



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

GEOGRAPHY

0460/12

Paper 1

October/November 2009

1 hour 45 minutes

Additional Materials: Answer Booklet/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.

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 **three** questions.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

The Insert contains Photographs A, B and C for Question 2 and Photographs D, E and F for Question 5.

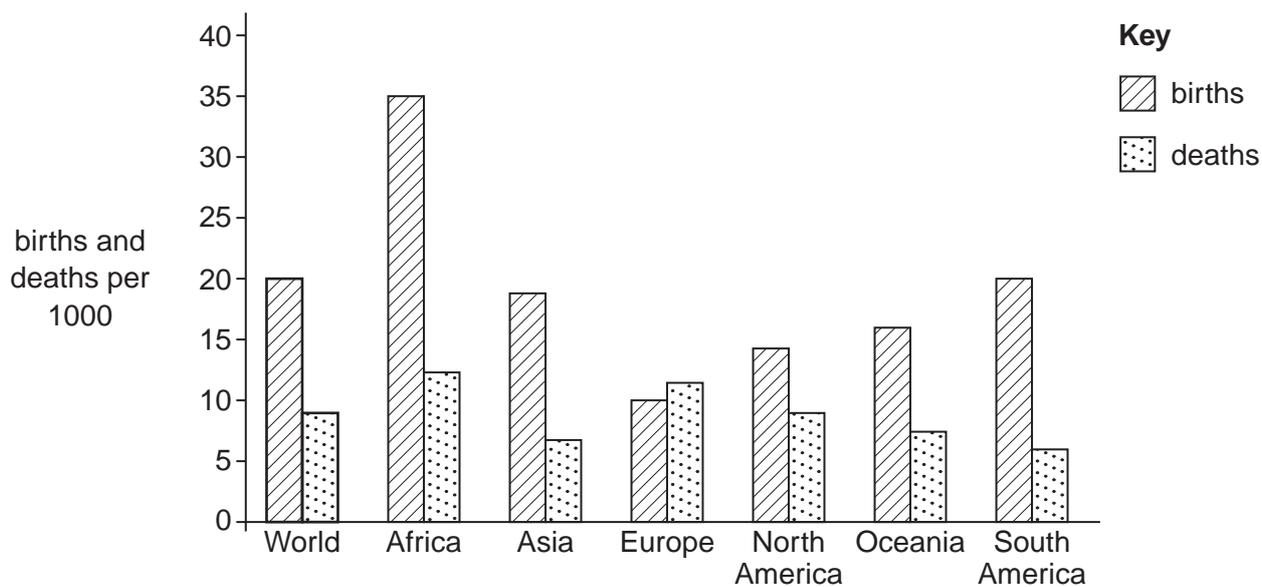
At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **13** printed pages and **3** blank pages and **1** Insert.



1. (a) Study Fig. 1, which shows information about birth rates and death rates for the world and different continents in 2007.



Source: <http://images.encarta.msn.com/xrefmedia/aencmed/targets/illus/cha/T045961A.gif>

Fig. 1

- (i) What is meant by *birth rate*? [1]
- (ii) Calculate the natural population growth rate of the world in 2007. You must show your calculations. [2]
- (iii) Name a continent where in 2007:
- A birth rates were higher than the world average,
 - B death rates were lower than the world average,
 - C natural population decrease occurred. [3]
- (iv) Suggest reasons why birth rates in Europe and North America are low. [4]

(b) Study Fig. 2, which shows an extract from a website.

Europe's ageing population

Europe's rate of population growth is falling while the inhabitants are ageing. Who will solve the problems which this is causing?

Some people believe that immigration could be the solution to Europe's problems.

