CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

**GEOGRAPHY**

**0460/13**

Paper 1

**May/June 2013**

**1 hour 45 minutes**

Candidates answer on the Question Paper.

Additional Materials:    Ruler
                         Calculator

## 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.

Write your answer to each question in the space provided. If additional space is required, you should use the lined page at the end of this booklet. The question number(s) must be clearly shown.

Answer **three** questions.

The Insert contains Photograph A for Question 1, Photograph B for Question 5 and Photograph C for Question 6.
The Insert is **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 | |
|---|---|
| **Q1** | |
| **Q2** | |
| **Q3** | |
| **Q4** | |
| **Q5** | |
| **Q6** | |
| **Total** | |

This document consists of **26** printed pages, **2** blank pages and **1** Insert.

**[Turn over**

**QUESTION 1**

**1** **(a)** Study Fig. 1, which shows the population density of areas around the world.



**Key** ■ high density ⬚ medium density (10–50 people per km²) ▢ low density
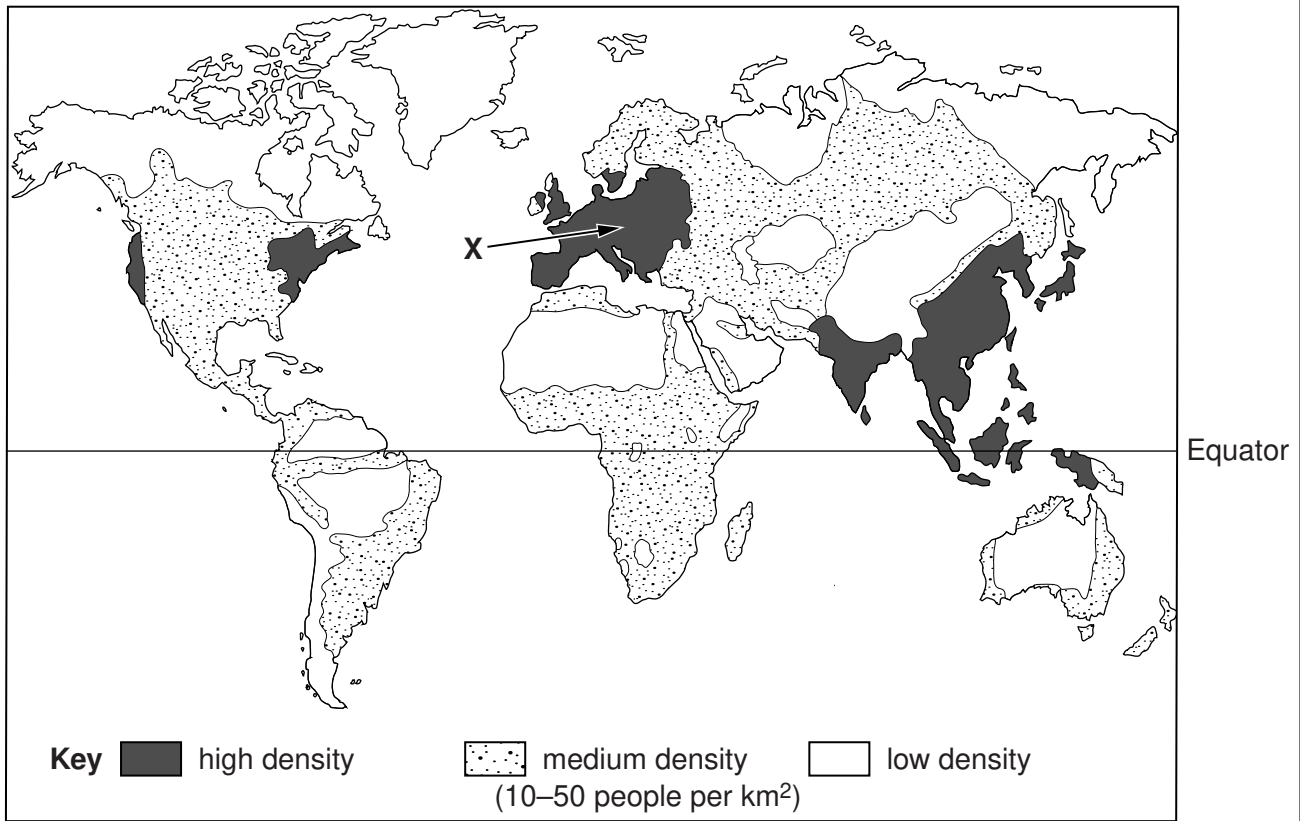
**Fig. 1**

**(i)** What is meant by a *low population density*?

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**(ii)** Name an area shown on Fig. 1 with a low population density;

**A** that also has an arid (very dry) climate,

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**B** that is also in the Southern Hemisphere.

