



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**GEOGRAPHY**

**0460/23**

Paper 2

**October/November 2014**

**1 hour 30 minutes**

Candidates answer on the Question Paper.

Additional Materials:     Ruler  
                                     Protractor  
                                     Plain paper  
                                     Calculator

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.**

Answer **all** questions.

The Insert contains Photograph A for Question 2.

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 **15** printed pages, **1** blank page and **1** Insert.

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

(a) Fig. 1 shows some of the features in part of the map extract.

Study Fig. 1 and the map extract and answer the questions below.

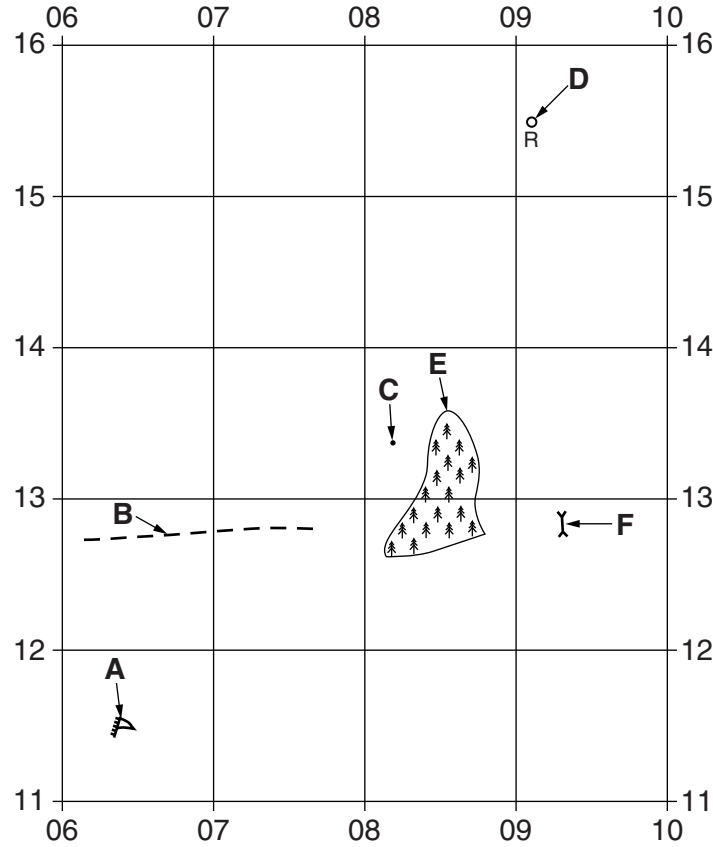


Fig. 1

Using the map extract, identify the following features shown on Fig. 1:

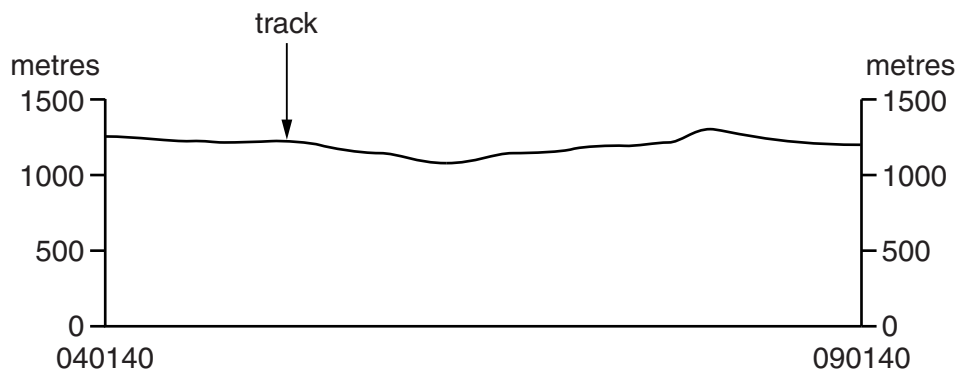
- (i) feature **A**; ..... [1]
- (ii) the type of road at **B**; ..... [1]
- (iii) the height of the land at **C**; ..... [1]
- (iv) feature **D**; ..... [1]
- (v) the land use at **E**; ..... [1]
- (vi) feature **F**. ..... [1]

- (b) Name the rural settlement patterns of the settlements in the table below. Choose from linear, nucleated and dispersed.