Source: <http://news.bbc.co.uk/1/hi/world/europe/2053581.stm> (much amended)

Fig. 2

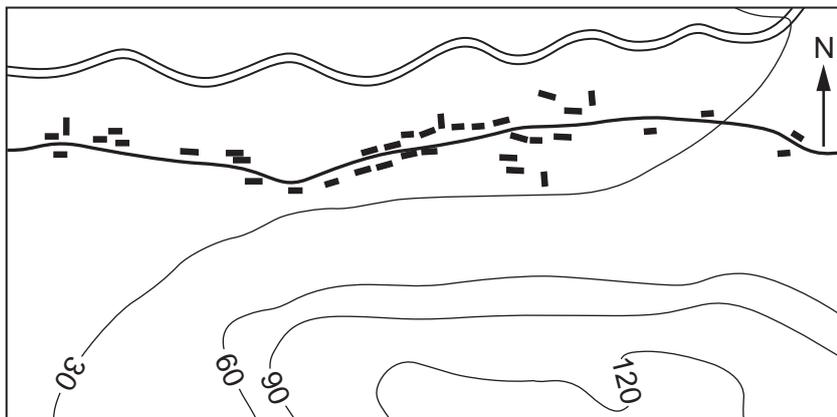
- (i) Describe **three** problems which are caused by an ageing population [3]
- (ii) Many international migrants have moved from LEDCs to MEDCs in Europe. Explain how an MEDC might benefit from receiving these international migrants. [5]
- (c) For a country or area which you have studied, describe and explain variations in the population density. [7]

2 (a) Study Fig. 3, which shows three different rural settlement patterns.

Area X



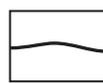
Area Y



Area Z



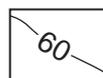
Key



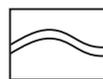
road



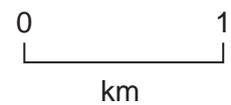
buildings



contour (metres)



river



5

- (i) Area **X** shows dispersed settlement. What is meant by *dispersed settlement*? [1]
- (ii) Suggest **two** reasons why a linear settlement pattern has developed at **Y**. [2]
- (iii) Name the type of settlement pattern at **Z** and suggest **two** reasons for the growth of a settlement at this site. [3]
- (iv) Explain why many people in LEDCs are migrating away from rural areas. [4]
- (b) Study Photographs A, B and C (Insert), which show three urban areas in an MEDC.
- (i) For each of the three areas in Photographs A, B and C, identify the main land use. [3]
- (ii) Choose **one** of the three areas shown in Photographs A, B or C. Write down the letter of the photograph you have chosen and suggest reasons why that land use developed there. [5]
- (c) For a named **urban** area, describe the impacts of its growth on the environment. [7]

[Total: 25 marks]

- 3 (a) Study Table 1, which suggests what the impacts of five different natural hazards might be.

Table 1

Type of hazard	Predictability	Size of area affected	Short-term impact	Long-term impact
Drought	Predictable	4	2	4
Earthquake	Unpredictable	1	3	3
Flood	Predictable	2	4	3
Tropical storm	Very predictable	3	3	2
Volcanic eruption	Quite predictable	1	3	2

Each potential impact is graded on a scale of 1 (smallest) to 4 (largest)

- (i) What is meant by a *natural hazard*? [1]
- (ii) Give an example from Table 1 of a natural hazard caused by:
A tectonic activity;
B weather/climate. [2]
- (iii) Using only the evidence from Table 1, compare the effects of droughts and earthquakes. [3]
- (iv) Suggest reasons why the impacts of natural hazards are usually greater in LEDCs than in MEDCs. [4]

(b) Study Fig. 4, a map showing earthquake activity along a plate boundary.