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**3**

**(iii)** Suggest **three** reasons why the area marked **X** on Fig. 1 has a high population density.

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**(iv)** Overpopulation occurs when there are too many people for the available resources.

Describe **four** different problems which overpopulation may cause in a country.

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**(b)** Study Photograph A (Insert), which shows an area which has a low population density.

**(i)** Give **three** different reasons why the area shown in Photograph A has a low population density.

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**(ii)** Suggest why some people live in areas of low population density, such as the one shown in Photograph A.

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**(c)** For a named country which you have studied, describe the distribution of its population and draw a labelled sketch map to show this distribution.

Name of country .................................................

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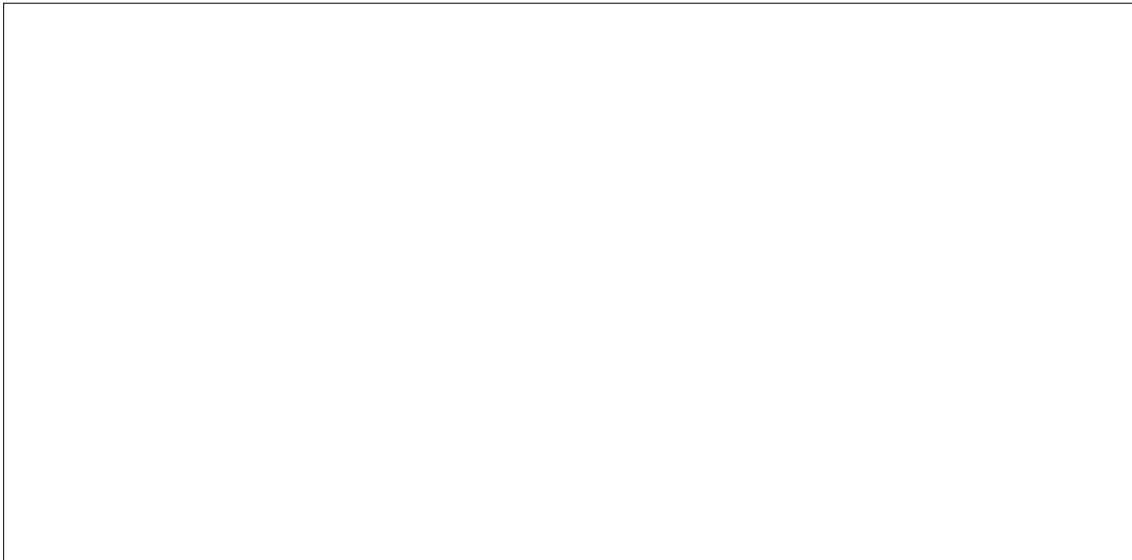
[Total: 25 marks]

**END OF QUESTION 1**

**QUESTION 2**

**2** **(a)** Study Fig. 2, which shows information about households in five boroughs of New York, a city in the USA (MEDC).

|  | Bronx | Brooklyn | Manhattan | Queens | Staten Island |
|---|---|---|---|---|---|
| Average (mean) annual income per household (US$) | 46 000 | 60 000 | 121 000 | 67 000 | 81 000 |
| Percentage of households which are very poor | 27 | 22 | 17 | 12 | 10 |
| Percentage of households with residents not born in the USA | 29 | 38 | 30 | 49 | 21 |

