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**GEOGRAPHY**

**2217/22**

Paper 2

**October/November 2014**

**2 hours 15 minutes**

Candidates answer on the Question Paper.

Additional Materials:      Calculator  
   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 an HB pencil for any diagrams and graphs.

Do not use staples, paper clips, glue or correction fluid.

**DO NOT WRITE IN ANY BARCODES.**

**Section A**

Answer **all** questions.

**Section B**

Answer **one** question.

The Insert contains Photographs A and B for Question 5, Figs 8 and 9 and Table 2 for Question 7, and Fig. 13 and Tables 4 and 6 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.

Section A

Answer **all** questions in this section.

1 Study the 1:50 000 map of Gwirawakanya, Zimbabwe.

(a) (i) Give **two** pieces of evidence that mining takes place in grid square 7767.

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

(ii) Early Portuguese earthworks are found at 773657. Give the six figure grid reference for one other location of Early Portuguese earthworks.

..... [1]

(iii) Give the bearing of the dip tank at 787650 from the trigonometrical station at 785714.

..... [1]

(b) Study the area of the map shown in Fig. 1.

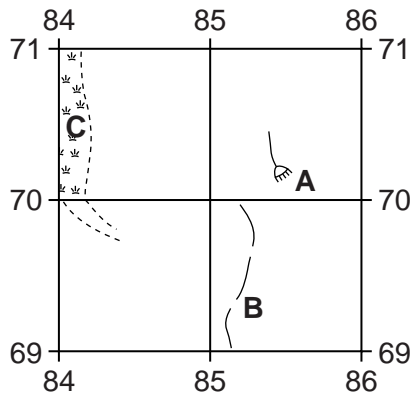


Fig. 1

(i) Name:

- feature **A**;

.....

- the type of road at **B**;

.....

- the type of vegetation at **C**.

..... [3]

(ii) What is the land use of the highest land in the area shown in Fig. 1?

..... [1]

(c) How far is it by road from Harare to Bindura, using the wide tarred road through Yarrowdale, in the south-east corner of the map. Give your answer to the nearest kilometre. Show your working.

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

(d) Identify the human features of the Mazoe river valley in the south-east corner of the map.

.....  
.....  
.....  
.....  
.....  
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.....  
.....  
.....  
.....  
..... [4]

(e) Study the area of the map shown in Fig. 2.

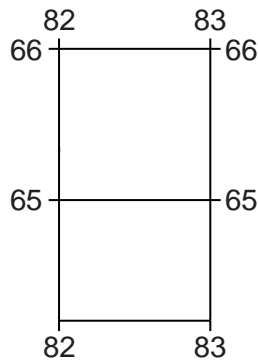
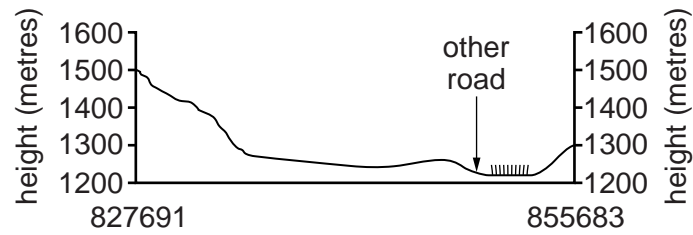


Fig. 2

Describe the relief of this area.

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

- (f) Fig. 3 is a cross section from the trigonometrical station on Gwirawakanya (827691) to the hill top at 855683.



**Key**

▨ cultivation

**Fig. 3**

On Fig. 3:

- label the position of the wide tarred road;
- label the east-facing slope of Gwirawakanya;
- show the other areas of cultivated land, using the symbol shown in the key. [4]

[Total: 20 marks]