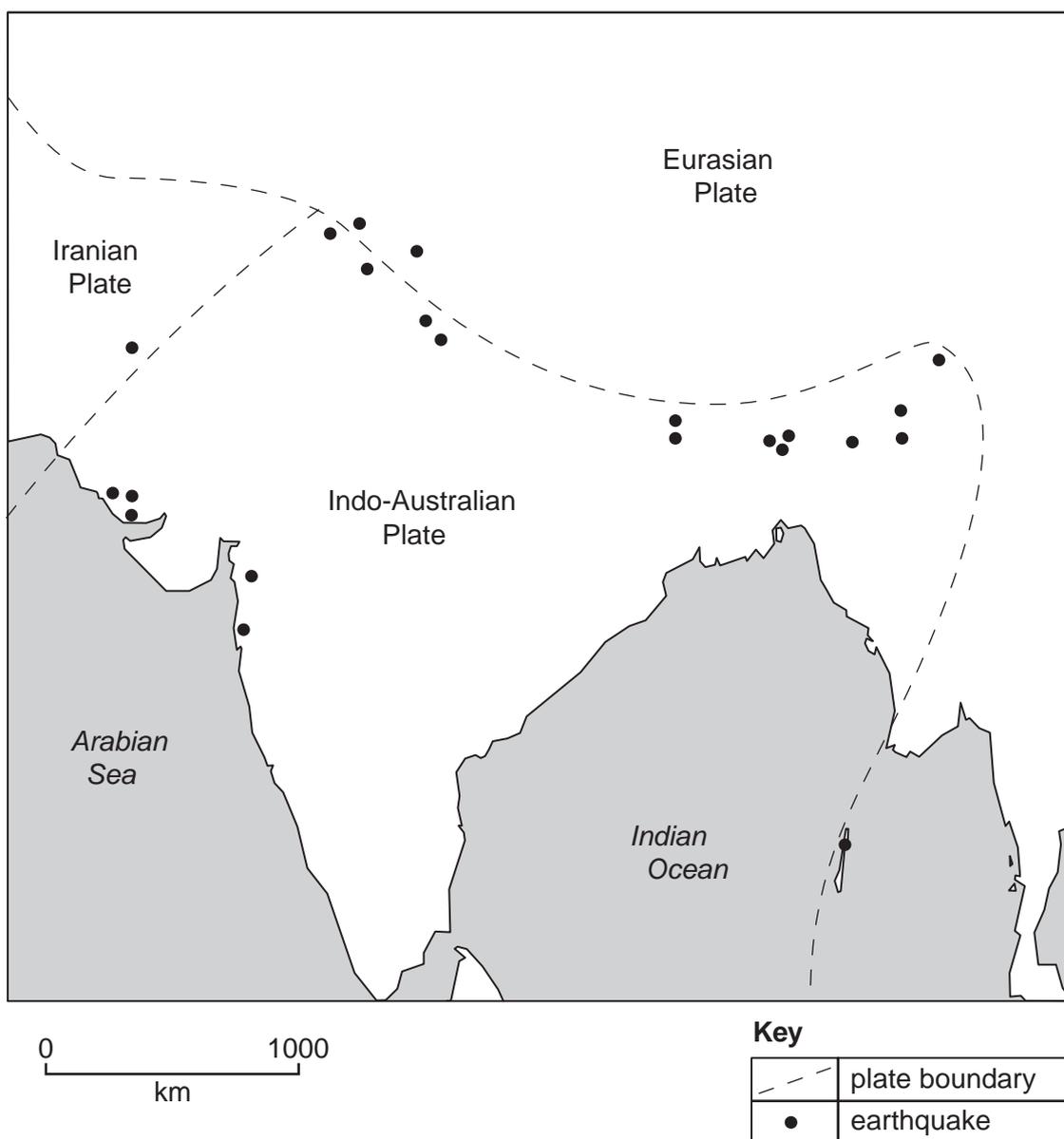


Fig. 4

- (i) Explain why earthquakes occur close to plate boundaries, such as those shown in Fig. 4. [3]
- (ii) Explain why people still live in areas which are at risk from earthquakes. [5]
- (c) For a named example of an earthquake which you have studied, describe its short-term and long-term impacts. [7]

[Total: 25 marks]

4. (a) Study Fig. 5, which shows data that a student has collected about the weather.