**Fig. 2**

**(i)** Complete Fig. 3 below, which shows the percentage of households which are very poor, by shading Manhattan. [1]
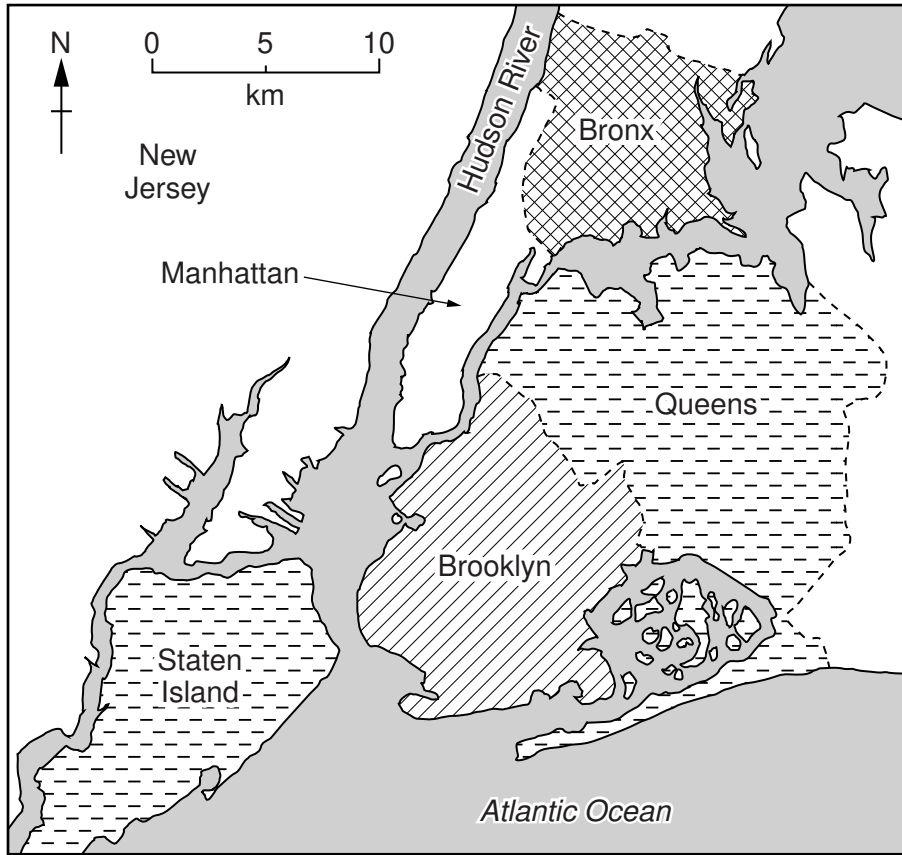
**Key**
percentage of households which are very poor

| | |
|---|---|
| ⧆ | over 25 |
| ⧄ | 20 to 25 |
| ⧅ | 15 to 19.9 |
| --- | less than 15 |

**Fig. 3**

**(ii)** Name:

**A** The borough with the highest average (mean) annual income per household;

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**B** The borough with the highest percentage of households with residents not born in the USA.

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**(iii)** To what extent is there a relationship between the percentage of households which are very poor and the average (mean) annual income per household?
Use data from Fig. 2 to support your answer.

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**(iv)** Suggest what problems are faced by people not born in the USA living in large urban areas like New York.

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**(b)** Study Fig. 4, a headline from a newspaper.

> # Air pollution in New York reaching crisis levels

**Fig. 4**

**(i)** Describe **three** different problems caused by air pollution in cities in MEDCs such as New York.

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**(ii)** Explain why there are high levels of air pollution in many cities.

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**(c)** For a named urban area which you have studied describe the main features of **one** of the following land use zones:

<div style="text-align: right"><i>For Examiner's Use</i></div>

            Inner city          Outer suburbs         Rural-urban fringe

Name of urban area ...........................................

Chosen land use zone .......................................

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[Total: 25 marks]

**END OF QUESTION 2**

## QUESTION 3

**3** **(a)** Study Fig. 5, which shows data about the weather recorded on one day at a meteorological station.

*For Examiner's Use*

| Air Pressure (mb) | Maximum temperature (°C) | Minimum temperature (°C) | Wet bulb temperature (°C) | Dry bulb temperature (°C) | Relative Humidity (%) |
|---|---|---|---|---|---|
| 1002 | 16 | 7 | 6 | 8 | 75 |

| Wind direction | Cloud type | Cloud amount (oktas) | Precipitation (mm) |
|---|---|---|---|
| SW | Alto stratus | 2 | 1 |

**Fig. 5**

**(i)** Calculate the daily range of temperature at the meteorological station.

........................................ °C [1]

**(ii)** Give an example of a weather recording which was:

**A** measured by an instrument;

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**B** obtained by observation.

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**(iii)** Explain how the relative humidity value of 75% would have been obtained.

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**(iv)** The thermometers used at the meteorological station are kept in a Stevenson Screen. Explain how this ensures that reliable readings are obtained.