**PLEASE TURN OVER FOR QUESTION 2**

2 Study Fig. 4, a map indicating the weather at a number of cities in China on October 12, 2011.

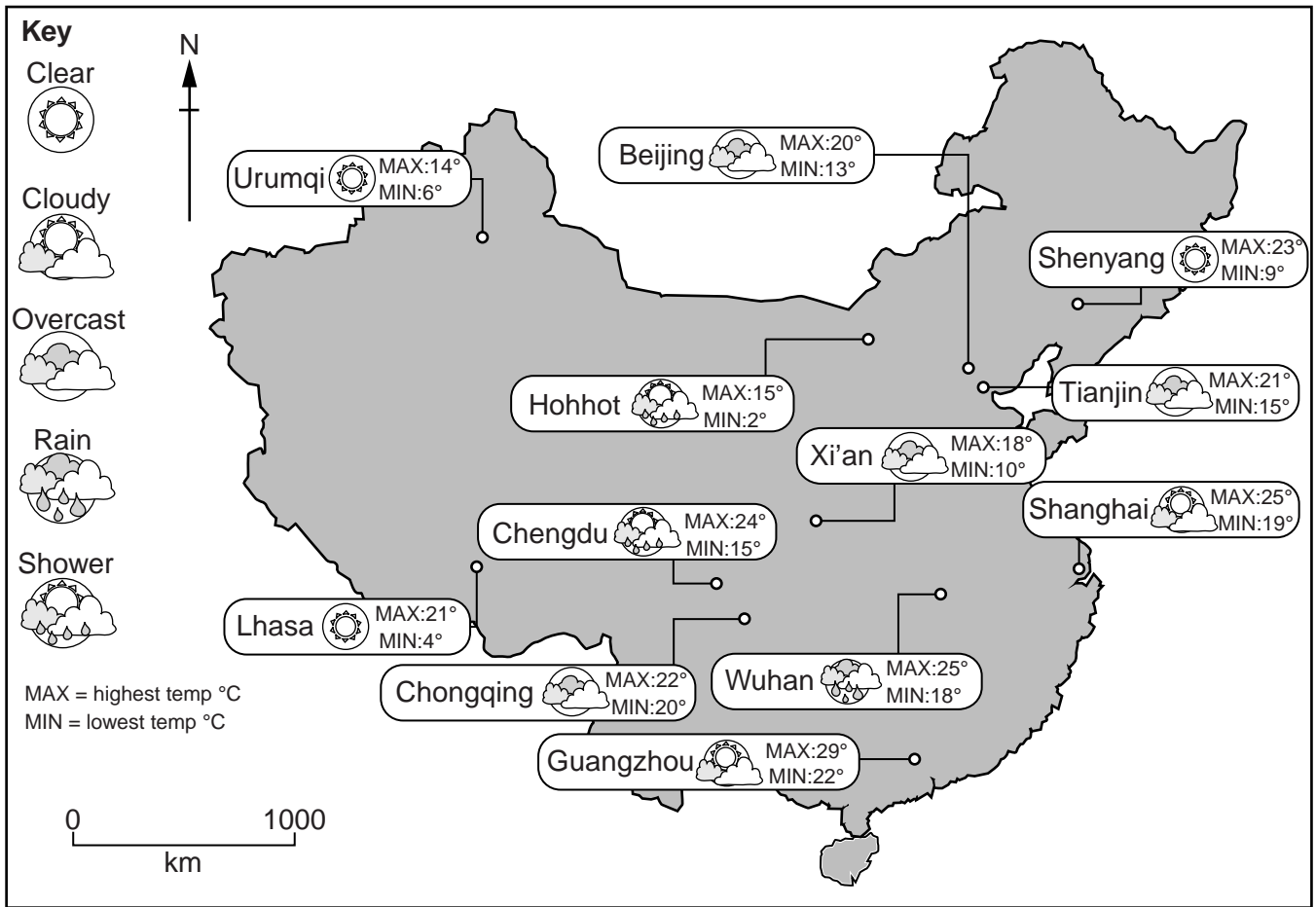


Fig. 4

- (a) (i) Which city is furthest south?  
 ..... [1]
- (ii) Which city is closest to Beijing?  
 ..... [1]
- (b) (i) Which city had showery weather?  
 ..... [1]
- (ii) Which city recorded the highest maximum temperature?  
 ..... [1]
- (iii) Which city recorded the lowest minimum temperature?  
 ..... [1]

(iv) Compare the temperature ranges at Lhasa and Chongqing and, using evidence from Fig. 4, give a reason for the difference between these two cities.

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 8 marks]

3 Study Fig. 5, which compares monthly rainfall to the average figure for southern England between April 2009 and March 2012.