Day	Maximum temperature	Minimum temperature	Precipitation	Wind Speed	Wind direction	Relative humidity	Atmospheric pressure	Cloud cover
Monday 21st	19°C	11°C	5mm	4km/hr	SW	80	998mb	6 oktas
Tuesday 22nd	17°C	12°C	0	7km/hr	SE	72	1008mb	2 oktas
Wednesday 23rd	20°C	13°C	2mm	3km/hr	SW	84	1002mb	7 oktas

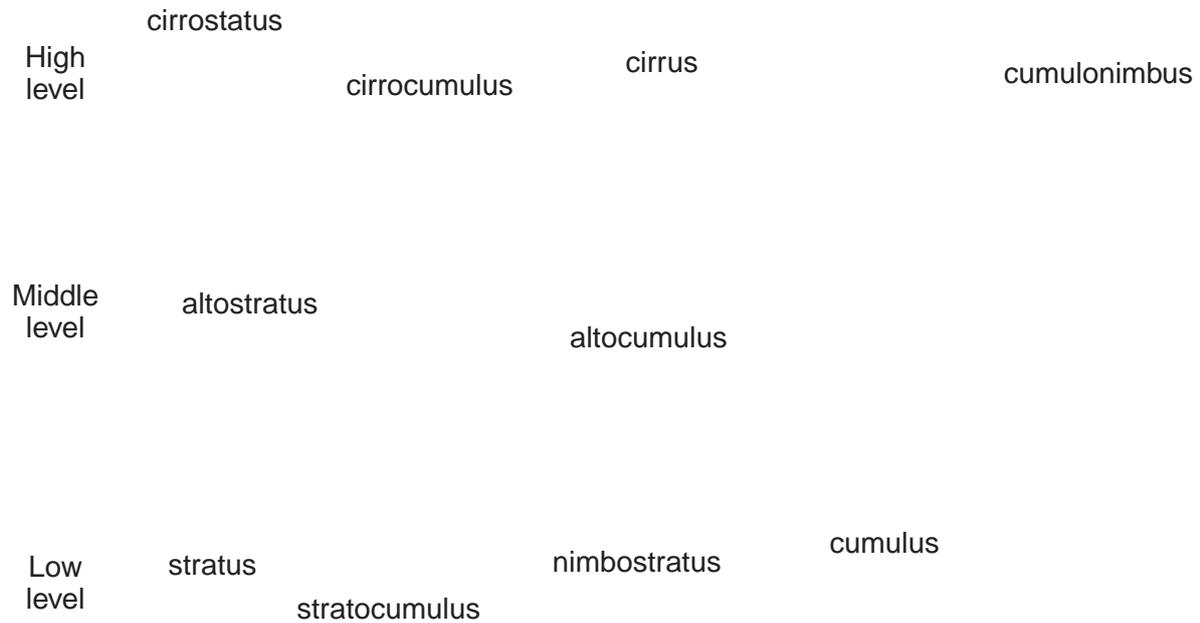
Table 2

- (i) Which day had the largest daily (diurnal) range of temperature? [1]
- (ii) Explain how cloud cover is estimated and shown on a map. [2]
- (iii) Name the weather instrument used to measure:
- A** relative humidity;
- B** wind speed;
- C** atmospheric pressure. [3]
- (iv) Explain how the student used a maximum - minimum thermometer (Six's thermometer) to measure the temperatures shown in Fig. 5.

You may include a diagram to show how this weather instrument is read and reset after use. [4]

9

(b) Study Fig. 5, which shows different cloud types.



Source: <http://www.ilmutrans-udara.com/?p=64>

Fig.5

- (i) Describe **three** differences between nimbostratus and altocumulus clouds. [3]
- (ii) Explain how cumulonimbus clouds form and bring heavy rain in areas of tropical rain forest. [5]
- (c) Describe and explain the impacts of human activities on the natural environment of a named area of tropical rain forest which you have studied. [7]

[Total: 25 marks]

- 5 (a) Study Fig. 6, which shows information about the percentage of Canada's electricity generated in each province.

