Centre Number						Candidate Number				
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Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
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5	
6	
7	
8	
TOTAL	

General Certificate of Education
Advanced Subsidiary Examination
June 2009

Geography GEOG1

Unit 1 Physical and Human Geography

Tuesday 19 May 2009 1.30 pm to 3.30 pm

You will need no other materials.
You may use a calculator.

Time allowed
- 2 hours

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Answer Question 1 and **one other** from **Section A** and Question 5 and **one other** 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.

SECTION A

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

1 RIVERS, FLOODS AND MANAGEMENT **Total for this question: 30 marks**

1 (a) Outline the ways in which a river transports its load.

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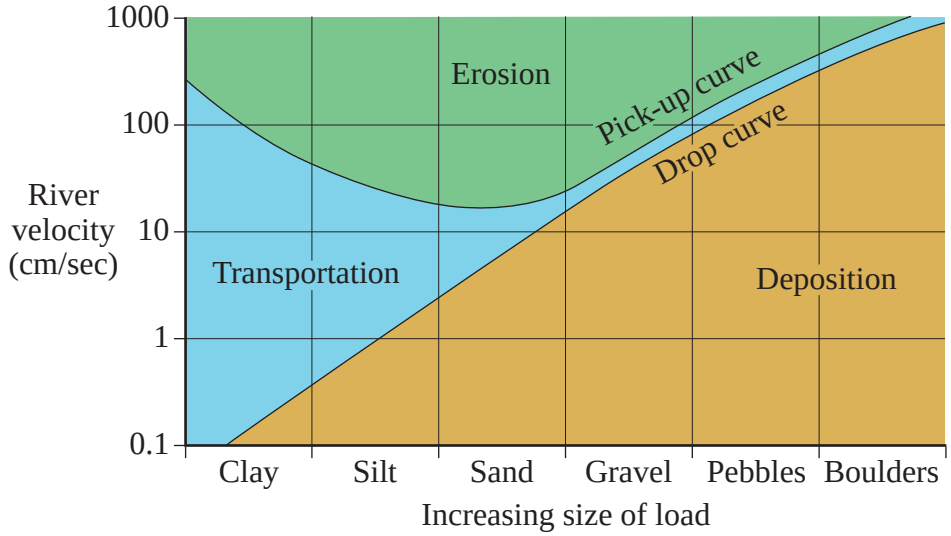
(4 marks)

1 (b) **Figure 1** shows the Hjulström curve.

Figure 1



1 (b) Using **Figure 1**, describe the relationship between velocity and load size for the process of erosion.

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(4 marks)

Question 1 continues on the next page

1 (c) **Figure 2** shows potholes; landforms resulting from fluvial erosion.

Figure 2

1 (c) Describe these potholes and explain their formation.

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1 (d) Describe and explain the formation of landforms resulting from rejuvenation.

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Question 1 continues on the next page

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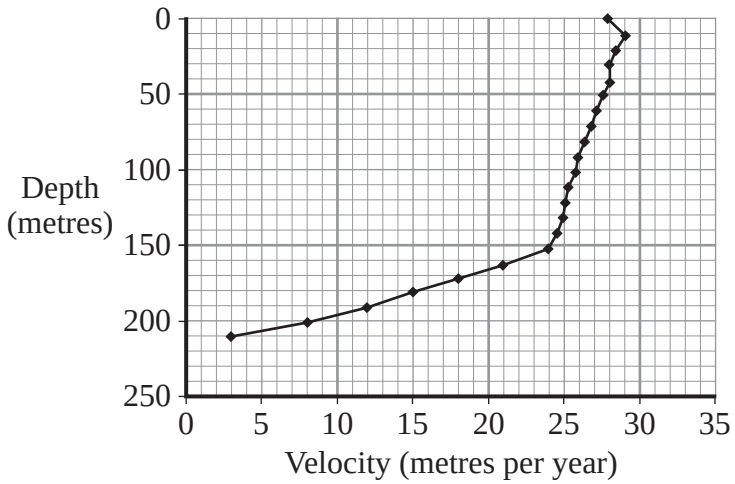
2 COLD ENVIRONMENTS **Total for this question: 30 marks**

2 (a) **Figure 3** shows the speed at which the ice within the Athabasca Glacier moves at different depths.

Figure 3



2 (a) Describe the pattern of ice movement shown in **Figure 3**.