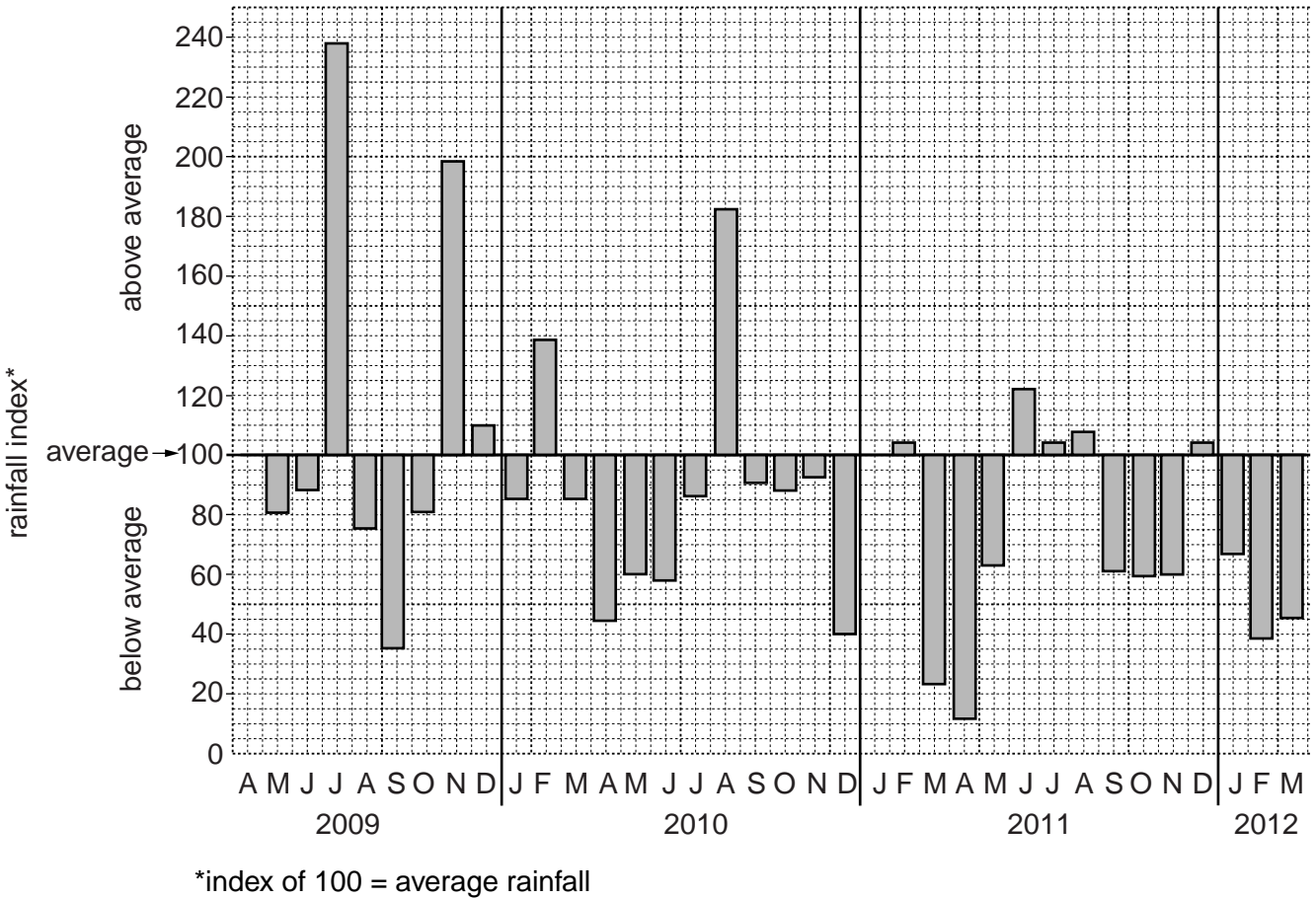


Fig. 5

- (a) (i) What was the rainfall index for November 2009?  
 ..... [1]
- (ii) How many months have had above average rainfall?  
 ..... [1]
- (iii) Complete Fig. 5 to show a rainfall index of 75 in April 2009. [1]
- (iv) Which month had the lowest rainfall index?  
 Month .....  
 Year ..... [2]



(b) Complete the sentence below.

During the period shown on Fig. 5 the conditions were generally:

drier than average.

average.

wetter than average.

[1]

Tick (✓) the correct answer.

(c) (i) During periods of dry weather it is sometimes necessary to stop the use of irrigation systems. Give a reason why commercial farmers would be against this.