Settlement	Settlement pattern
the settlement in grid square 0117	
Madzonga and Chipuru (0312)	
the settlements in grid squares 0417 and 0418	

[3]

- (c) Fig. 2 is a cross section along northing 14 from 040140 to 090140.



**Fig. 2**

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

- (i) the River Ruya; [1]
- (ii) the power line; [1]
- (iii) a gravel or earth road. [1]

- (d) (i) Look at the power line between the point where it crosses the River Ruya and the northern edge of the map. Which compass bearing from grid north does the power line follow from the river crossing? Tick (✓) **one** correct answer in the table below.

Bearing (°)	Tick (✓)
20	
160	
200	
340	

[1]

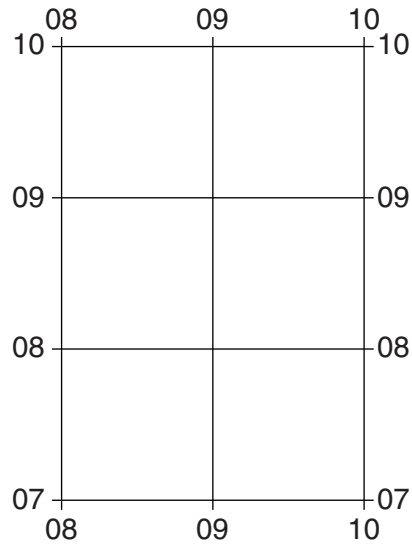
- (ii) Find where this power line crosses over a hut. State the six figure grid reference of this point.

..... [1]

- (e) Describe the physical (natural) features of the River Ruya between eastings 02 and 06.

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

(f) Fig. 3 shows an area in the south east of the extract that has areas of cultivation.



**Fig. 3**

Use the map extract to describe the distribution of the areas of cultivation in the area shown on Fig. 3. Refer to relief and drainage in your answer.

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 20 marks]

- 2 (a) Study Fig. 4, which shows the main volcanoes in Ecuador and Photograph A (Insert) which shows one of the volcanoes marked on the map.

