Centre Number			Candidate Number		
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General Certificate of Education Advanced Subsidiary Examination January 2011

# Geography

**GEOG1** 

## Unit 1 Physical and Human Geography

Friday 14 January 2011 9.00 am to 11.00 am

#### 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 four questions.
- 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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TOTAL		

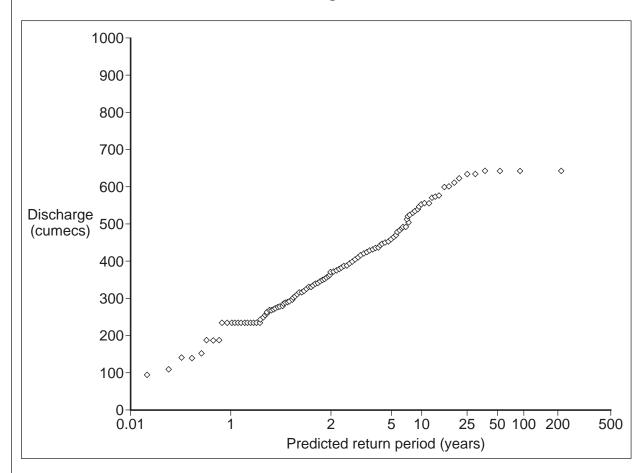
# Section A

	Answer Question 1 and one other question from this section.
1	RIVERS, FLOODS AND MANAGEMENT
1 (a) (i)	What is meant by the term 'magnitude' of a flood?
	(2 marks)
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1 (a) (ii) Study Figure 1 which shows the predicted return period of flood events for the River Ouse at York.

Figure 1



Summarise the information shown in <b>Figure 1</b> .	
	(3 marks)

Question 1 continues on the next page

Turn over



1 (b) Study Figure 2 which shows part of the Cuckmere River in East Sussex.

Figure 2



1 (b) (i)	Describe the landforms shown in Figure 2.
	(4 marks)
	Extra space
	Extra space



1 (b) (ii)	Flooding is important in the formation of some river landforms. With the help of <b>Figure 2</b> , describe the role of flooding in the formation of river landforms.
	(6 marks)
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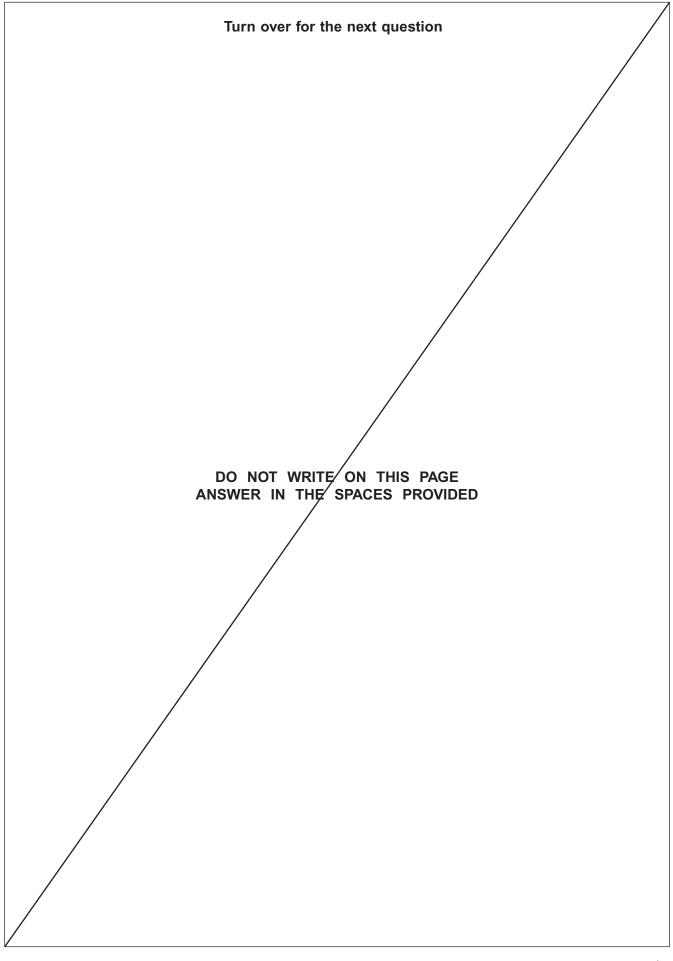
r	Channel characteristics such as cross profile, wetted perimeter, hydraulic radius oughness and efficiency change downstream.  Describe and explain how channel characteristics change downstream.



