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General Certificate of Education
Advanced Subsidiary Examination
January 2013

Geography

GEOG1

Unit 1 Physical and Human Geography

Monday 14 January 2013 1.30 pm to 3.30 pm

For this paper you must have:

- a pencil
- a rubber
- a ruler.

You may use a calculator.

Time allowed

- 2 hours

Instructions

- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Answer Question 1 and **one other question** from **Section A** and Question 5 and **one other question** from **Section B**.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The maximum mark for this paper is 120.
- Each question is worth 30 marks.
- The marks for questions are shown in brackets.
- You are expected to use a calculator where appropriate.
- You will be marked on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Advice

- Where appropriate, sketch maps and diagrams should be used to illustrate answers and reference made to examples and case studies.
- You are advised to spend about 60 minutes on Section A and about 60 minutes on Section B.

For Examiner's Use	
Examiner's Initials	
Question	Mark
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GEOG1

Section A

Answer **Question 1** and **one other** question from this section.

1 Rivers, Floods and Management

1 (a) Describe different types of load a river carries.

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(4 marks)

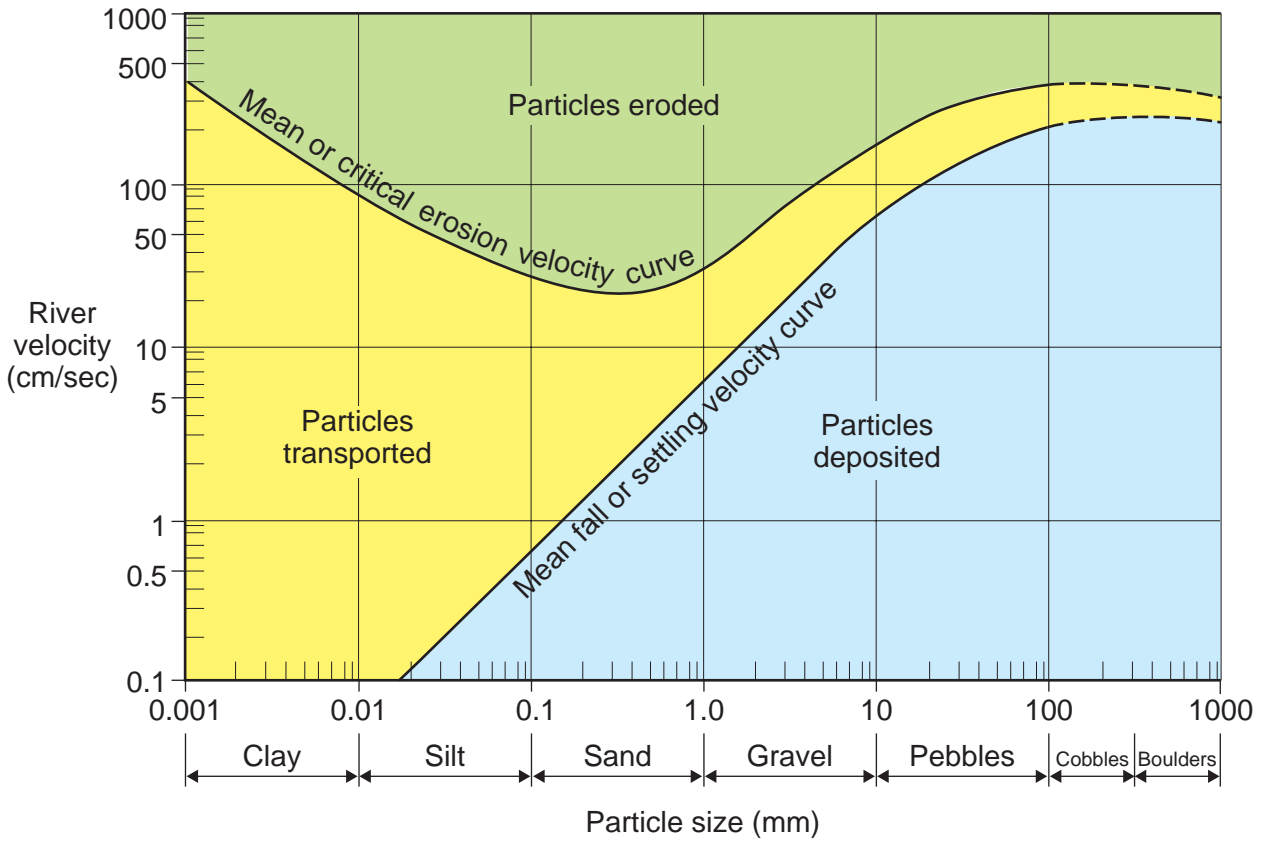
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1 (b) Study Figure 1 which shows the Hjulstrom curve.