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

(ii) Suggest a benefit of stopping the use of irrigation systems.

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

[Total: 8 marks]

- 4 Study Fig. 6, which for an MEDC, shows the percentage of rural households with access to services, within 2 km, via the road network.

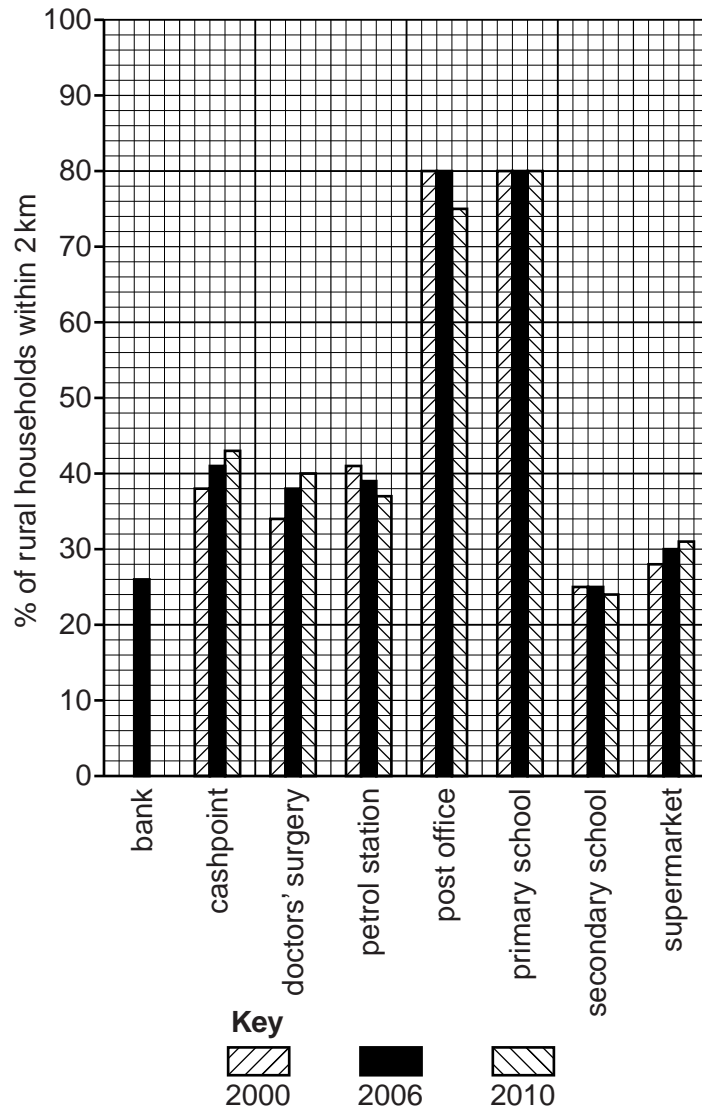


Fig. 6

- (a) Use the data in Table 1, to complete Fig. 6.

Table 1

| Bank | % of households |
|------|-----------------|
| 2000 | 26              |
| 2010 | 25              |

[2]

- (b) (i)** What percentage of rural households were within 2 km of a cashpoint in 2006?  
..... [1]
- (ii)** Name a service for which the percentage of households increased from 2000 to 2010.  
..... [1]
- (iii)** Name a service for which the percentage of households did not change from 2000 to 2006.  
..... [1]
- (c)** Suggest why the percentage of households within 2 km of a petrol station decreased from 2000 to 2010.  
..... [1]
- (d)** Compare the percentage of households within 2 km of primary schools and secondary schools. Suggest a reason for the differences.  
.....  
.....  
.....  
..... [2]

[Total: 8 marks]

5 Study Photographs A and B (Insert), which show the setting up of a new water supply system for a village in Pakistan.

(a) (i) Where is the water coming from? Tick (✓) the correct answer.

- diverted stream
- groundwater
- reservoir

[1]

(ii) For two of the water sources in (a)(i), state a disadvantage of relying on it for water supply.

Water Source 1.....

Disadvantage .....

.....

Water Source 2.....

Disadvantage .....

..... [2]

(b) Suggest evidence from the photographs that indicates a low level of technology.

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

(c) Using only evidence from the photographs, suggest what the water will be used for? Tick (✓) the **two** correct options.