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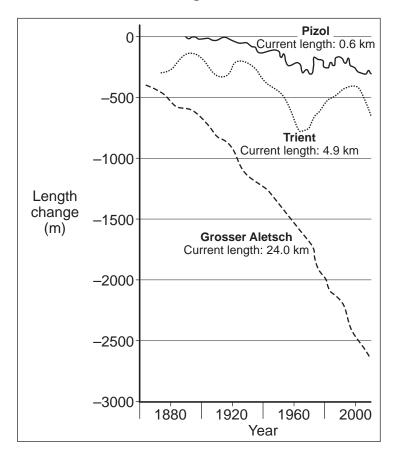




# 2 COLD ENVIRONMENTS

2 (a) Study Figure 3 which shows the changing lengths of three glaciers in the Alps.

Figure 3



	(a) (i) Describe the trends shown in Figure 3	2 (a) (i)
(3 marks)		
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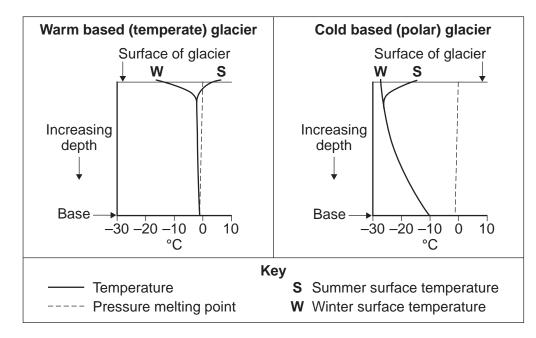
Suggest reasons for the trends shown in <b>Figure 3</b> .
(4 marks)
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Question 2 continues on the next page



**2 (b)** Study **Figures 4a** and **4b** which show how temperature changes with depth in a warm based glacier and a cold based glacier.

Figure 4a

Figure 4b



2 (b) (i)	With reference to <b>Figures 4a</b> and <b>4b</b> , distinguish between warm based and cold based glaciers.
	(3 marks)
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2 (b) (ii)	With the help of Figures 4a and 4b, explain how ice moves by basal sliding.
	(5 marks)
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	Question 2 continues on the next page



2 (c)	Assess the role of meltwater erosion and deposition in the formation of fluvioglacial landforms.



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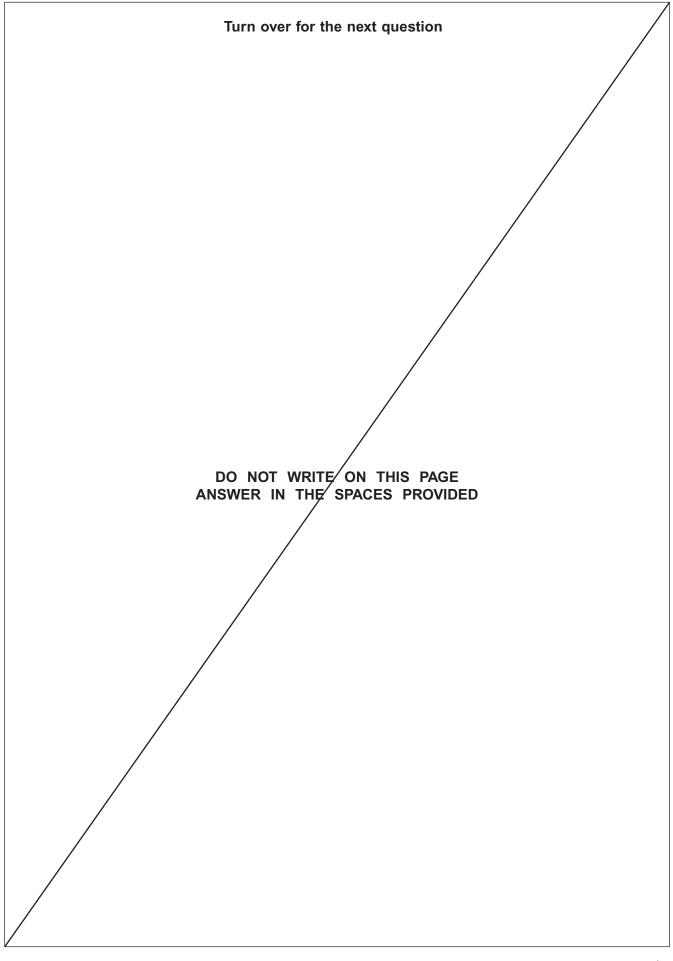
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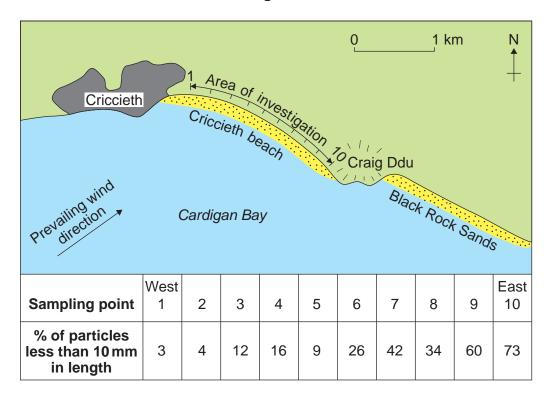