Figure 1



1 (b) (i) State the velocity at which particles of clay of 0.001 mm are eroded and the velocity at which pebbles of 10 mm are deposited.

Clay particles of 0.001 mm are eroded at cm/sec.

Pebbles of 10 mm are deposited at cm/sec.

(2 marks)

1 (b) (ii) Describe the relationship between velocity, load size and transportation.

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(3 marks)

Question 1 continues on the next page

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- 1 (c) Study **Figure 2** which is an extract from a newspaper article about flooding in Cornwall, in November 2010.

Figure 2

**Rescue helicopters called in as floods cut Cornwall
off from outside world**

The region's worst flooding for decades came after a night of torrential rain that struck as most people were asleep. Hundreds woke to find their homes flooded. Scores of motorists were forced to abandon their cars and, for a short time, Cornwall was all but cut off from the outside world.

Houses and shops in St Austell, St Blazey, Lostwithiel, Par and Mevagissey were inundated, and hundreds of residents cut off. Rescue helicopters were called to help motorists trapped in their cars. Luckily, perhaps miraculously, there were no casualties. The cars that went into the sea were all unoccupied.

At one point, both the main A30 and A38 were closed, as well as the main railway line between London and Penzance – which was hit by a landslide.

The steep cobbled streets of the fishing village of Mevagissey – a honeypot for tourists in summer – turned into a torrent of white water. At first swept clean by the flood waters, the streets were soon strewn with debris. Householders, trying to mop up, ejected everything from sodden carpets to sacks of firewood into the roads.

Cars were left floating in the main square, and most of the harbourside shops and businesses were flooded. The manager of the Ship Inn said: "I live above the pub and when I came down this morning it was just a scene of utter devastation. The bar was waist deep in muddy, brown water, and chairs and stools were floating around.

I knew the rain had been heavy overnight but I never expected this. I only took over the pub a month ago and who knows how long it will take to get it back on its feet."

© *The Times* 11/2010



Using **Figure 2**, describe and comment on the different impacts of flooding.

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2 Cold Environments

2 (a) Describe the distribution of polar and alpine cold environments.

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2 (b) (i) Study **Figure 3** which shows drumlins in the Lake District.

Figure 3



With the help of **Figure 3** describe drumlins.

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3 Coastal Environments

3 (a) Distinguish between constructive waves and destructive waves.

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3 (b) Study **Figure 4** which shows coastal erosion in Happisburgh, Norfolk.

Figure 4



British Geological Survey © NERC. All rights reserved.
IPR/144-01CT

3 (b) (i) Using **Figure 4 only**, describe evidence that this coast is being eroded.

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4 Hot Desert Environments and their Margins

4 (a) Describe the location of areas of hot desert.

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4 (b) Study **Figure 5** which shows some vegetation in a hot desert.

Figure 5



4 (b) (i) Describe the vegetation shown in **Figure 5**.

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4 (b) (ii) Explain how vegetation in hot deserts is adapted to the climate.

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4 (c) 'The Sahel can be used sustainably, if carefully managed.'

Discuss this statement.

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End of Section A

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Section B

Answer **Question 5** and **one other** question from this section.

5 Population Change

5 (a) Study **Figure 6** which shows the population structure of four countries.

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Outline contrasts in population structure shown in **Figure 6**.

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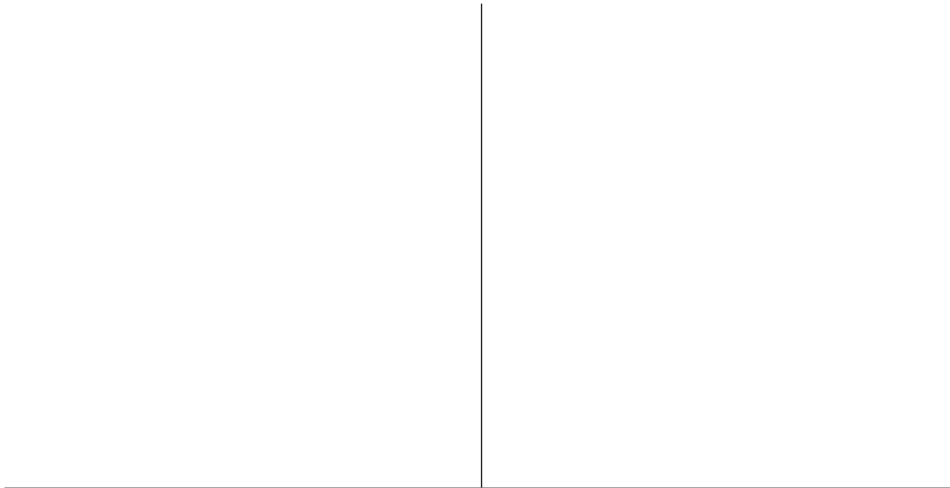
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5 (b) (i) Population structure changes throughout the stages of the demographic transition model.

