Centre Number						Candidate Number				
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For Examiner's Use	
Examiner's Initials	
Question	Mark
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TOTAL	

General Certificate of Education
Advanced Subsidiary Examination
June 2011

Geography GEOG1

Unit 1 Physical and Human Geography

Tuesday 17 May 2011 1.30 pm to 3.30 pm

For this paper you will need:
- 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.

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Section A

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

---

1 RIVERS, FLOODS AND MANAGEMENT

1 (a) (i) Study **Figure 1** which shows a river in the Glens of Antrim, Northern Ireland.

Label **Figure 1** to describe the characteristics of the landforms shown.

(4 marks)

Figure 1

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1 (a) (ii) Explain the formation of the landforms shown in **Figure 1**.

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1 (b) Explain **one** way in which people can cause flooding.

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1 (c) 'Soft engineering is a better river flood management strategy than hard engineering.'

Discuss this view.

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2 COLD ENVIRONMENTS

2 (a) Study **Figure 2** which shows depositional landforms in the valley of the Athabasca Glacier in Canada.

Figure 2

2 (a) (i) Describe the types of moraine shown in Zone **A** of **Figure 2**.

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2 (a) (ii) Explain the origin of the moraine shown in Zone **A** of **Figure 2**.

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2 (b) Periglacial processes will affect the area around the glacier in **Figure 2**.

2 (b) (i) Define the term 'periglacial'.

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2 (b) (ii) Outline periglacial processes likely to be occurring around the glacier in **Figure 2**.

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2 (c) To what extent is there conflict between development and sustainability in tundra areas?

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3 COASTAL ENVIRONMENTS

3 (a) Study **Figure 3** which shows evidence of mass movement south of Mappleton on the Holderness coast.

Figure 3

3 (a) (i) Define the term 'mass movement'.

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3 (a) (ii) Describe evidence in **Figure 3** which shows that mass movement has occurred.

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3 (b) (i) Describe physical causes of coastal erosion.

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3 (b) (ii) Explain how beach nourishment can reduce coastal erosion.

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3 (c) Hard engineering has been used to protect some coasts.

With reference to a case study, explain how hard engineering can protect the coast and comment on its effectiveness.

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4 HOT DESERT ENVIRONMENTS AND THEIR MARGINS

4 (a) Study **Figure 4** which shows a desert landscape in Death Valley, California.

Figure 4

4 (a) (i) Describe the landscape shown in **Figure 4**.

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4 (a) (ii) Explain the formation of the landscape shown in Zone **A** of **Figure 4**.

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4 (b) (i) Define the term 'desertification'.

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4 (b) (ii) Describe the distribution of areas at risk from desertification.

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4 (c) Desertification affects the Sahel.

Describe difficulties faced by people living in the Sahel and comment on the extent to which they result from desertification.

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End of Section A
Turn over for Section B

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SECTION B

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

5 POPULATION CHANGE

5 (a) Study **Figure 5** which shows information for four different areas of settlement in four wards of Leeds Metropolitan District in 2008/2009.

Figure 5

Settlement Area / Measure / Ward	Inner city	Suburban	Rural-urban fringe	Rural settlement
	Burmantofts and Richmond Hill	Moortown	Garforth and Swillington	Harewood
% households claiming council benefits	44	17	16	8
% population of working age claiming Jobseeker's Allowance	6.7	1.7	1.2	0.8
% of area within ward that is in the most deprived 10% nationally	81	7	0	0

5 (a) (i) Choose **two** of the settlement areas shown in **Figure 5**.

Using **Figure 5** only, contrast the characteristics of the two areas that you have chosen.

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5 (a) (ii) For **two** areas of settlement that you have studied, describe how the provision of services is different.

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5 (b) Study **Figure 6** which is a newspaper extract dated 28 August 2009, about population change in the United Kingdom.

Figure 6

NEW BABY BOOM PUSHES UK POPULATION ABOVE 61 MILLION FOR THE FIRST TIME

A baby boom fuelled by rising fertility rates and immigration has pushed the population of the United Kingdom to more than 61 million for the first time. More than a quarter of a million children were born last year as fertility rates reached the highest levels in a generation, figures from the Office for National Statistics (ONS) showed.

For the first time in almost a decade, population change caused by the number of births and deaths overtook immigration as the main driver of the rising numbers in the country.

Yet despite the surge in fertility rates, the country's overall population would still be shrinking if it were not for immigration, the ONS said. Births are increasing because women born in Britain are having more babies and also because the number of women of child-bearing age has risen by 20 per cent because of immigration since 2001.

The ONS said no single reason could be given for the changes in fertility but suggested that it could be due to a baby boom among women in their 30s.

Better support for families including tax credits and more generous maternity leave may also be a factor behind the increase, the ONS said.

Using **Figure 6**, describe and comment on the causes of recent population change in the United Kingdom.

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5 (c) Discuss the strengths and weaknesses of the demographic transition model.