### 3 COASTAL ENVIRONMENTS

3 (a) Study Figure 5 which shows the size of beach material along Criccieth beach, Cardigan Bay.

Figure 5



3 (a) (ı)	Describe the pattern shown by the data in <b>Figure 5</b> .
	(3 marks)
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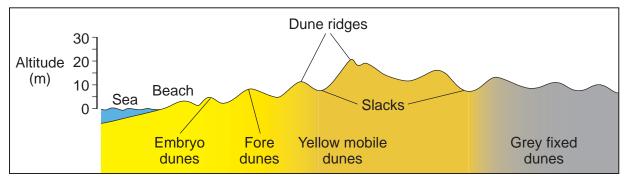


3 (a) (ii)	Suggest reasons for the pattern shown by the data in Figure 5.
	(4 marks)
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	Question 3 continues on the next page



**3 (b)** Study **Figure 6**, a cross-section of a dune system.

Figure 6



3 (b) (i)	Describe how the dunes change inland.
	(3 marks)
	Extra space



(b) (ii) Explain the conditions needed for the development of coastal dunes.
(5 marks)
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3 (c)	Using a case study, assess the causes and consequences of coastal flooding.
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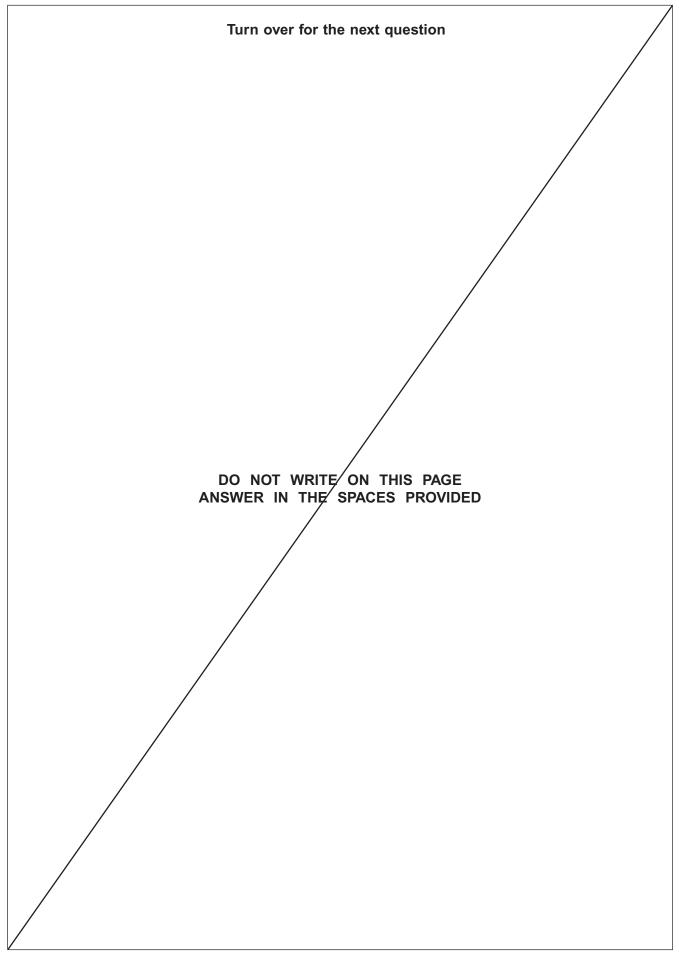
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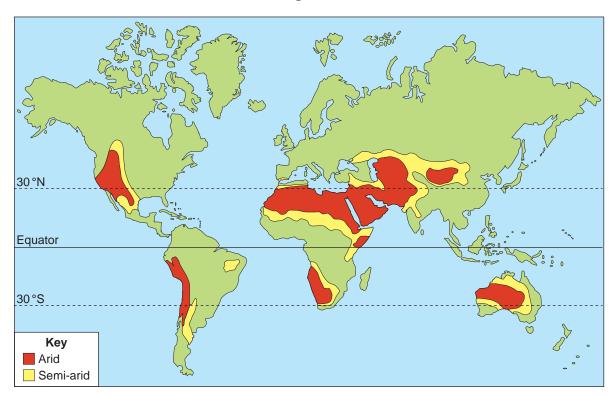