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2 (b) Explain why the snouts of glaciers advance and retreat.

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2 (c) Describe the characteristics of drumlins and suggest reasons for their formation.

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2 (d) To what extent do you agree that development in tundra areas and/or the Southern Ocean has become more sustainable?

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3 COASTAL ENVIRONMENTS **Total for this question: 30 marks**

3 (a) Describe the characteristics of a sediment cell.

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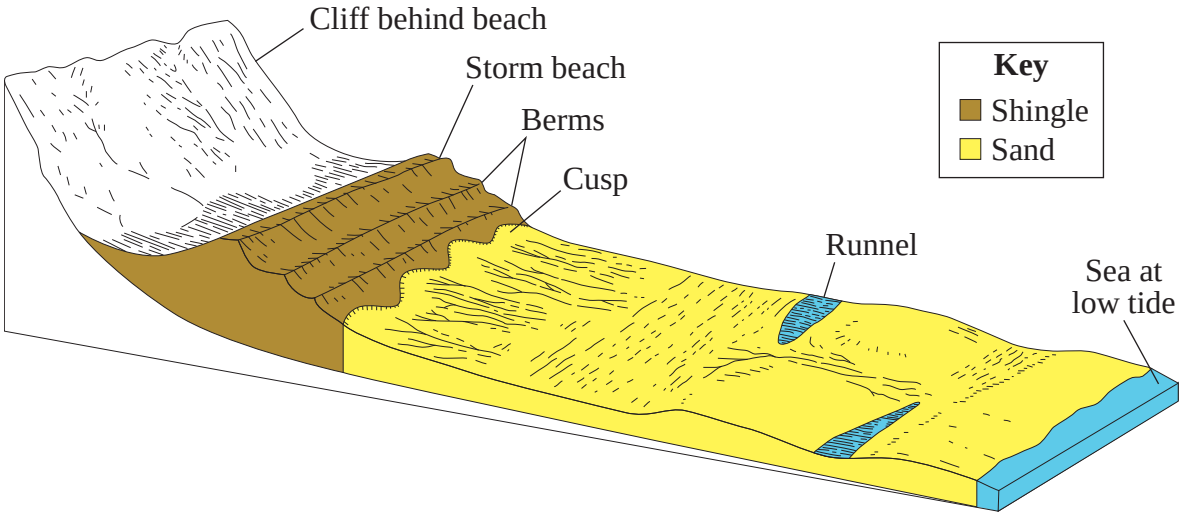
(4 marks)

Question 3 continues on the next page

3 (b) **Figure 4** shows selected beach landforms.

Figure 4



3 (b) Explain the contrasting locations of the beach landforms shown in **Figure 4**.

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3 (c) Describe the characteristics of spits and explain their formation.

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Question 3 continues on the next page

3 (d) With specific reference to a case study of coastal erosion, assess the relative importance of its physical and socio-economic consequences.

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ANSWER IN THE SPACES PROVIDED

4 HOT DESERT ENVIRONMENTS AND THEIR MARGINS

Total for this question: 30 marks

4 (a) Describe the characteristics of the hot desert climate.

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4 (b) Explain the role of mechanical weathering in the disintegration of rock in hot desert areas.

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Question 4 continues on the next page

4 (c) **Figure 5** shows a desert landscape in Arches National Park, Utah, USA.

Figure 5

4 (c) Describe and suggest reasons for the formation of the landforms shown in **Figure 5**.

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Question 4 continues on the next page

4 (d) 'Life in the Sahel is a constant battle to survive; use of this region can never be sustainable.' Assess the validity of this statement.