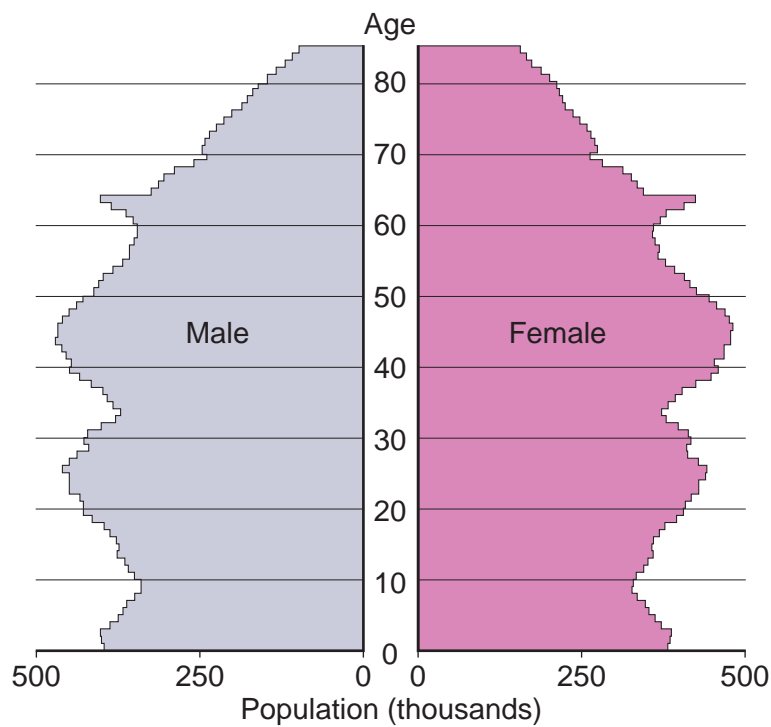
Draw a sketch population pyramid to show the population structure of a country in stage 2 of the demographic transition model.



(3 marks)

5 (b) (ii) **Figure 7** shows a population pyramid for people aged up to 85 in England and Wales in 2010.

Figure 7



'The England and Wales population pyramid displayed the characteristics of a country in stage 4 until 2001, but the evidence of this stage is less clear in 2010.'

Provide evidence from **Figure 7** for this statement.

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5 (c) Discuss the implications of an ageing population.

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5 (d) Discuss the usefulness of **at least two** population measures (such as birth rate, death rate, fertility rate, infant mortality rate, life expectancy, migration rate and population density) as indicators of development.

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6 Food Supply Issues

6 (a) **Figure 8** shows percentage change in food production per capita, between 1960–1981 and 1960–2001.

Figure 8

Area	1960 – 1981 (% change)	1960 – 2001 (% change)
Africa	-6	-10
Asia	14	73
South America	15	44
World	12	26

Summarise trends shown in **Figure 8**.

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6 (b) Figure 9 shows the top five global food retailers in 2009.

Figure 9

Company	Location of Head Office	Sales (\$ million)
Wal-Mart	USA	405 000
Carrefour	France	115 240
Tesco	UK	86 012
Schwarz Group	Germany	80 600
Metro	Germany	78 460

6 (b) (i) Outline characteristics of the top five food retailers shown in Figure 9.

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6 (b) (ii) Suggest issues regarding the supply of food that may result from these characteristics.

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6 (b) (iii) Figure 10 is a statement by Tesco, a transnational corporation (TNC), of some of its policies on food production.

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With the help of **Figure 10**, comment on the positive role that TNCs may have in food production.

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6 (c) Assess the success of high technology strategies (such as the Green Revolution and genetic modification) to increase food supply.

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7 Energy Issues

7 (a) Figure 11 shows the primary energy mix of Brazil, China and France.

Figure 11

Energy consumption by type (%)			
Energy Source	Brazil	China	France
Coal	5	68	5
Natural gas	7	3	16
Oil	49	21	35
Nuclear	1	1	38
HEP	36	6	5
Other renewables	2	1	1

7 (a) (i) Summarise contrasts in the primary energy mix shown in **Figure 11**.

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7 (a) (ii) For either Brazil or China or France, outline **one or more** issues likely to result from the energy mix.