# 4 HOT DESERT ENVIRONMENTS AND THEIR MARGINS

4 (a) Study Figure 7 which shows the distribution of arid and semi-arid areas.

Figure 7



 3 marks)



4 (a) (ii)	Explain the distribution of arid areas shown in Figure 7.
	(4 marks)
	Extra space
	Question 4 continues on the next page



4 (b) Study Figure 8 which shows how material is transported by the wind.

Figure 8

Height (m) 300- (approximate scale)	Prevailing wind	Particle size (mm)
1.0 - 0.1 -	Dust storm  CODOCCODOCCODOCCODOCCODOCCODOCCODOCCO	Under 0.15  (Dust)  -0.15  (Fine sand)  -0.25  (Coarse sand and pebbles)

4 (b) (i)	With reference to Figure 8, outline how wind transports material of different sizes.
	(3 marks)
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4 (b) (ii)	Explain how methods of wind transportation affect the processes of deflation and abrasion.
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4 (c)	Assess the role of water in the formation of desert landforms.



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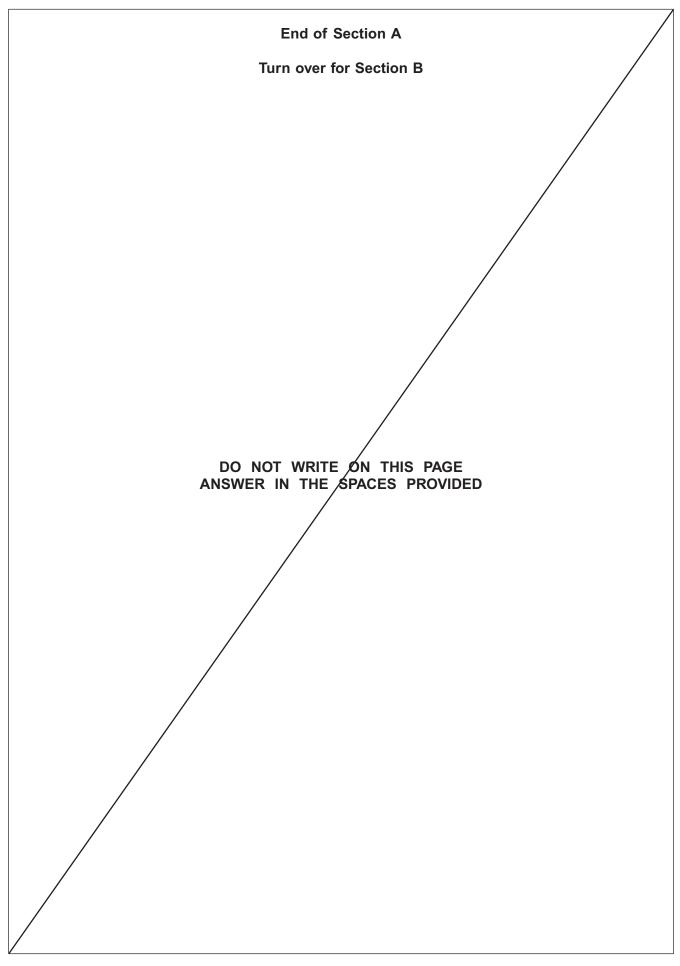
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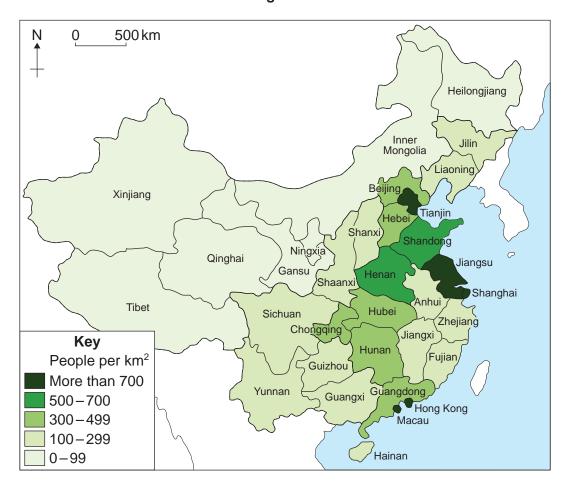
### **SECTION B**