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**(b)** Study Fig. 6, which shows the climate of Kisangani, Democratic Republic of Congo, an area of tropical rainforest.
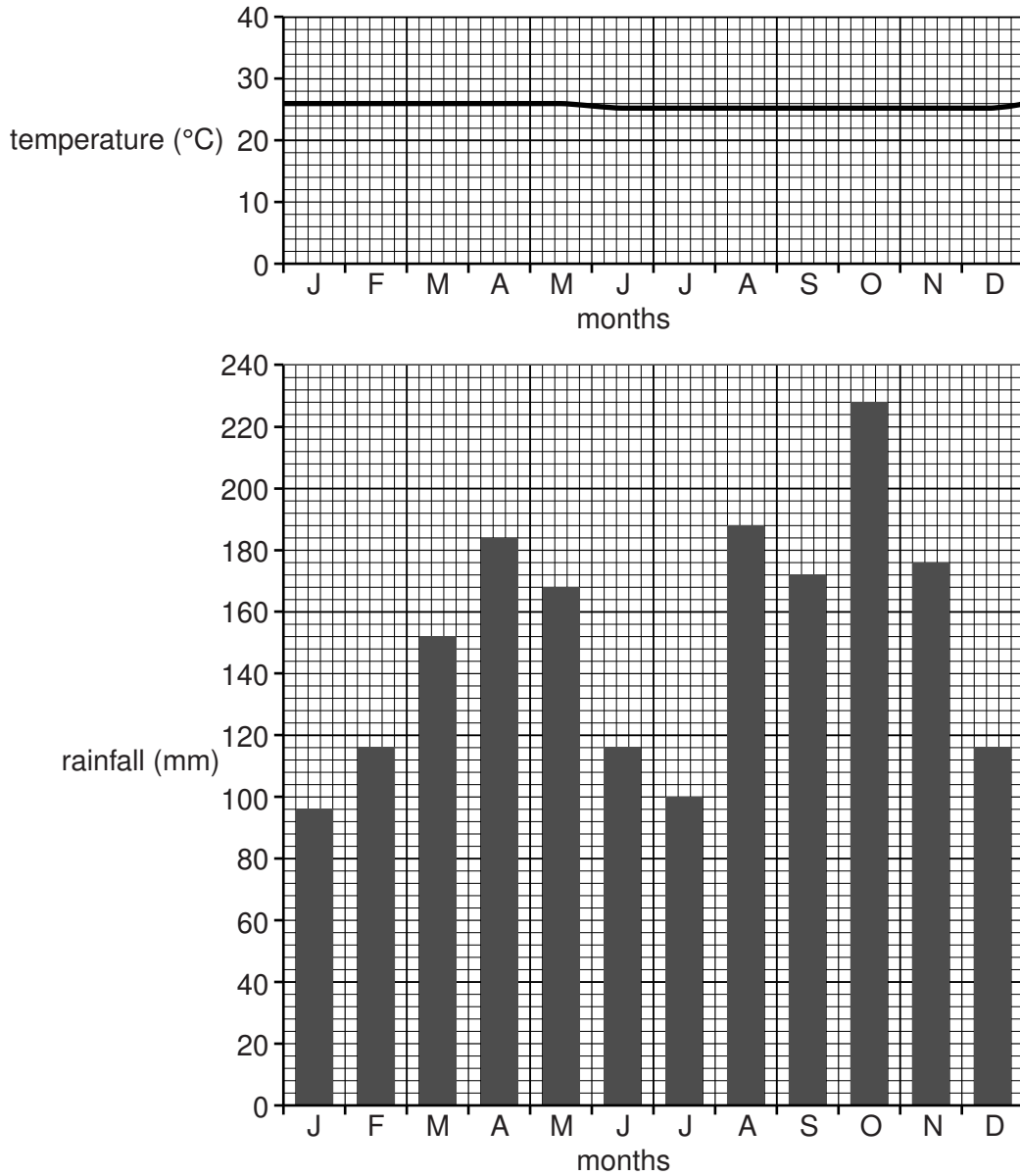
**Fig. 6**

**(i)** Using Fig. 6 **only**, describe the main features of the climate of Kisangani.

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**(ii)** Give reasons for the climate of an area of tropical rainforest such as Kisangani.

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**(c)** Name an area of tropical rainforest which you have studied and explain why deforestation is taking place there.