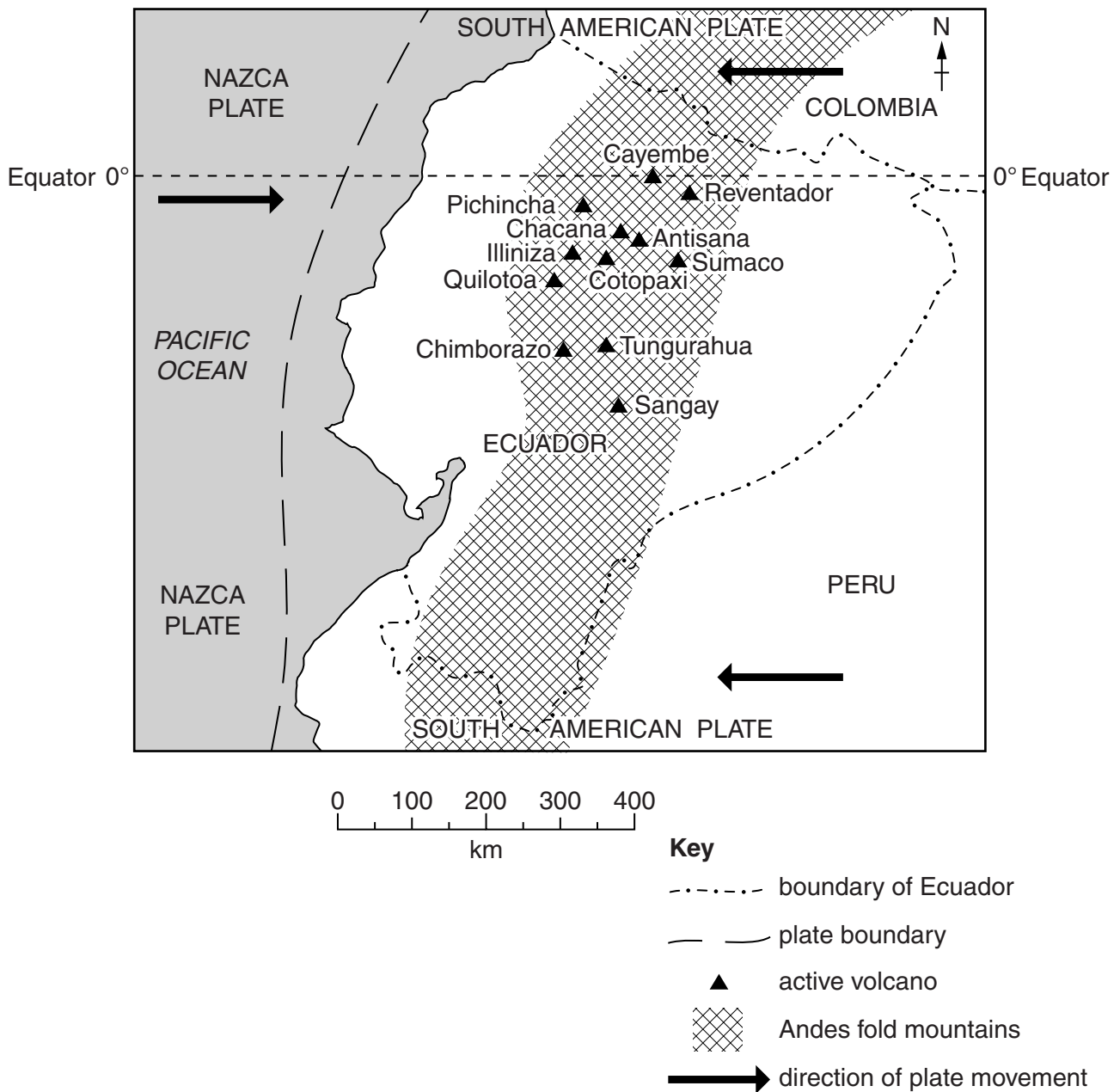


Fig. 4

- (i) Photograph A was taken on the Equator and the camera was pointing east. What is the name of the volcano in Photograph A?

..... [1]

(ii) Describe the volcano and other physical (natural) features of the landscape on Photograph A.

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

(b) (i) What type of plate boundary is shown in Fig. 4? Tick **one** box below.

Type of plate boundary	Tick (✓)
conservative	
constructive	
destructive	

[1]

(ii) On Fig. 4 (opposite), add the label 'denser plate'. [1]

(iii) Approximately what is the distance in kilometres from the plate boundary to the nearest volcano?

Circle your answer below.

125                      225                      325                      425                      [1]

(iv) Subduction takes place at this plate boundary. What is *subduction*?

.....

..... [1]

[Total: 8 marks]