- cooling an industrial machine
- drinking
- watering crops

[1]

(d) On Photograph B (Insert), the project shown is still incomplete. What needs to be done so that people can use the new water supply safely?

..... [1]

[Total: 8 marks]

## 6 Study Fig. 7, which gives information about China's plans to reduce pollution.

China planned to reduce its annual emission of nitrogen oxides by 1.5% in 2011, but after the first six months of the year it had already released 6% more than in the first half of 2010.

Nitrogen oxides are mainly released from coal-fired power stations and vehicles. Recent investment in energy dependent heavy industry has led to a general increase in pollution, which causes acid rain and global warming.

The long term plan is to reduce emission of nitrogen oxides by 10% from 2010 to 2015. Between 2006 and 2010 China invested in equipment to treat pollution, thus the potential for further reduction is small. With a rapidly expanding economy, dependent on fossil fuel energy, pollution control will be a difficult task.

Fig. 7

(a) (i) What type of pollution is discussed in Fig. 7? Tick (✓) the correct answer below.

- air
- noise
- visual
- water

[1]

(ii) By how much does China hope to reduce emission of nitrogen oxides in the five years to 2015? Tick (✓) the correct answer below.

- 1.5%
- 6%
- 10%

[1]

(iii) Which **two** fuels are responsible for most of the nitrogen oxides released in China.

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

(iv) State the term used to describe the type of fuels named in (a)(iii). Tick (✓) the correct answer below.

- alternative
- bio
- fossil
- renewable

[1]

(b) Suggest why China may find it difficult to meet its pollution reduction targets.

.....

.....

.....

.....

.....

.....

..... [4]

[Total: 8 marks]

**PLEASE TURN OVER FOR SECTION B**

**Section B**

Answer **one** question in this section.

7 A class of students was studying beach processes. They then went on a field visit to local beaches to find out more about the beach cross-section (profile) and longshore drift.

(a) Before they began their fieldwork their teacher reminded them about safety near the sea. Suggest **three** safety precautions that the students could take to reduce the risk of accident.

- 1 .....
- .....
- 2 .....
- .....
- 3 .....
- .....[3]

(b) The students tested the following hypotheses:

**Hypothesis 1:** *The cross-section (profile) of the beach will be similar to a textbook example of a typical beach.*

The textbook example is shown in Fig. 8 (Insert).

**Hypothesis 2:** *The size of beach material gets larger towards the top of the beach nearer to the cliff.*

(i) The students' technique for measuring the cross-section is shown in Fig. 9 (Insert). Suggest **one** advantage and **two** disadvantages of this method.

- Advantage .....
- .....
- .....
- Disadvantages .....
- 1 .....
- .....
- 2 .....
- .....[3]



- (ii) To measure the length of beach material the students picked up a pebble every metre along their cross-section line. Explain **one** disadvantage of this method and how it could be improved.

.....

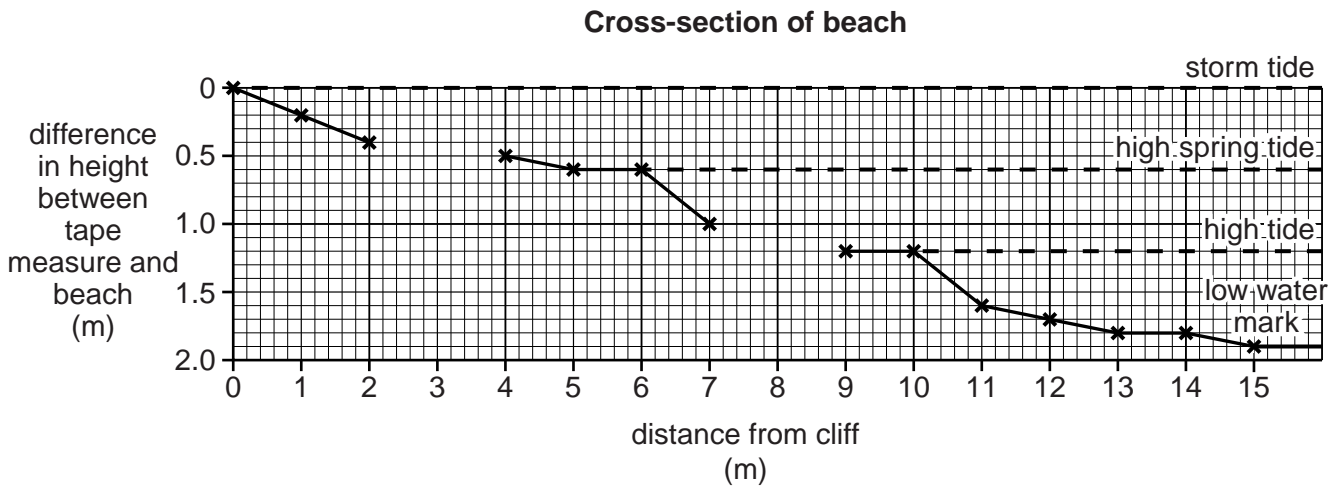
.....