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6 FOOD SUPPLY ISSUES

6 (a) Study **Figure 7**, taken from the BBC news website dated 13 August 2003, which relates to land reform in Brazil.

Figure 7

Brazil's land reform dilemma

In Brazil's extensive ranching country, the landless peasants' movement, the Movimento Sem Terra (MST), is impatient for change.

The MST has been fighting for land reform for nearly two decades.

And over the last 50 years, mechanisation has driven thousands of poor people from the land to populate the favelas that surround cities like São Paulo and Rio de Janeiro.

The MST is determined to change a system where around 1% of the country's landowners control nearly half of all Brazil's agricultural land.

"We are committed to reform. Of course we must do it within our financial means, and our government does not have enough money to buy as much land as we would like."

Using **Figure 7** and your own knowledge, explain how land reform can lead to increased food production.

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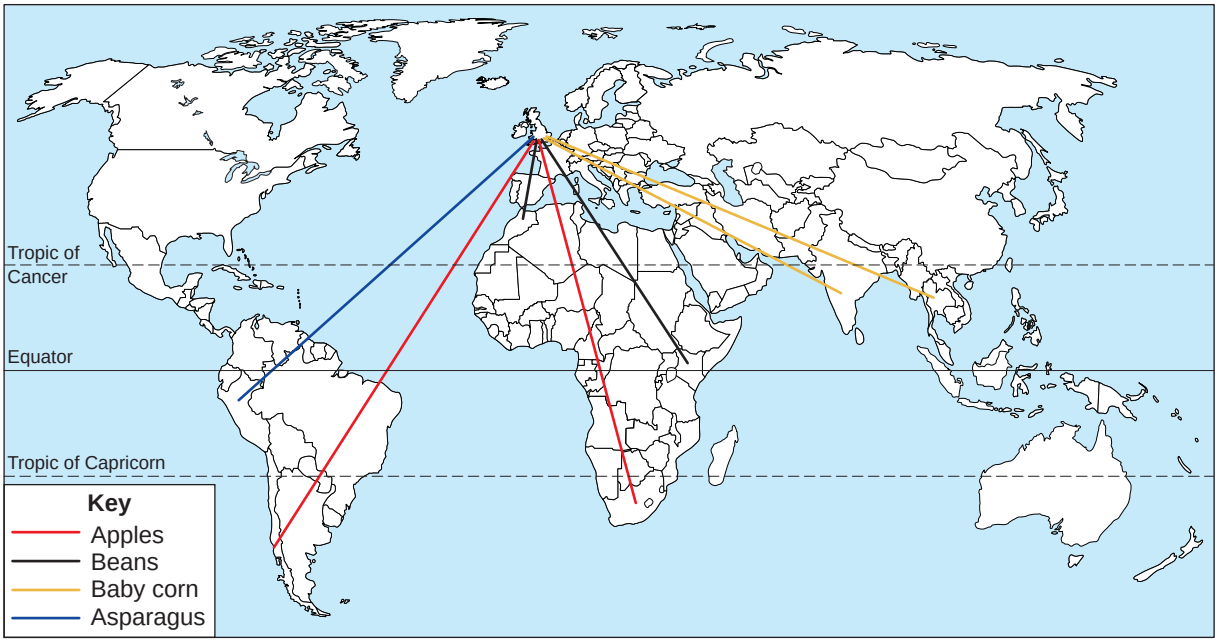
6 (b) (i) Study **Figure 8** which shows the origin of selected foods imported by a supermarket in England in September 2009.

Figure 8



Describe the pattern shown.

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6 (b) (ii) Comment on issues arising from the exporting of food from poorer countries to richer countries.

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6 (c) Discuss how food supplies might be made more sustainable.

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7 ENERGY ISSUES

7 (a) Study **Figure 9**, taken from a recent geographical magazine, which relates to the importance of bio-mass, including fuelwood, as a source of energy.

Figure 9

BIO-MASS ENERGY

More than 2 billion people in the world rely on bio-mass to cook their meals – the vast majority of them in Less Economically Developed Countries (LEDCs). This makes bio-mass one of the most important global energy sources.

Bio-mass energy is the general term given to plant and animal matter which can be used as fuel. This includes wood, charcoal, waste plant material, dung and 'bio-fuels' derived from bio-mass, such as sunflower oil. Bio-mass is an important source of energy, supplying around 10.8% of the world's total energy demand, most of this in developing countries. In LEDCs, 40% of all energy used comes from bio-mass, and this figure is around 90% in rural areas. In many places, bio-mass is the *only* source of energy available to people.

Per capita consumption of energy in many countries in Africa is less than a tenth of that in western Europe and the majority of energy use goes towards meeting basic subsistence needs. Cooking comprises about 90% of all energy use in rural areas of LEDCs.

7 (a) (i) With reference to **Figure 9**, explain the importance of bio-mass, including fuelwood, as a source of energy in developing countries.