Answer Question 5 and one other question from this section.

## 5 POPULATION CHANGE

**5 (a)** Study **Figure 9** which shows population density in China.

Figure 9



5 (a)	Describe the pattern shown in Figure 9.



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5 (b) Explain why the population density of an area may change over time.		(3 marks)
5 (b) Explain why the population density of an area may change over time.		Extra space
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(5 marks)	5 (b)	Explain why the population density of an area may change over time.
	<b>C</b> (12)	Explain why the population density of an area may enange ever time.
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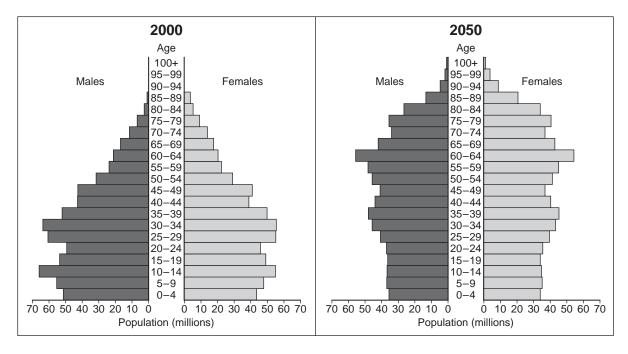




- 5 (c) Study Figures 10a and 10b which show China's population structure in 2000 and 2050 (projected).
  - China introduced a population control policy in 1979.

Figure 10a

Figure 10b





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5 (d)	"For better and for worse?" Discuss how population change can affect the character of rural and urban areas.