Country selected

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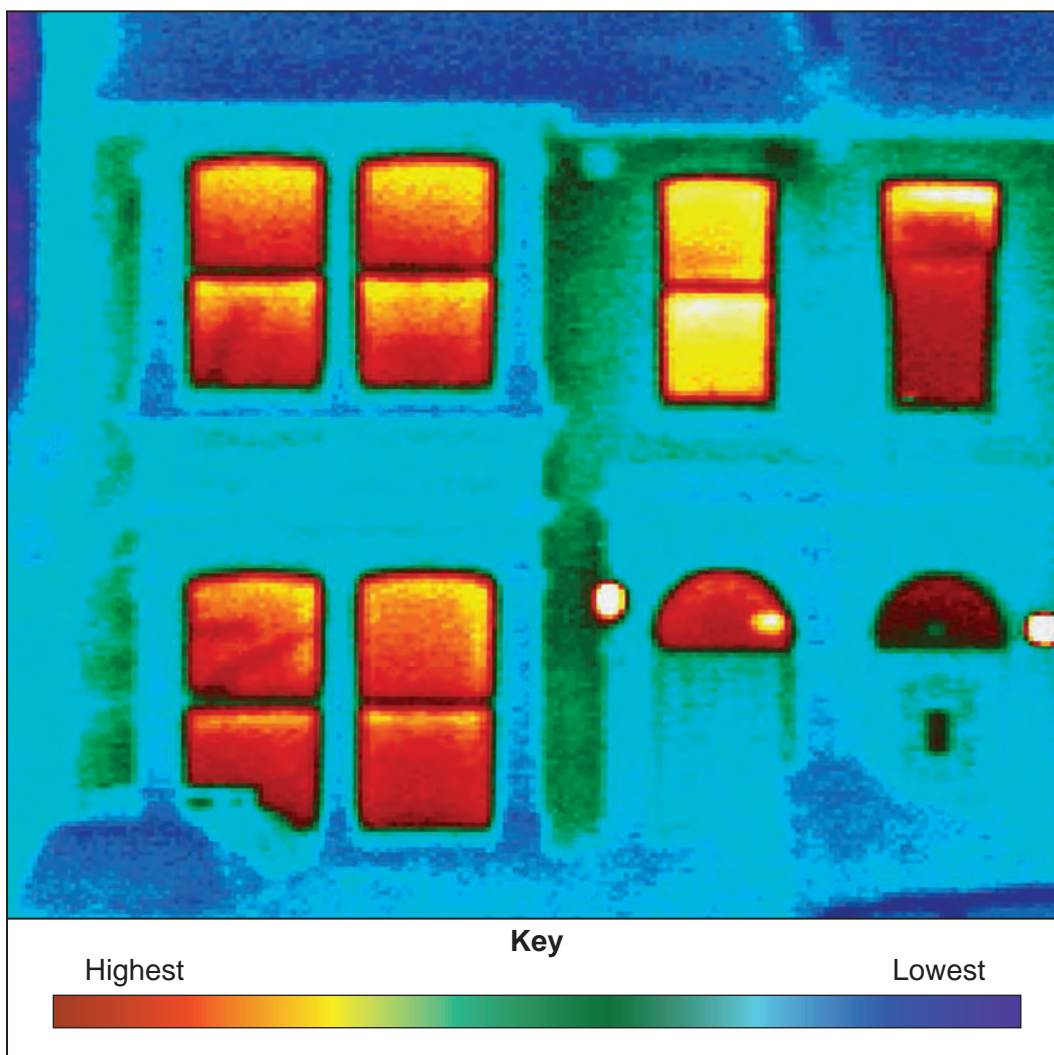
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7 (b) Figure 12 shows heat loss from the front of terraced housing.

Figure 12



Dr Arthur Tucker / Science Photo Library



7 (b) (i) Describe the pattern of heat loss shown in **Figure 12**.

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7 (b) (ii) Explain how homes may be designed and/or adapted to conserve energy.