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[Total: 25 marks]

**END OF QUESTION 3**

**QUESTION 4**

**4** **(a)** Study Fig. 7, which shows major plates and zones of tectonic activity.
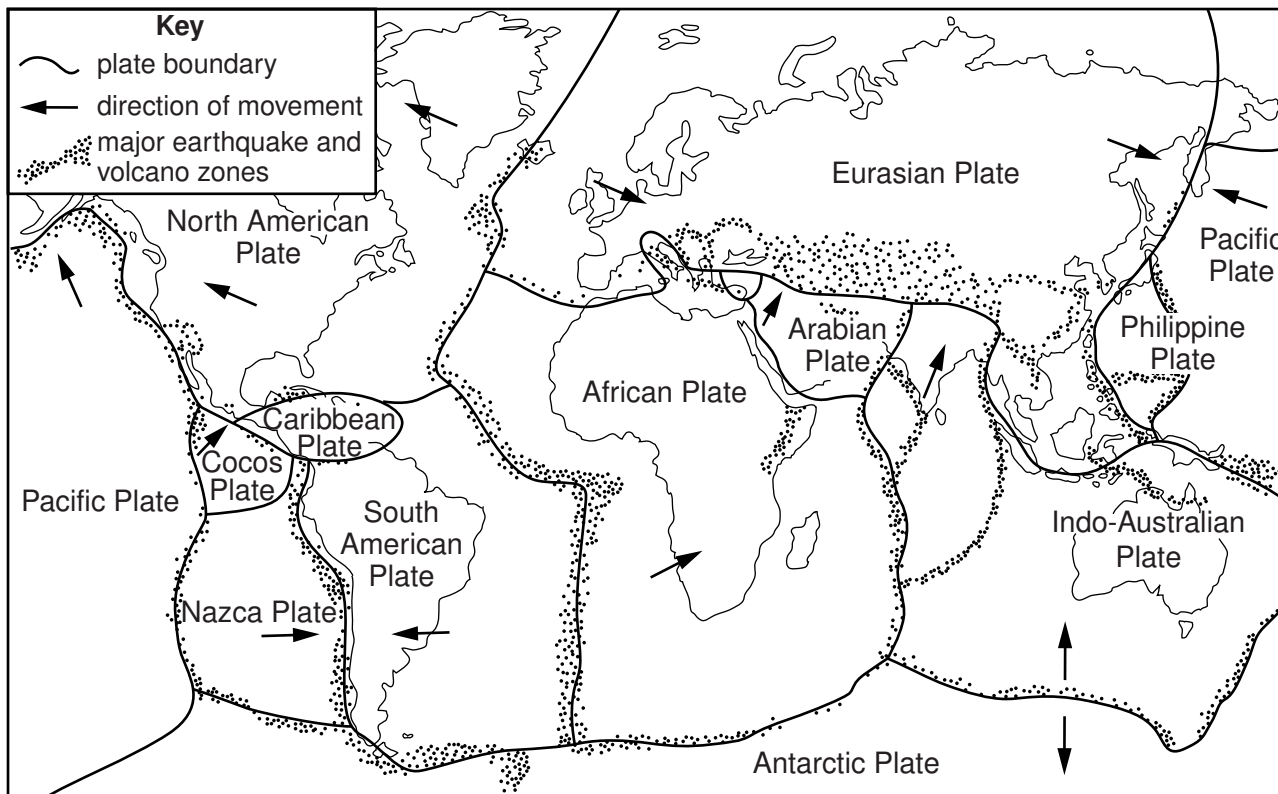


**Fig. 7**

**(i)** What is meant by *tectonic activity*?

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**(ii)** The following processes take place at different plate boundaries shown on Fig. 7. For each process name two plates on a boundary where the process is occurring.

**A** subduction

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**B** plates moving apart.

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**(iii)** Describe the global distribution of major earthquake and volcano zones shown on Fig. 7.

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**(iv)** Explain why the risk of volcanic eruptions is high in some parts of the world.