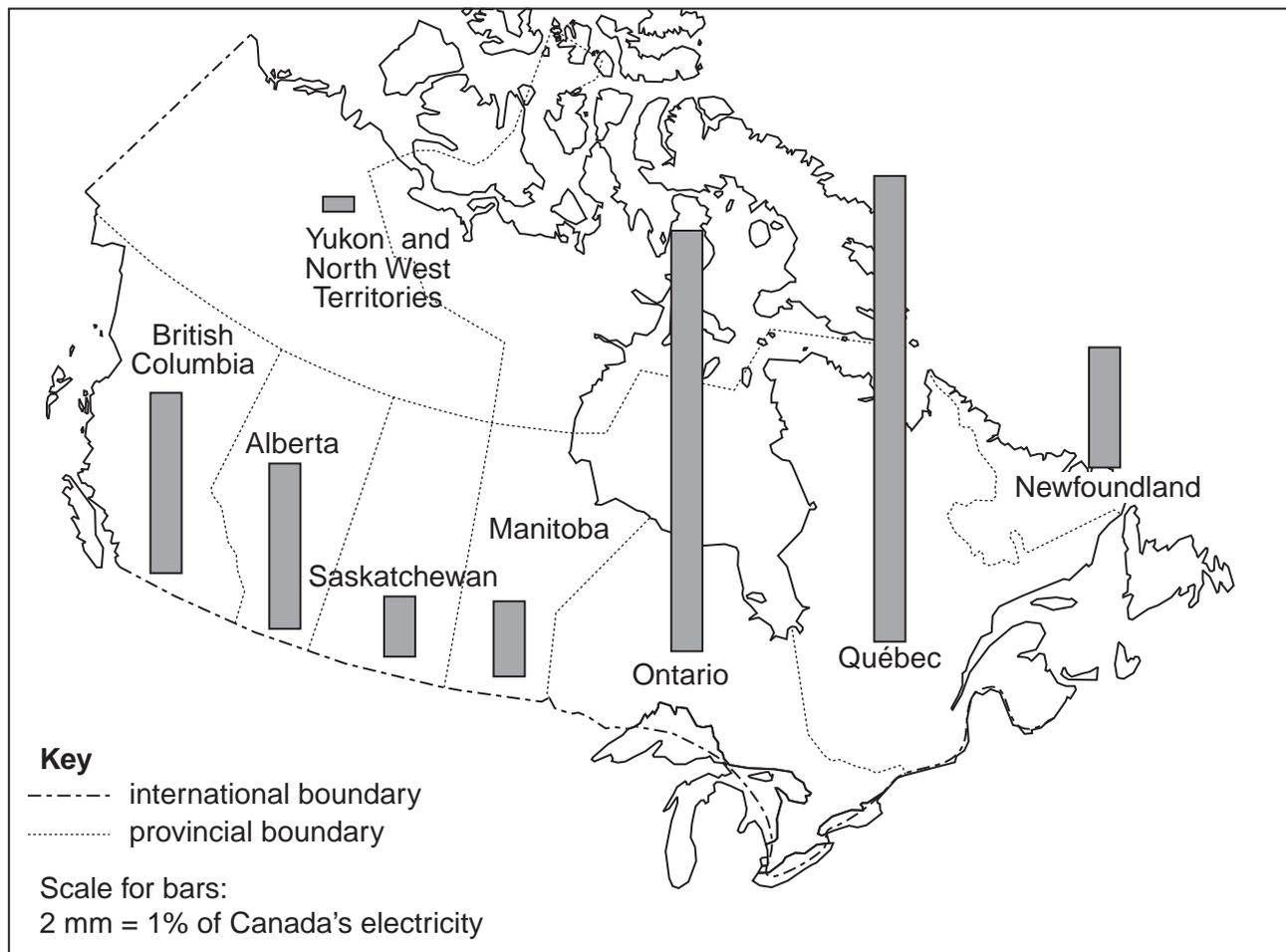


Fig. 6

- (i) In which province is most electricity generated?