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SECTION B

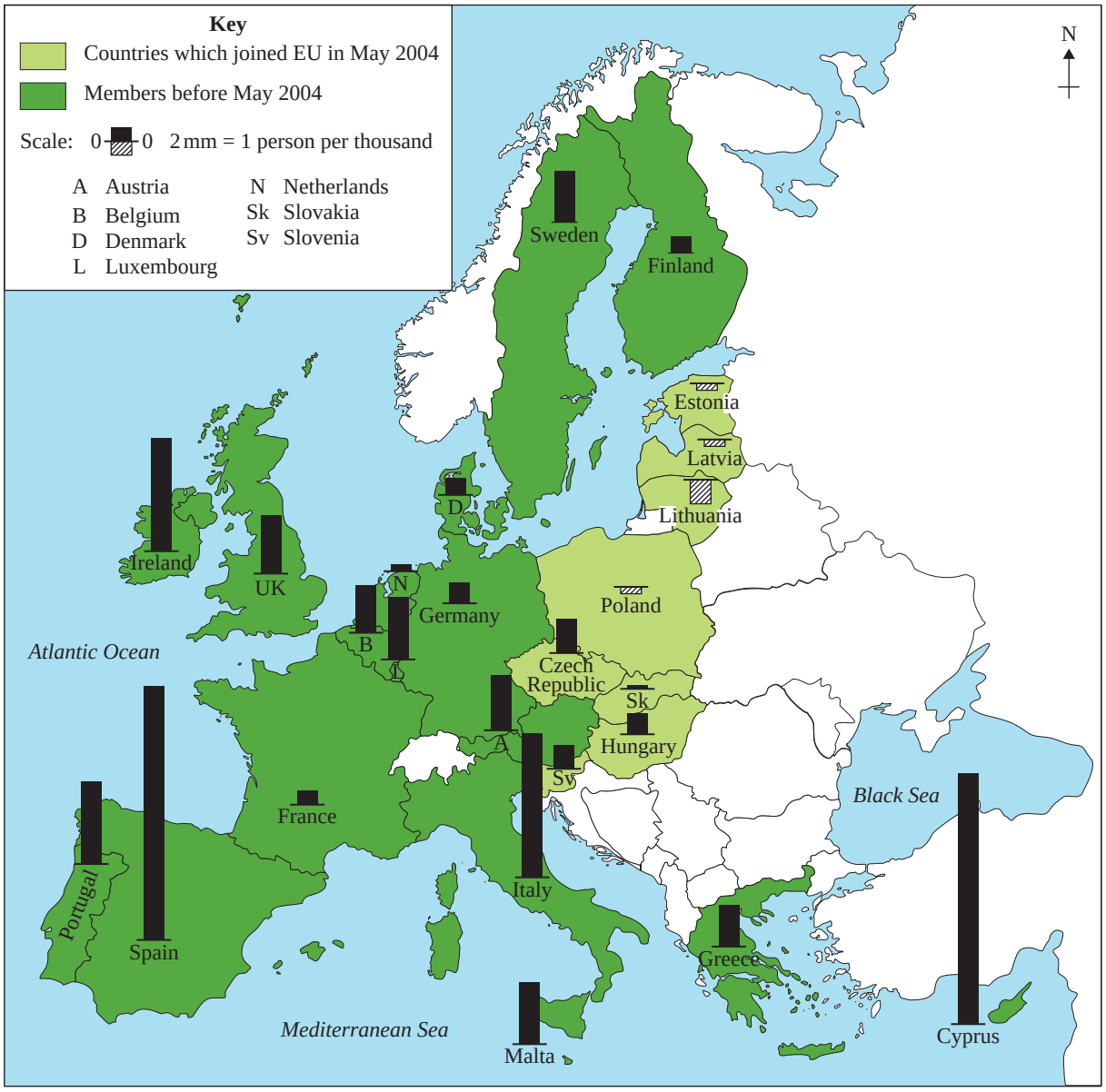
Answer **Question 5** and **one other** question from this section.

5 POPULATION CHANGE

Total for this question: 30 marks

5 (a) **Figure 6** shows population migration change in countries in the European Union (EU) between 2004 and 2005.

Figure 6



5 (a) (i) Describe the pattern shown in **Figure 6**.

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5 (a) (ii) Suggest reasons for this pattern.

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5 (b) **Figure 7a** shows the population structure of the UK in 2001, whilst **Figure 7b** shows the age of registered Eastern European workers in the UK in June 2006.