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**(b)** Study Fig. 8, which shows information about an earthquake in Los Angeles, USA (MEDC).
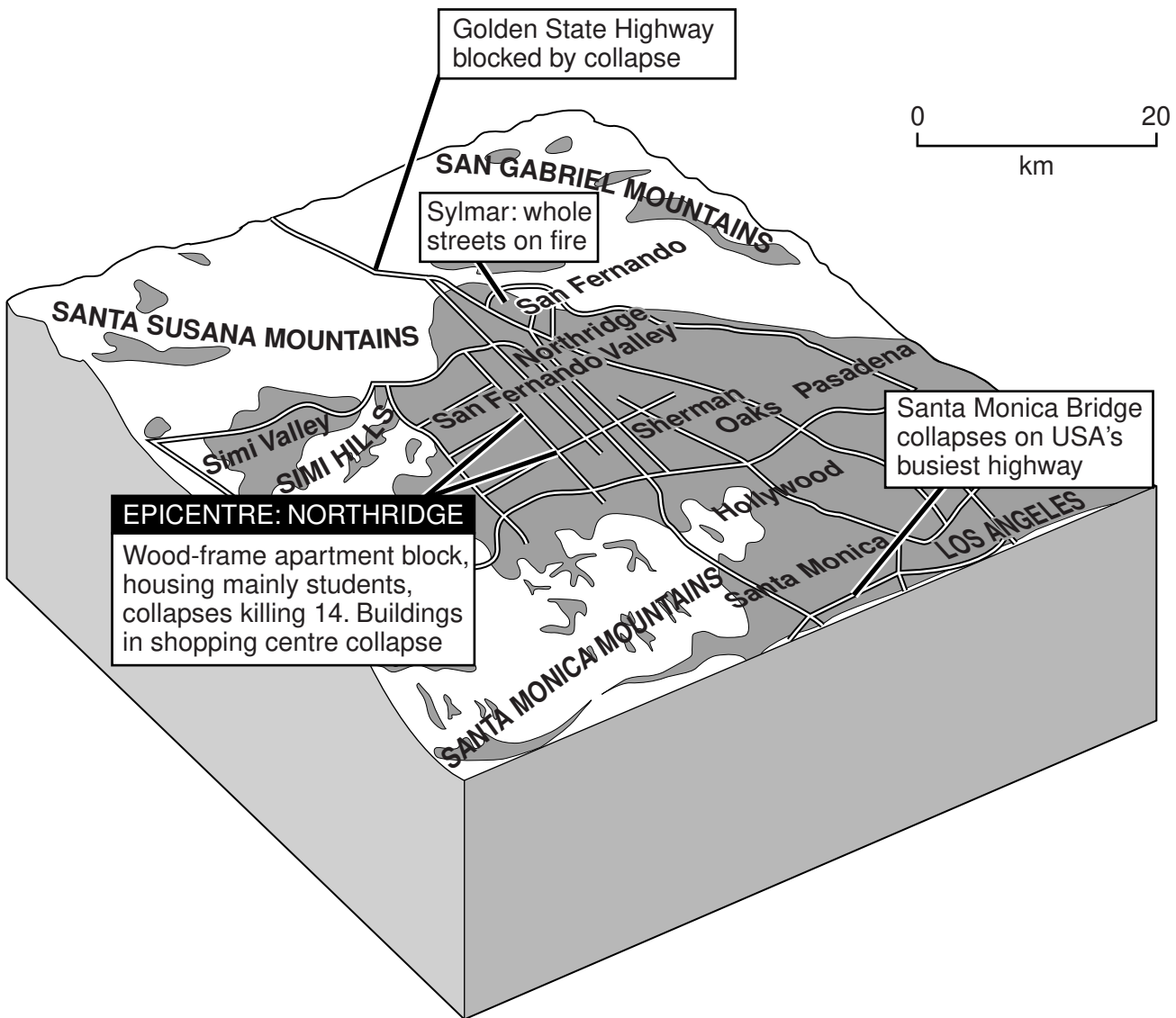
**Fig. 8**

**(i)** Identify **three** different types of impact of the earthquake shown on Fig. 8.

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**(ii)** Explain why the impacts of earthquakes of similar intensity are likely to be less in MEDCs such as the USA than in LEDCs.

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**(c)** Explain the causes of an earthquake which occurred in a named area which you have studied.

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[Total: 25 marks]

**END OF QUESTION 4**

## QUESTION 5

5   **(a)**   Study Fig. 9, which shows information about a sugar refinery in Europe.