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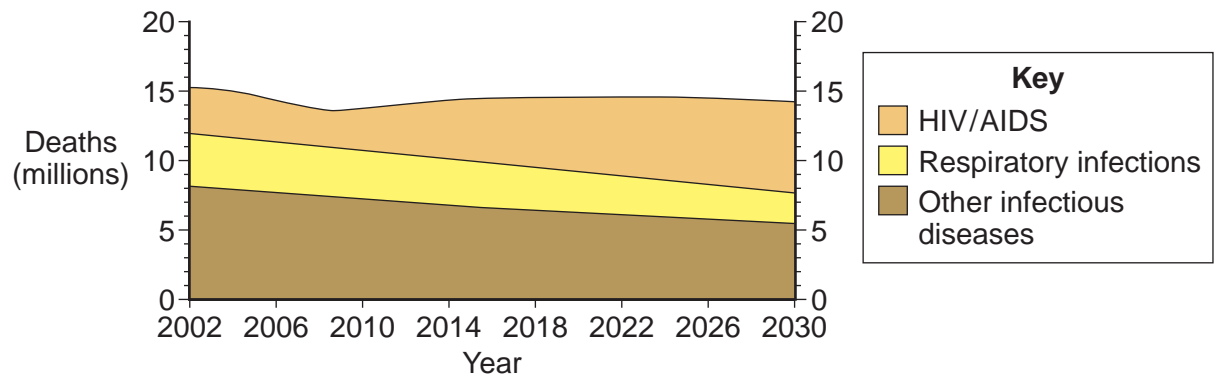
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8 Health Issues

8 (a) Figure 13 shows projected world mortality from infectious diseases between 2002 and 2030.

Figure 13



8 (a) (i) Summarise the trends shown in **Figure 13**.

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8 (a) (ii) Suggest reasons for the trends shown in **Figure 13**.

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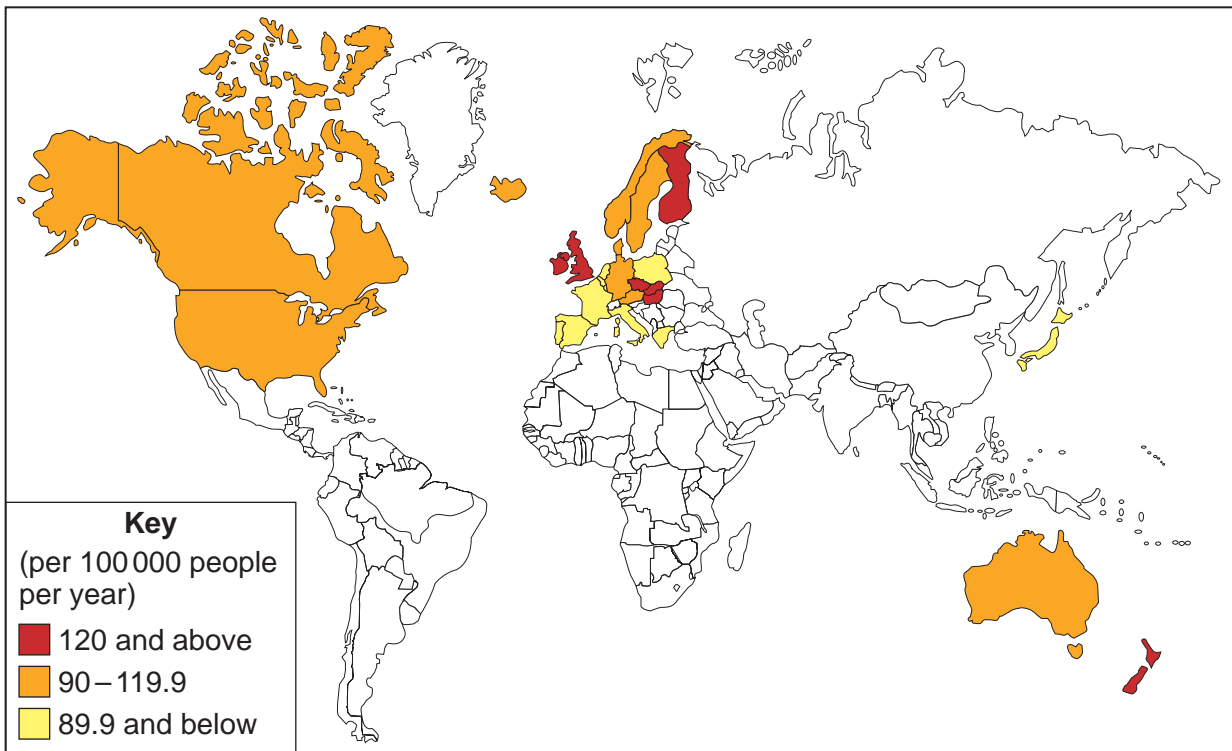
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8 (b) Figure 14 shows deaths from coronary heart disease for the top 26 countries worldwide in 2005.

Figure 14



8 (b) (i) Describe the pattern shown in Figure 14.

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8 (b) (ii) Comment on the impact of **one** non-communicable disease (eg coronary heart disease, cancer) on economic development.

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END OF QUESTIONS

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