3 Study Fig. 5, which shows a wet and dry bulb thermometer (hygrometer).

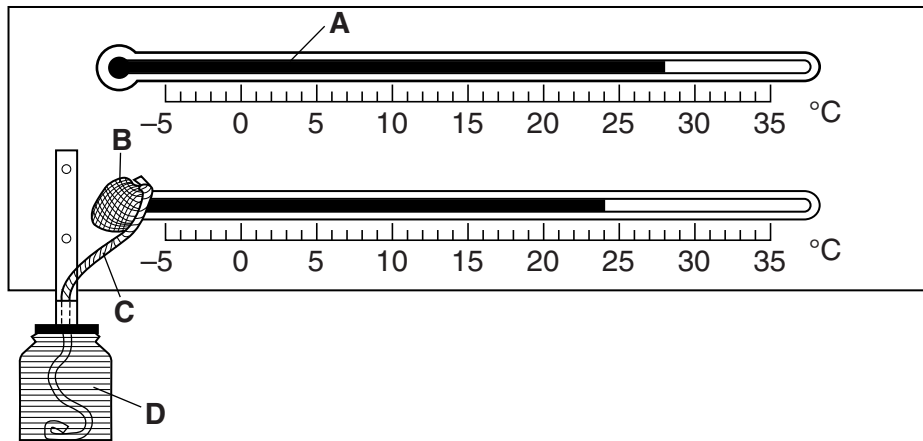


Fig. 5

(a) Name the liquids **A** and **D**.

**A** ..... [1]

**D** ..... [1]

(b) Feature **C** links thermometer bulb **B** to liquid **D**. Explain why.

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

(c) (i) Calculate the depression of the wet bulb, shown in Fig. 5. Show your calculation in the table below.

	°C
dry bulb thermometer reading	
wet bulb thermometer reading	
depression of the wet bulb thermometer	

[3]



(ii) Table 1 gives the relative humidity of the air for certain hygrometer readings.

**Table 1**

Dry bulb reading (°C)	Depression of the wet bulb thermometer (°C)						
	1°	2°	3°	4°	5°	6°	7°
	%	%	%	%	%	%	%
30	93	86	79	73	67	61	55
29	93	86	79	72	66	60	54
28	93	85	79	72	65	59	53
27	92	85	78	71	65	59	52
26	92	85	78	71	64	58	51
25	92	84	77	70	63	57	50
24	92	84	77	69	62	56	49
23	92	84	76	69	62	55	48

Using your answer to (c)(i) and Table 1, state the relative humidity.

..... [1]

(iii) Look at Table 1. Describe the relationship between the depression of the wet bulb thermometer and relative humidity.

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

[Total: 8 marks]

- 4 Study Fig. 6, which shows the population increase of the United Kingdom (UK) over five year periods between 1961 and 2011.

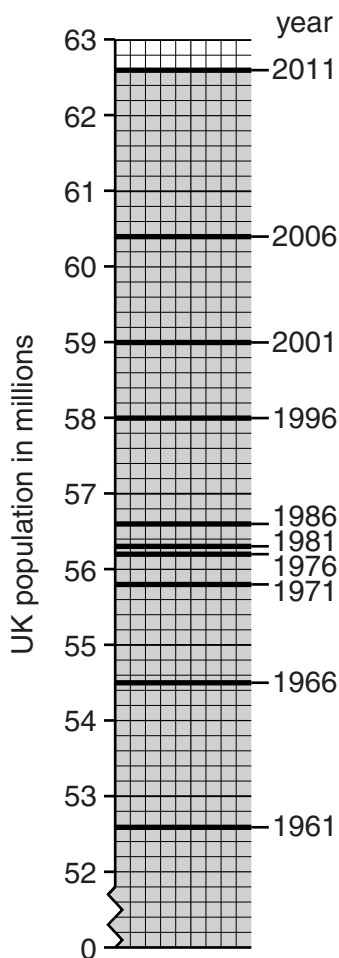


Fig. 6

- (a) (i) Mark on Fig. 6 the 1991 population total of 57.3 million and label it with the date. [1]
- (ii) By how much did the UK population increase between 1961 and 2011?  
 ..... million [1]
- (iii) Circle below the approximate percentage increase in the UK population in the fifty year period between 1961 and 2011.  
 10%                      15%                      20%                      25% [1]
- (iv) In which **five** year period was the largest growth in the UK population?  
 ..... [1]
- (v) In which **ten** year period was the smallest growth in the UK population?  
 ..... [1]

- (b) Table 2 shows details of the factors influencing population growth in the UK for every tenth year from 1961.