Figure 7a

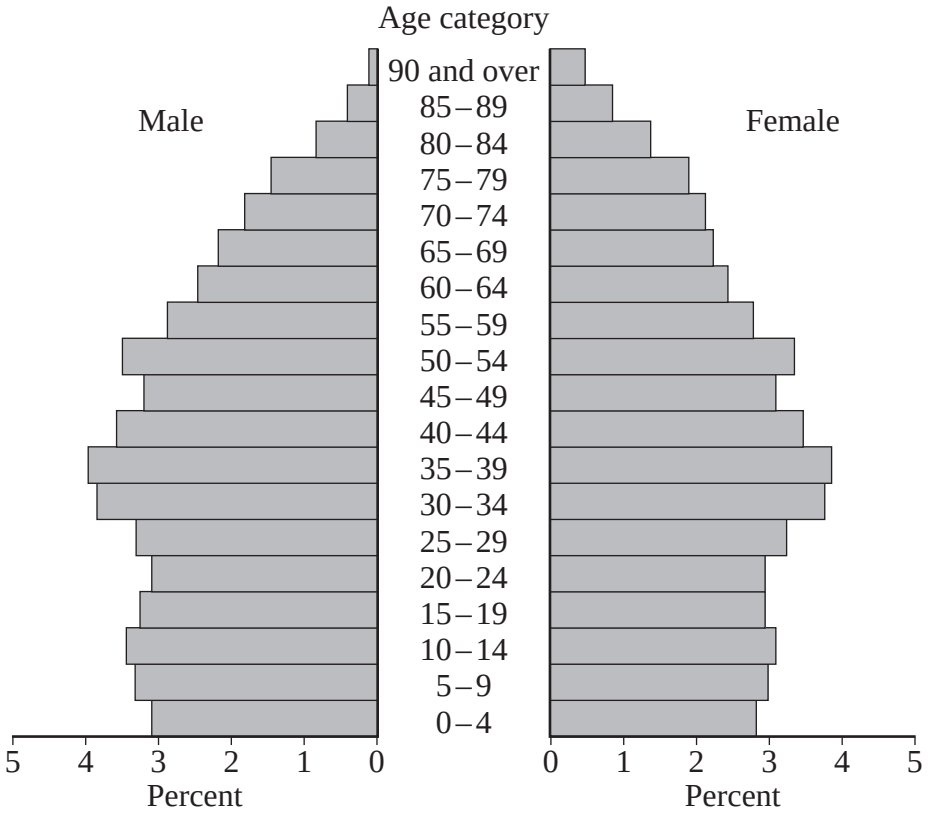

Figure 7b

Age	Number
55–64	3 400
45–54	26 000
35–44	44 710
25–34	168 000
18–24	183 000

5 (b) Describe the population structure shown in **Figure 7a** and outline the likely impact of the Eastern European workers registered in the UK on this population structure.

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Question 5 continues on the next page

5 (c) Outline and comment on the economic and political consequences of population change.

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6 FOOD SUPPLY ISSUES **Total for this question: 30 marks**

6 (a) (i) Outline characteristics of the Green Revolution.

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6 (a) (ii) Explain why the Green Revolution can be described as only partially successful.

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6 (b) Assess the advantages of **one** appropriate/intermediate technology strategy for increasing food production.

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Question 6 continues on the next page

6 (c) **Figures 8a** and **8b** show some aspects related to the globalisation of food production.

Figure 8a

The wastefulness of a Christmas dinner?

The ingredients of a traditional Christmas meal bought from a supermarket may have cumulatively travelled 40 000 km, according to a report 'Eating Oil'.

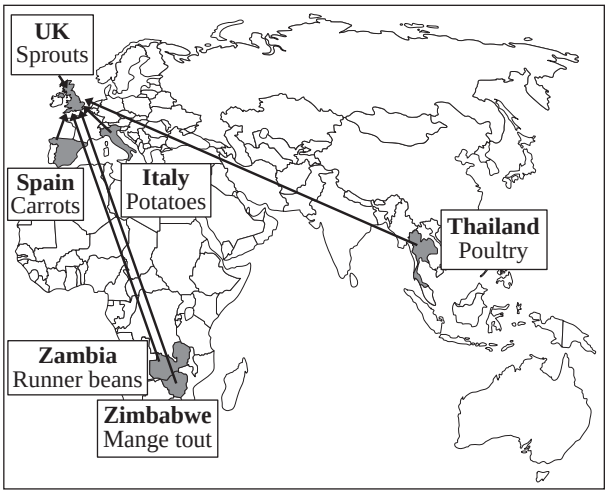

Figure 8b

Unfair trade?