[1]

- (ii) Study Table 2, which shows the percentages of the electricity generated in each Canadian province, by source.

Table 3

Province	Coal (%)	HEP (%)	Natural gas (%)	Nuclear (%)	Others (%)
Alberta	48	8	42	0	2
British Columbia	0	88	7	0	5
Manitoba	2	91	7	0	0
Newfoundland	2	87	0	0	11
Ontario	19	22	7	51	1
Québec	0	97	0	2	1
Saskatchewan	48	25	22	0	5
Yukon and North West Territories	0	99	0	0	1

Use evidence from Table 2 to name a province where:

- A** most electricity is generated from fossil fuels;
- B** the main method of electricity generation is nuclear power. [2]
- (iii) Compare the importance of different methods of electricity generation in Québec and Ontario. [3]
- (iv) Explain why the importance of hydro-electric power (HEP) varies between different areas. [4]
- (b) Study Photographs D, E and F (Insert), which show three methods of generating renewable energy.
- (i) What type of energy is being generated in each of Photographs D, E and F? [3]
- (ii) Explain the increasing importance of renewable energy sources, such as those shown in the photographs, in many countries. [5]
- (c) Name an area or a country which you have studied where large amounts of fuelwood are used for energy. Describe the problems this causes for local people and the natural environment. [7]

[Total: 25 marks]

6. (a) Study Fig. 7, which shows the employment structure of five countries.