**Table 2**

Year	Birth rate (per 000)	Death rate (per 000)	Net migration (total)
1961	17.9	12.0	30 000
1971	16.1	11.5	-66 000
1981	13.0	11.7	-80 000
1991	13.7	11.2	100 000
2001	11.3	10.2	160 000
2011	12.9	9.3	163 000

- (i) Calculate the **natural** population change in 1961.

..... per 1000 [1]

- (ii) In the ten year period from 2001 to 2011, the UK population grew by 3.6 million.

Use the information in Table 2 to explain why the total population grew.

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

[Total: 8 marks]

5 Study Fig. 7, which shows employment in the different industrial sectors for certain countries.

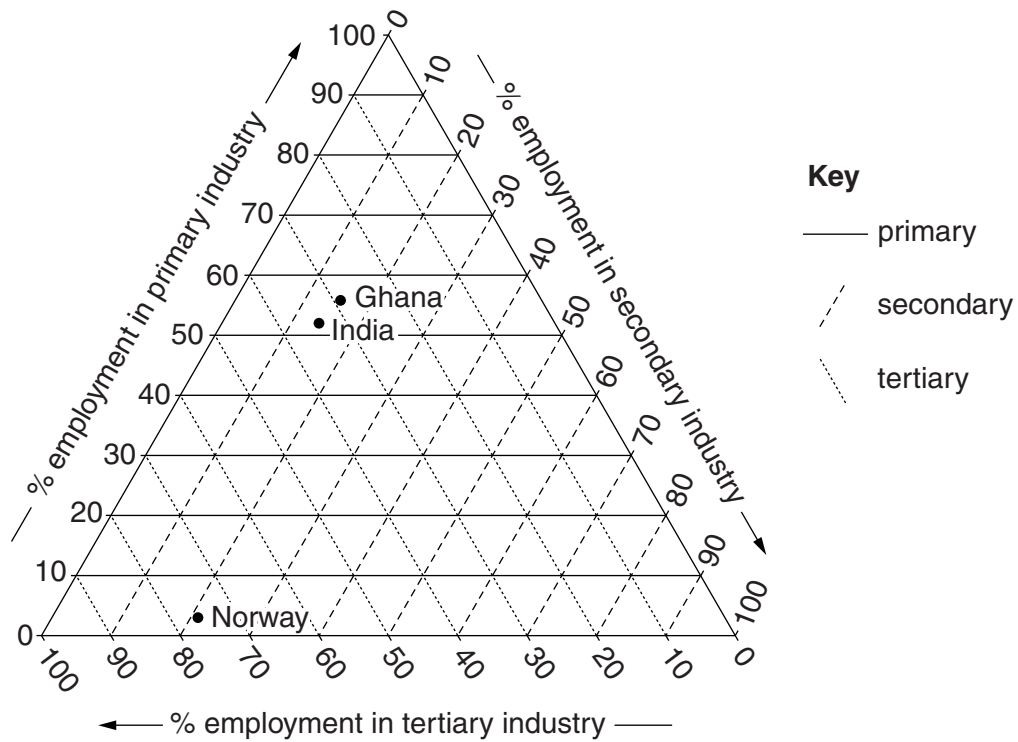


Fig. 7

(a) Table 3 shows the employment figures for Brazil and Ghana. The figures for Ghana have already been plotted on Fig. 7.

Table 3

Country	percentage employed in primary industry	percentage employed in secondary industry	percentage employed in tertiary industry
Ghana	56	15	29
Brazil	20	14	66

(i) Plot the position of Brazil's employment structure on Fig. 7. [2]

(ii) What percentage of India's workers are employed in primary industries?

..... %

[1]

- (b) Table 4 shows the GDP per person for selected countries arranged in rank order. (GDP is a measure of the wealth of a country.)

**Table 4**

Country	GDP per person (US \$)	rank
Norway	54 000	1
Italy	29 500	2
Brazil	11 900	3
India	3 700	4
Ghana	3 100	5

- (i) Complete Table 5 below by ranking the same countries in order of their percentages employed in tertiary industry. [1]

**Table 5**

Country	employment in tertiary industry (%)	rank
Brazil	66	
Ghana	29	
India	34	
Italy	68	
Norway	76	

- (ii) Describe the relationship between the GDP per person and employment in tertiary industry. Use statistics in your answer.

