco.co.uk/statistical%20review).  
Photograph A                      Brian Heppell © UCLES

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