In 2002, Wal-Mart, the world's largest retailer, which owns Asda in the UK, renegotiated its banana buying. It invited the biggest distributors to bid for a global contract to supply its stores in several countries. Del Monte, sourcing in Latin America, won a large chunk of the contract and, because of the scale, agreed a deal which enabled Wal-Mart to slash its prices. The price of bananas fell from £1.08 per kilo in August 2002 to 81p at the end of March 2003. By the end of the 1990s, three-quarters of world banana trade was in the hands of five companies: Chiquita (26%), Dole (25%), and Del Monte, Fyffes and Noboa, (8% each). Between 1990 and 2000, the value of banana exports from the Windward Islands fell by more than half.

6 (c) With the help of **Figures 8a** and **8b**, outline and comment on issues resulting from the globalisation of food production.

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7 ENERGY ISSUES

Total for this question: 30 marks

7 (a) **Figure 9a** shows an apartment block in Manchester, whilst **Figure 9b** is an extract from a geographical periodical.

Figure 9a

Figure 9b

The residential sector in the UK is a large, if often overlooked, consumer of fossil fuels. The country's 25 million homes emit over 40 million tonnes of carbon every year – just under 30% of the UK total.

The figures for 1970–2000 show that energy consumption in the domestic sector has risen by an average of almost 1% a year despite a concerted effort to make homes and heating systems more efficient. Increasing demand outstrips our attempts at conservation.

UK homes are some of the least energy efficient in Europe – 60% of residential energy is used for space heating. Reducing heat loss by insulating buildings and making them more airtight could cut that figure almost in half, although there is a shortage of skilled installers to advise householders and to do the work.

7 (a) (i) Outline how energy for the apartments shown in **Figure 9a** is provided in a sustainable way.

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7 (a) (ii) Study **Figure 9b**. Assess the contribution of the methods of producing energy described in (a)(i) in reducing the impact of domestic energy use on the environment.

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7 (b) Summarise the factors affecting the location of wind farms.

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7 (c) Describe and explain the impact of the use of fossil fuels on the environment.

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8 HEALTH ISSUES

Total for this question: 30 marks

8 (a) **Figure 10a** shows the distribution of malaria cases by country in 2005.
Figure 10b shows the percentage of population at risk of malaria.
Figure 10c shows the percentage of global deaths from malaria.