dried pulp for cattle fodder 33 tonnes

farms

sugar beet refinery

sugar beet 4064 tonnes

lime

coke/coal 268 tonnes

sugar 538 tonnes

molasses 51 tonnes

limestone (for purification) 173 tonnes

to the market

for yeast and alcohol

The figures refer to the inputs and outputs for one day's production.
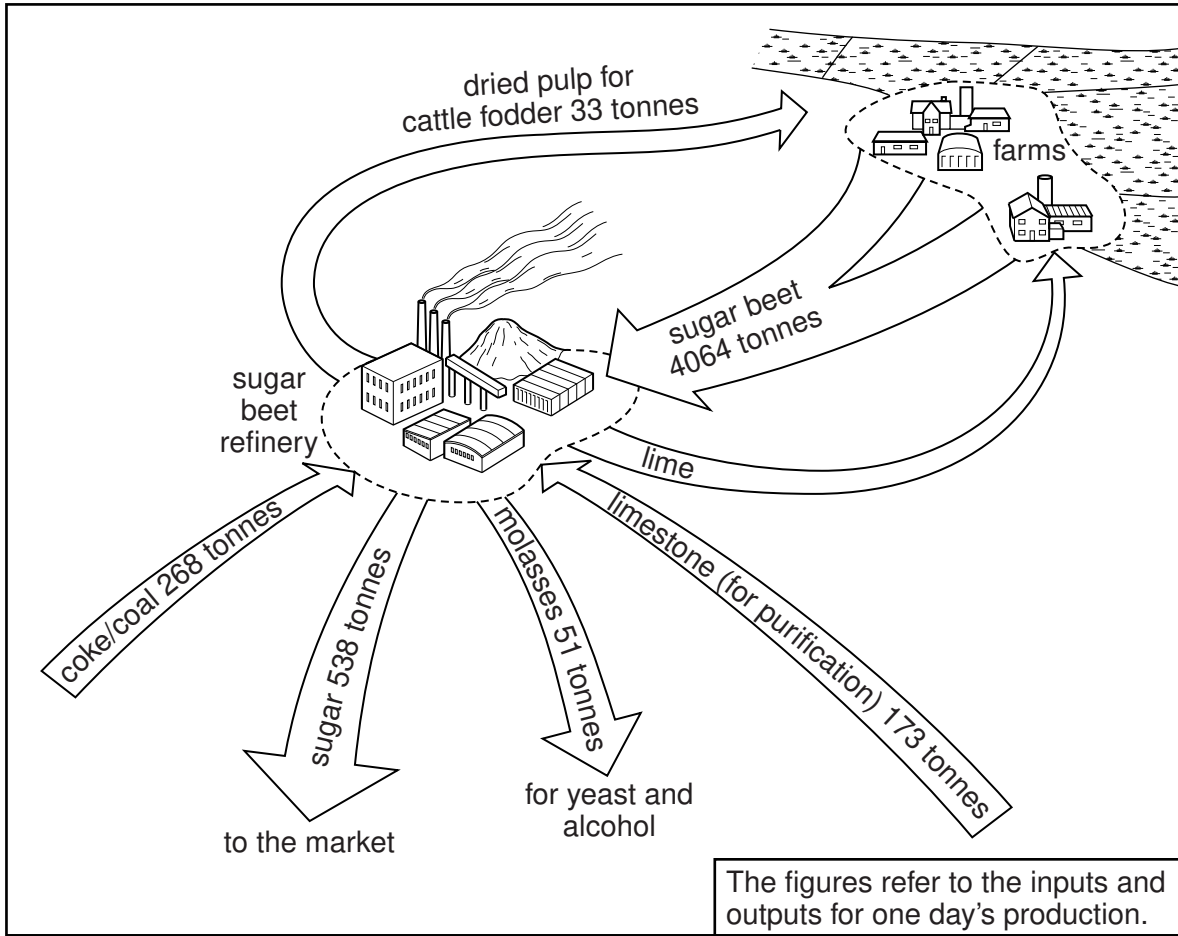
**Fig. 9**

   **(i)**   Identify the main raw material which is used in the sugar refinery.

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   **(ii)**   Identify **two** outputs from the refinery, other than sugar.

1 ........................................................................

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

**(iii)** Three jobs are listed in the table below. Complete the table by writing the following words in the correct spaces to classify the types of employment.

Primary          Secondary          Tertiary

| Job | Type of employment |
|-----|--------------------|
| Packaging sugar in the refinery | |
| Growing sugar beet | |
| Driving lorries delivering sugar | |

[3]

**(iv)** Suggest why the refinery is located close to its main raw material rather than the market for the sugar.

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**(b)** Study Photograph B (Insert), which shows a sugar refinery.

**(i)** Describe **three** features of the sugar refinery buildings shown in Photograph B.

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**(ii)** Describe the problems which manufacturing industries, such as the sugar refinery, might cause for the local natural environment.

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**(c)** For a named example of an area where high technology industry has been located, explain what has attracted this type of industry to the area.

Name of area ..................................

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[Total: 25 marks]

**END OF QUESTION 5**

**QUESTION 6**

**6** **(a)** Study Fig. 10, which shows information about the population and the consumption of energy in the different continents.