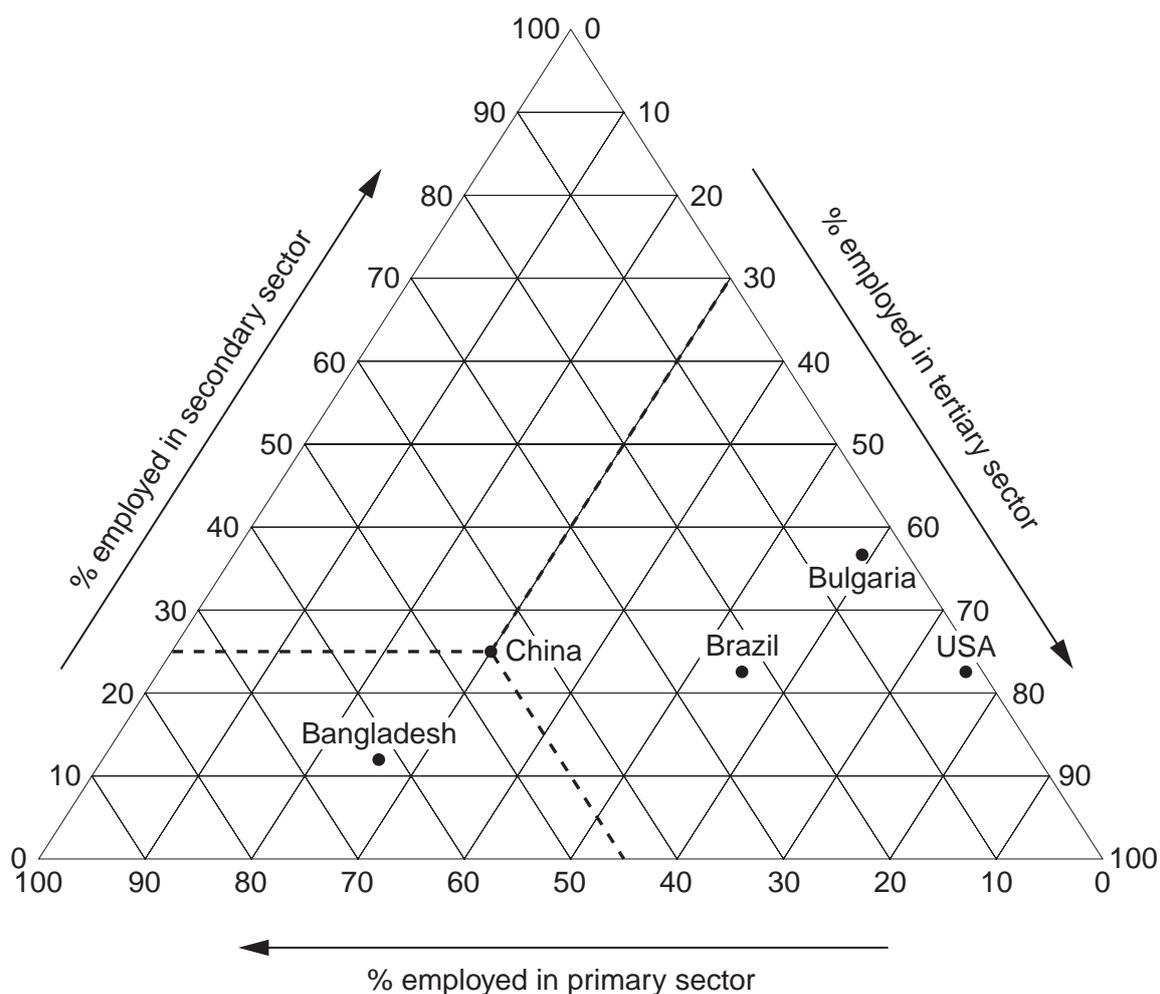


Fig. 7

- (i) What percentage of the population of China is employed in the secondary sector? [1]
- (ii) Name the country which has:
- A** equal percentage of the population employed in the primary and secondary sectors;
- B** 75% of the population employed in the tertiary sector. [2]
- (iii) Explain why a large percentage of the population is employed in the primary sector in LEDCs such as Bangladesh. [3]

(b) Study Fig. 8, which shows how cement is made.

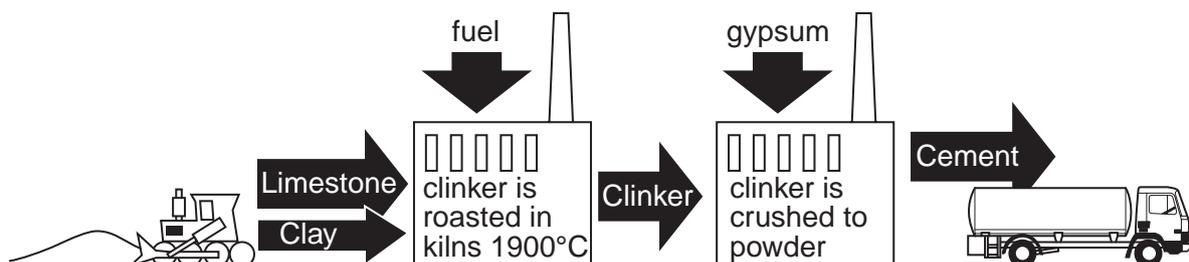


Fig. 8

- (i) Using Fig. 8, identify:
- A** a raw material;
 - B** a process;
 - C** an output. [3]
- (ii) A cement factory was opened in 2007 at Buipe (a town in Ghana.) Suggest how the cement factory may benefit local people. [4]
- (iii) Describe the problems which manufacturing industries, such as the cement factory, might cause for the natural environment in and around Buipe. [5]
- (c) Name an area where high technology industry has been located and explain the factors which attracted this type of industry to the area. [7]

[Total: 25 marks]

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Copyright Acknowledgements:

Question 1 Fig. 2	© <i>Oman Daily Observer</i>
Question 2 Photographs A, B and C	S. Sibley, © UCLES
Question 5 Photograph D	© www.rainorshinepower.com
Question 5 Photographs E and F	S. Sibley, © UCLES
Question 6 Fig. 8	© World Resources Institute, www.images.wri.org/map_cartogram_global_warming-large.gif

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