Figure 10a

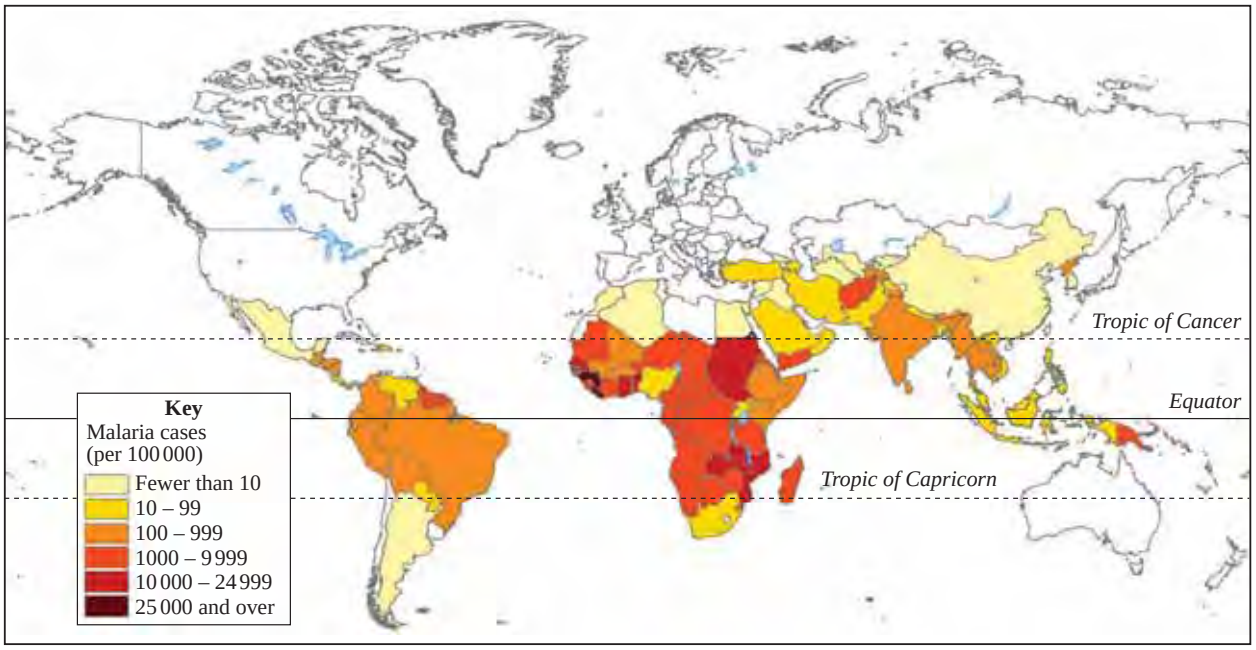


Figure 10b

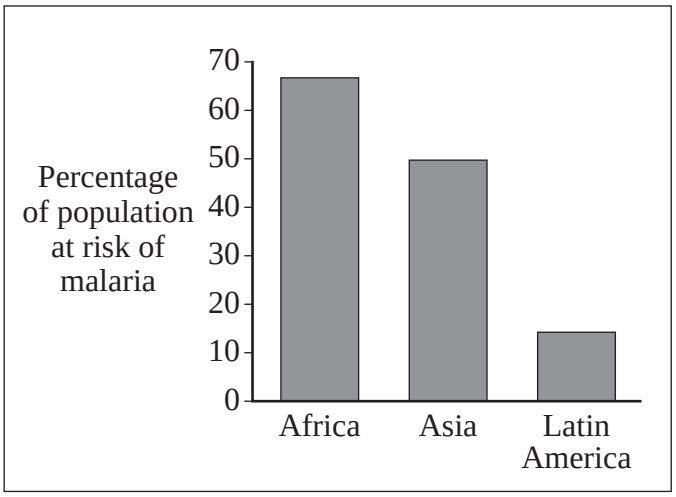
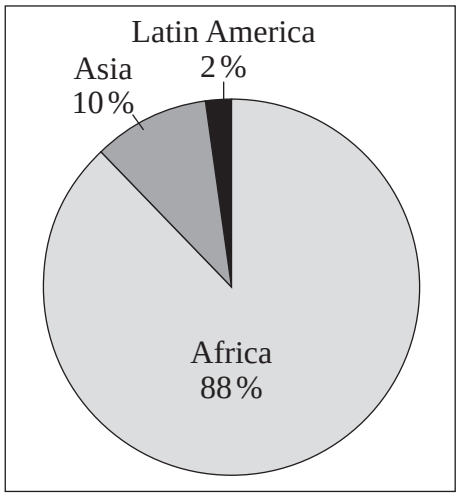


Figure 10c



8 (a) (i) Describe the pattern shown in **Figure 10a**.

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8 (a) (ii) Study **Figures 10b** and **10c**. Explain why the percentage of population at risk of and the percentage dying from infectious diseases, such as malaria, varies.

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8 (b) Assess the economic impact of **one** 'disease of affluence'.

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8 (c) Describe and suggest reasons for regional variations in morbidity in the UK.

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END OF QUESTIONS

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Question 1	Figure 1:	Figure 31 The Hjulström curve, *Rivers & Coasts, Contemporary Case Studies*, Philip Allan Updates
Question 2	Figure 3:	Nelson Thornes Ltd. From *GeoFile Online*: Unit 517, April 2006
Question 3	Figure 4:	Figure 74 Typical Beach Landforms, *Rivers & Coasts, Contemporary Case Studies*, Philip Allan Updates
Question 5	Figure 6:	Population change in the environment, *Geography Review*, Philip Allan Updates, January 2006
Question 5	Figure 7a:	Source: www.statistics.gov Reproduced under the terms of the Click-Use Licence
Question 6	Figures 8a & 8b:	Reproduced with the permission of Nelson Thornes Ltd from *GeoFile Online*: Series 25, Issue 3, Unit 541 (Globalisation of Food Production), GARRETT NAGLE, first published in 2007
Question 7	Figure 9a:	MARTIN BOND/Still Pictures
Question 7	Figure 9b:	energymatters: The 40% house, *Geography Review*, Volume 20, Number 1, September 2006, Philip Allan Updates
Question 8	Figure 10a:	World Health Organization. http://gamapserver.who.int/maplibrary/files/maps/global_cases.jpg
Question 8	Figures 10b & 10c:	Nelson Thornes Ltd. From *GeoFile Online*: Unit 553, September 2007