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7 (a) (ii) Describe environmental impacts of fuelwood gathering.

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7 (b) Study **Figure 10** which is an extract taken in September 2009 from the website of BP, a transnational corporation.

Figure 10

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Using **Figure 10** and your own knowledge, comment on the role of transnational corporations in world energy production.

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7 (c) Discuss how transport can be designed to be more sustainable.

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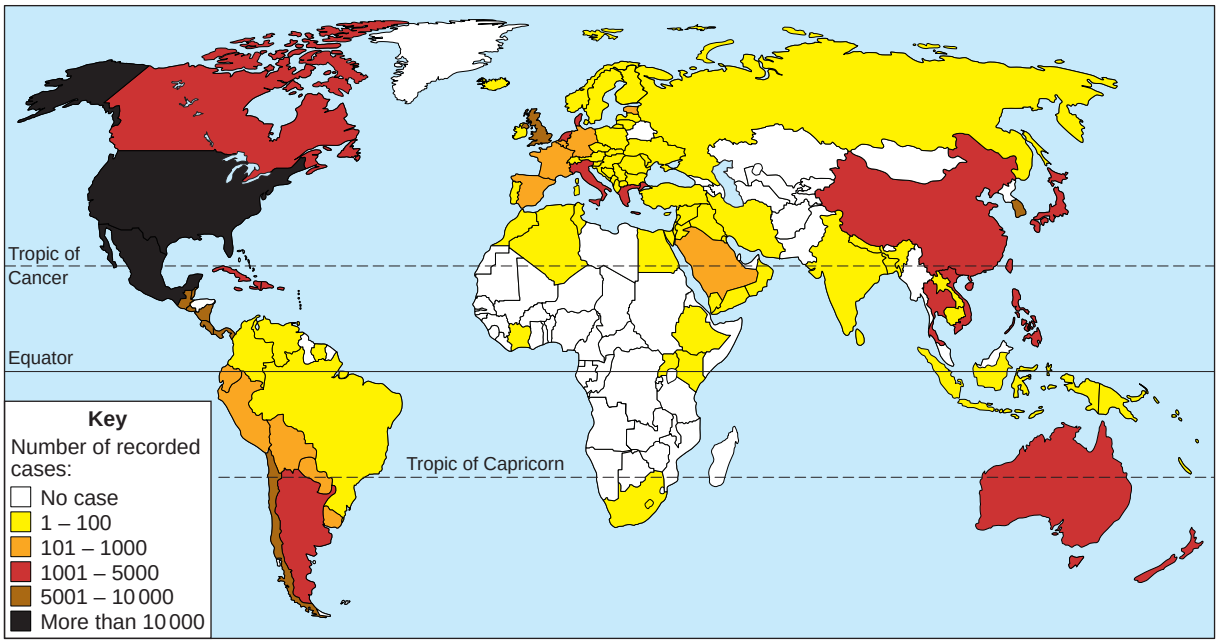
8 HEALTH ISSUES

8 (a) Study **Figure 11** which shows the distribution of recorded cases of swine flu up to May 2009.

Figure 11



8 (a) (i) Describe the pattern shown.

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8 (a) (ii) Study **Figure 12** which is an extract from an internet article on swine flu in June 2009.

Figure 12

WORLD HEALTH ORGANISATION (WHO) DECLARES SWINE FLU PANDEMIC

The WHO has declared a global flu pandemic after holding an emergency meeting. It means the swine flu virus is spreading in at least two regions of the world with a rising number of cases being seen in the UK, Australia, Japan and Chile.

WHO chief Dr Margaret Chan said: "We have evidence to suggest we are seeing the first pandemic of the 21st century. Moving to pandemic status does not imply we will see increased deaths or serious cases."

The WHO does not recommend closure of borders or any restrictions on the movement of people, goods or services, but the picture could change very quickly. "No other pandemic has been detected so early or watched so closely," Dr Chan said.

Scottish Health Secretary, Nicola Sturgeon, said that a move to pandemic status means that countries need to be ready to implement pandemic plans immediately but the UK was already operating at a "heightened state of readiness". She also said the change in status could affect the speed at which the UK gets pandemic vaccine supplies though this had been factored into pandemic planning.

With the help of **Figure 12**, explain why swine flu was a matter of global concern in 2009.

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8 (b) Comment on contrasting health care approaches in countries at different stages of development.

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8 (c) Discuss the impacts of **one** non-communicable disease.

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Figure 5: Leeds City Council
Figure 7: from BBC News at bbc.co.uk/news
Figure 9: Geography Review, Vol. 20, No. 4, March 2007, Jonathan Avis 'Cooking and Climate Change'. Reproduced by permission of Philip Allan Updates.
Figure 10: BP
Figure 11: www.who.int, Pandemic (H1N1) 2009 – update 58.
Figure 12: from BBC News at bbc.co.uk/news