.....

.....[2]

(c) The results of the students' measurements are shown in Table 2 (Insert).

- (i) Use these results to complete the cross-section of the beach on Fig. 10 below. [2]



**Fig. 10**

- (ii) Give **two** similarities and **two** differences between the fieldwork cross-section shown in Fig. 10 and the textbook example shown in Fig. 8 (Insert).

Similarities

1 .....

.....

2 .....

.....

Differences

1 .....

.....

2 .....

.....[4]



(vii) Suggest **two** reasons why the size of beach material varies across the beach as shown in Fig. 11.

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

(d) (i) Longshore drift is an important process on a coastline. Explain how longshore drift takes place. You may use a diagram in your answer.

.....

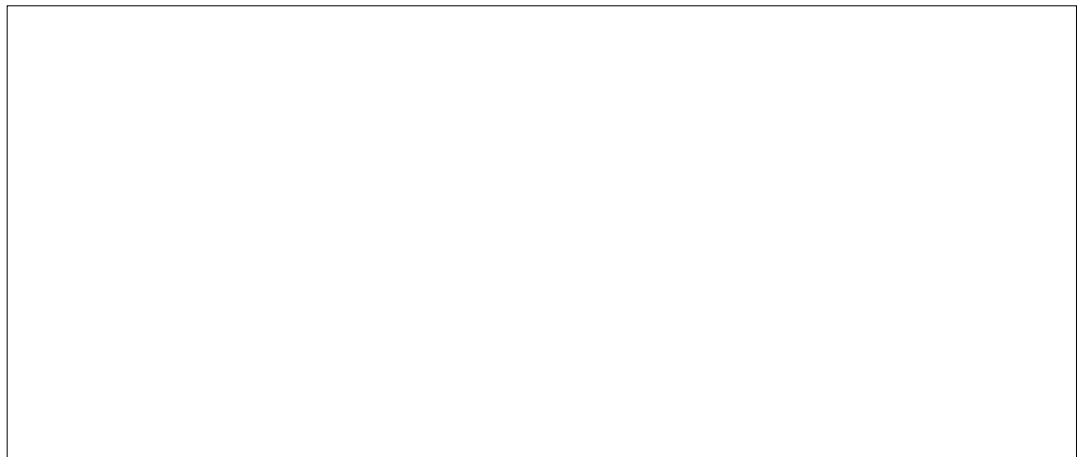
.....

.....

.....

.....

.....



[3]

(ii) Describe a fieldwork investigation to prove that longshore drift is taking place along a beach.

.....

.....

.....

.....

.....

..... [3]

[Total: 30 marks]

**[Turn over**

8 Students in Riyadh, Saudi Arabia were studying population migration. They decided to do a fieldwork investigation about migration into their country.

(a) Before they began their fieldwork the students revised key terms to do with migration.

(i) Define the following terms:

immigration .....  
.....  
emigration .....  
.....[2]

(ii) Explain the difference between 'push' factors and 'pull' factors.

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

(b) Students found some secondary data which showed that many people who live and work in Saudi Arabia have come from other countries.

(i) What is meant by *secondary data*? Give **one** example of secondary data.

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

(ii) Table 3 below shows information about the population of Saudi Arabia.