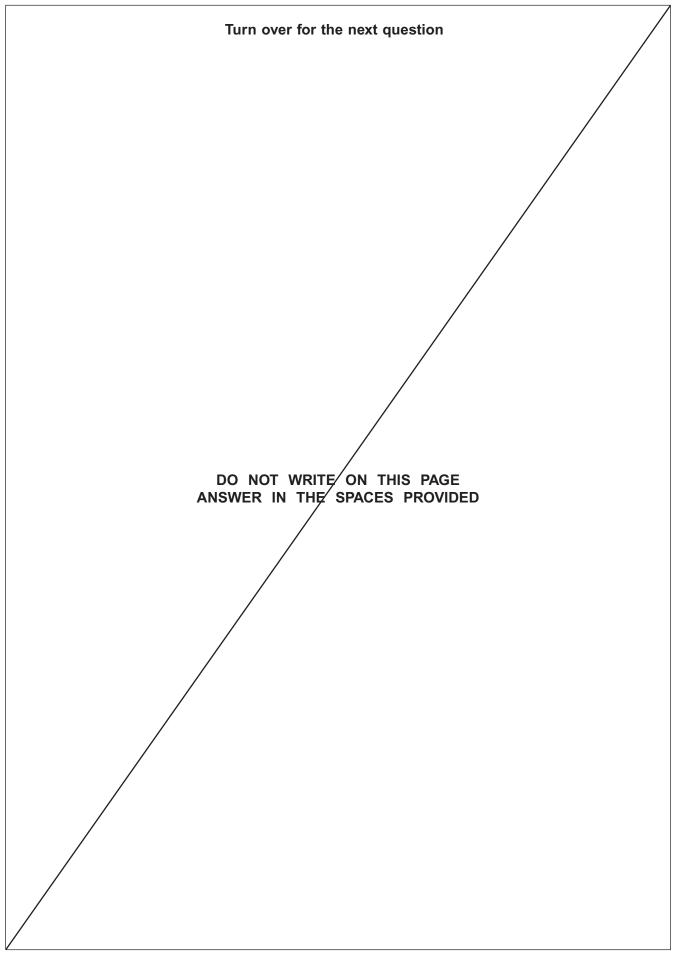


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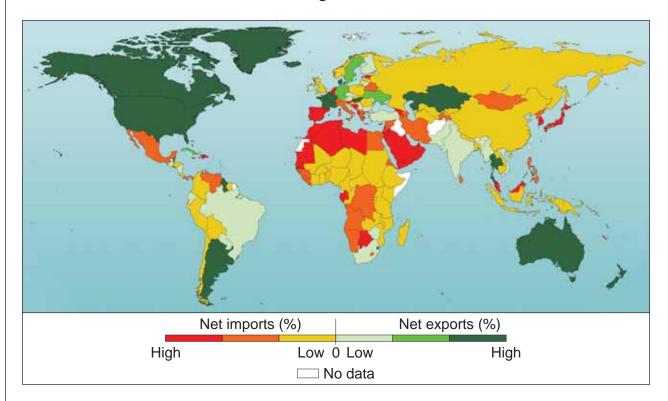




## 6 FOOD SUPPLY ISSUES

**6 (a)** Study **Figure 11** which shows worldwide trading patterns in food between 2000 and 2002.

Figure 11



6 (a) (i)	Outline the pattern shown in Figure 11.
	(A marka)
	(4 marks)
	Extra space



6 (a) (ii)	Suggest reasons why some countries are net importers of food.
	/F morkel
	(5 marks)
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6 (b)	Explain how genetically modified crops can increase the food supply.
	(6 marks)
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7	ENERGY ISSUES
7 (a)	Study <b>Figure 12</b> which shows the percentage distribution of proven oil reserves in 1987, 1997 and 2007.
	Figure 12
	Figure 12 is not reproduced here due to third-party copyright constraints.
7 (a) (i)	Summarise the changes shown in Figure 12.
	(4 marks)
	Extra space



7 (a) (ii)	In 2007, it was predicted that oil reserves would last a further 41.6 years. Explain why oil reserves may be exhausted in this time.
	(5 marks)
	Extra space
	Question 7 continues on the next page





ener	ment on the advantages and disadvantages of using biomass as a sourc gy.
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S	Discuss the view that nuclear power can be managed so that it is an environment of sustainable source of energy.



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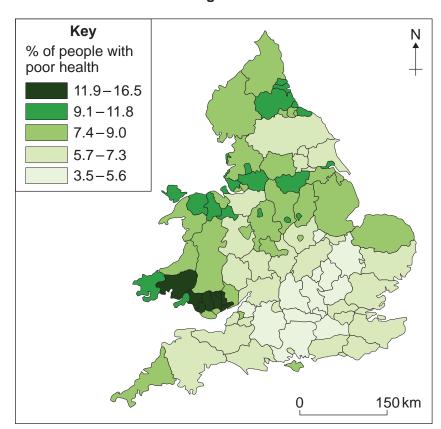




### 8 HEALTH ISSUES

Study **Figure 13** which shows the percentage of people who stated that they were in poor health in England and Wales in the 2001 census.

Figure 13



8 (a) (i)	Describe the pattern shown in Figure 13.	
		(4 marks)
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 y <b>Figure 14</b> which shows the number of do	octors per 10 000 population in 2001.
Key Number of doctors per 10 000 population  31.3-55.9  23.8-31.2  18.4-23.7  12.1-18.3  4.0-12.0	0 150 km
cribe the relationships between the informat gure 13.  Question 8 continues on the	





	(5 marks)
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8 (b)	Suggest reasons for regional variations in health in the UK.
	(6 marks)
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8 (c)	Discuss issues associated with pharmaceutical transnational corporations regarding research, production and distribution of drugs.
	Question 8 continues on the next page

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END OF QUE	STIONS



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