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

- (iii) Suggest why the percentage of employment in tertiary industry (services) in a country is linked to the GDP per person.

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

[Total: 8 marks]

6 Study Fig. 8, which gives some information about employment in the Orlando area of Florida, USA. Use Fig. 8 to answer the questions that follow.

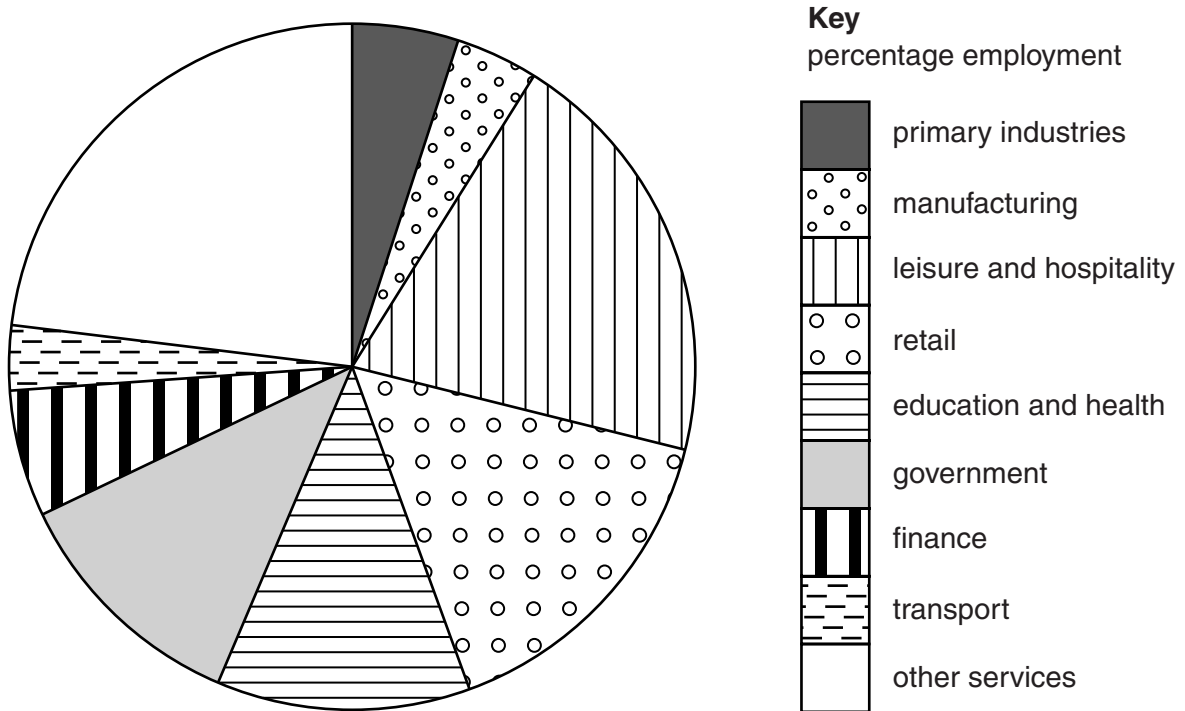


Fig. 8

(a) (i) What percentage of the inhabitants of the Orlando area work in leisure and hospitality?  
 ..... % [1]

(ii) Suggest how the following sectors of employment benefit from tourism:  
 transport; .....  
 .....  
 primary industry. ....  
 ..... [2]

(b) Suggest reasons why large numbers of tourists visit urban areas.

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

[Total: 8 marks]

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*Copyright Acknowledgements:*

Question 2 Photograph A      M. Fretwell © UCLES.  
Question 6 Fig. 8              Adapted from: © U.S. Bureau of Labor Statistics.

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