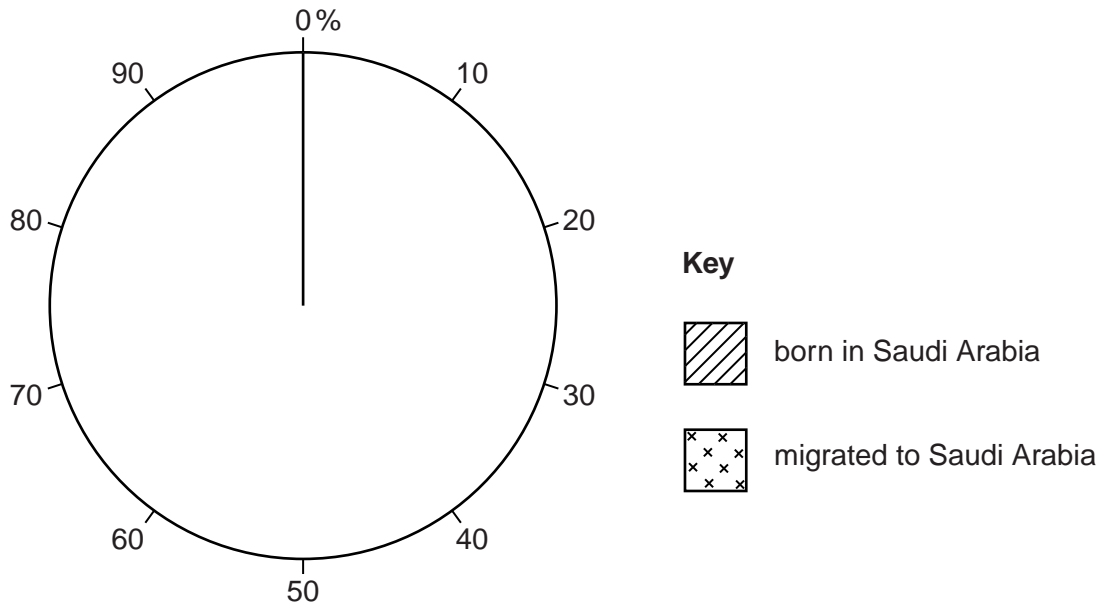
**Table 3**

**Population information**

|                          |     |
|--------------------------|-----|
| Born in Saudi Arabia     | 79% |
| Migrated to Saudi Arabia | 21% |

Use this data to complete the pie chart, Fig. 12 below.

[2]



**Fig. 12**

The students tested the following hypotheses:

**Hypothesis 1:** *Most people migrate to Saudi Arabia to get highly paid, skilled jobs.*

**Hypothesis 2:** *Most migrants to Saudi Arabia come from MEDCs (More Economically Developed Countries).*

(c) The students produced a questionnaire to help in testing these hypotheses.

(i) The questionnaire is shown in Fig. 13 (Insert). Complete the age group missing from the questionnaire in the table below.

|           |
|-----------|
| Age group |
| 16 – 30   |
|           |
| 51 – 70   |

[1]

(ii) The students wanted to use the questionnaire with their families. Why did their teacher suggest that this would be an inappropriate sampling method to collect data?

.....

.....

.....

.....[2]

(iii) Name a suitable sampling method for the students' survey. Briefly describe this sampling method.

Name of sampling method .....

Description .....

.....

.....[2]

(iv) Why did their teacher also suggest that they should ask the question 'Have you migrated to Saudi Arabia to get a job?' before using the questionnaire?

.....

.....

.....

.....[2]



(e) To investigate **Hypothesis 2: Most migrants to Saudi Arabia come from MEDCs (More Economically Developed Countries)**, the students decided to plot the answers to Question 2 in the questionnaire on the flow line map, Fig. 15 opposite.

(i) Plot the information in Table 5 below onto Fig. 15 (opposite).

**Table 5**

**Question 2: Which country did you migrate from when you came to Saudi Arabia?**

| Country  | Number of migrants |
|----------|--------------------|
| Canada   | 2                  |
| Pakistan | 6                  |

[2]

(ii) Why is the flow line map in Fig. 15 an appropriate method to show this data?