**Key**

◨ % of world population

▨ % of world energy consumption

Scale of bars:
1mm = 1%
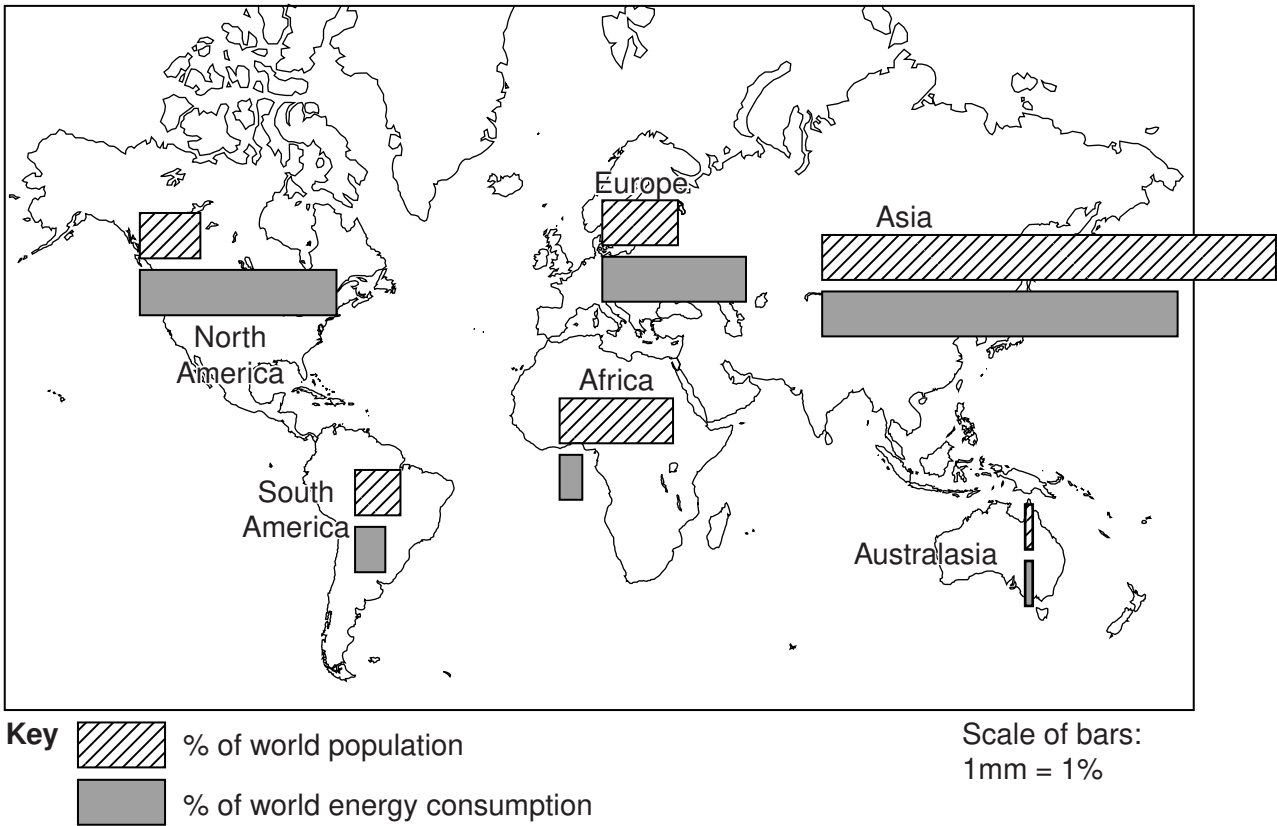
**Fig. 10**

**(i)** Name one continent which has a smaller percentage of the world's population than of its energy consumption.

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

**(ii)** Complete the table below by inserting the names of the three missing continents. The continents should be arranged in rank order of their energy consumption.

| Highest percentage of world energy consumption |
|---|
| Asia |
| |
| Europe |
| |
| |
| Australasia |
| Lowest percentage of world energy consumption |

[2]

**(iii)** Suggest reasons why many MEDCs want to reduce the amount of energy which they import.

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**(iv)** Some areas are facing a shortage of non-renewable energy. Describe how renewable energy could be generated in such areas.

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**(b)** Study Photograph C (Insert), which shows a coal-fired power station.

**(i)** Explain why there is concern about the global environmental impacts of coal-fired power stations, such as the one shown in Photograph C.

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**(ii)** Explain the factors which influence the location of coal-fired power stations, such as the one shown in Photograph C.

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**(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.

Name of area or country ...............................................

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[Total: 25 marks]

**END OF QUESTION 6**

**Additional Page**
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