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

(iii) Does Fig. 15 agree with **Hypothesis 2: Most migrants to Saudi Arabia come from MEDCs (More Economically Developed Countries)**? Use evidence from Fig. 15 to support your decision.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[4]



People migrating to Saudi Arabia

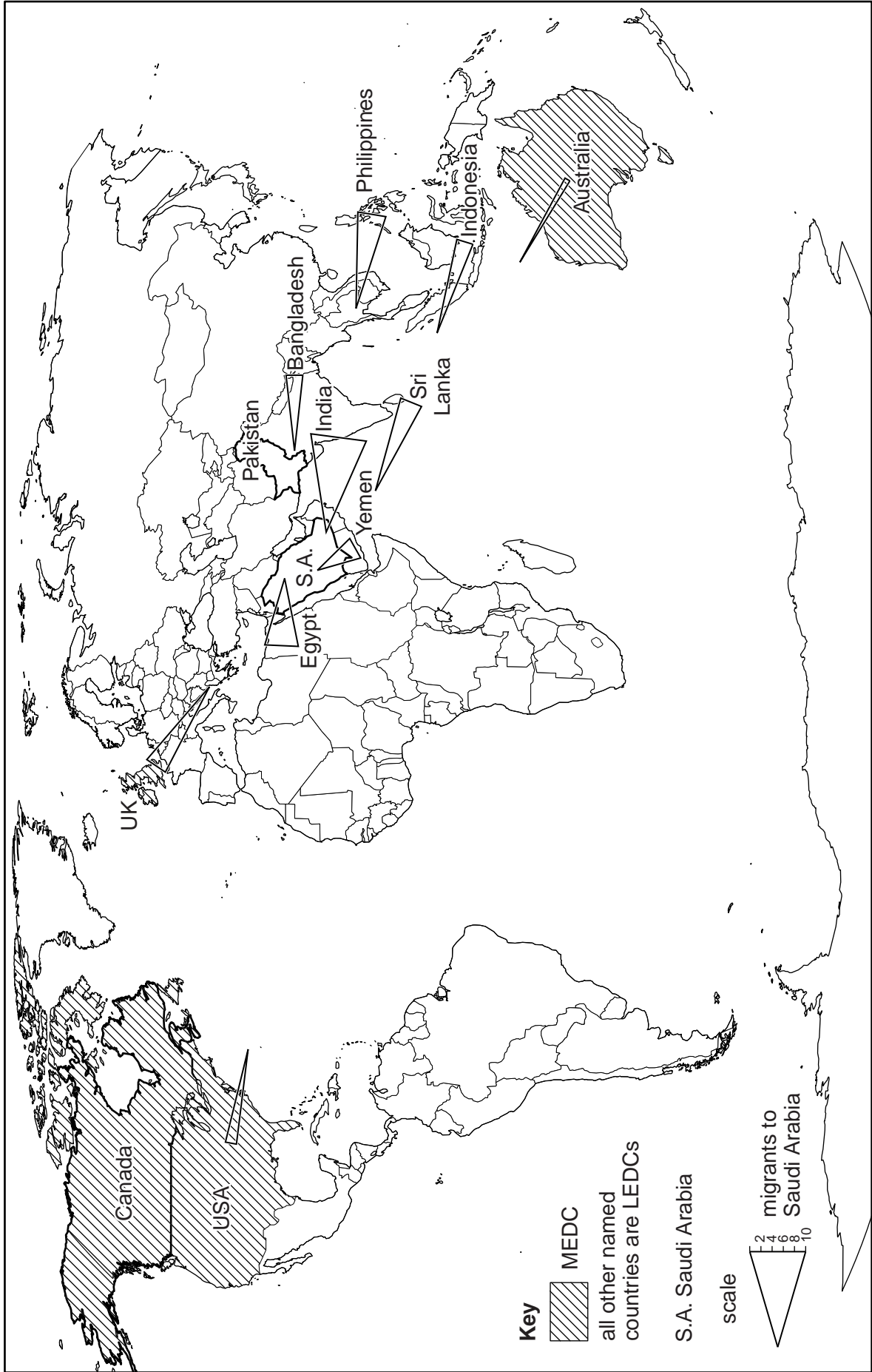


Fig. 15

- (f) One student thought that there might be a relationship between the types of job which migrants did and the country they came from. She randomly selected 20 results from the questionnaire. These are shown in Table 6 (Insert).

Describe the relationship shown by these results.

.....

.....

.....

.....[2]

[Total: 30 marks]



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*Copyright Acknowledgments:*

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Question 3 Fig. 5                   © The Met Office; Crown Copyright; 2007.  
Question 5 Photographs A & B    © Pervaiz Inayat.  
Question 6 Fig. 7                   © China Daily; 12 October 2011; [www.chinadaily.com.cn](http://www.chinadaily.com.cn).

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