Six questions should be attempted, namely:

all four questions in Section A (Questions 1, 2, 3 and 4);
one question from Section B (Question 5 or Question 6);
one question from Section C (Question 7 or Question 8).

Write the numbers of the six questions you have attempted in the marks grid on the back cover of your answer booklet.

The value attached to each question is shown in the margin.

Credit will be given for appropriate maps and diagrams, and for reference to named examples.

Questions should be answered in sentences.

Note The reference maps and diagrams in this paper have been printed in black only: no other colours have been used.
SECTION A: Answer ALL four questions from this section.

Question 1: Lithosphere

Study OS Map Extract number 1940/115: Snowdon (*separate item*), and Map Q1.

(a) **Describe** the evidence which shows that Area A, shown on Map Q1, has been affected by the processes of glacial erosion.

You should refer to specific named features and make use of grid references.

(b) **Explain**, with the aid of an annotated diagram or diagrams, how **one** of the following features of glacial deposition is formed:

- terminal moraine
- esker
- drumlin.
Question 2: Hydrosphere

(a) Study Diagram Q2A.

Describe and explain how human activities, such as those shown on Diagram Q2A, can impact on the hydrological cycle.

Diagram Q2A: Human activities affecting the hydrological cycle

Deforestation  
Mining  
Urbanisation  
Reservoirs  
Irrigation  
Dam building

(b) Study Diagram Q2B.

Explain, with the aid of an annotated diagram or diagrams, how one of the lower course river features, shown on Diagram Q2B, is formed.

Diagram Q2B – Lower course river features

Ox-bow lake  Floodplain with natural levees  Delta
Question 3: Population

(a) Study Diagram Q3A.

**Describe and suggest reasons** for the changes that take place in **Stages 1 to 3** of the Demographic Transition Model.

**Diagram Q3A: The Demographic Transition Model**

(b) Study Diagram Q3B.

**Describe** the changes which have taken place in Scotland’s population structure and **suggest problems** that the government may face as a result of these changes.

**Diagram Q3B: Scotland’s population 2012 (Change from 1974 in brackets)**

- 17% (−10%)
- 20% (+4%)
- 63% (+6%)

Working age  
Pensioners  
Children
Question 4: Industrial Geography

Study Diagram Q4 and Map Q4.

With reference to named examples within an area of industrial decline in the European Union which you have studied:

(a) explain reasons for industrial decline in areas like Teesside;

(b) describe and explain the impact of industrial closures on people, the local economy and the environment in the surrounding area.

Diagram Q4: Newspaper Extract

“Workers in one of the UK’s biggest steel-making areas were dealt a savage pre-Christmas blow today with news that a giant plant in Teesside is to be closed with the loss of 1700 jobs. Job losses leave Corus workers devastated.”

Press Association December 2009

Map Q4: Corus Steelworks closures in England and Wales in 2009

[Map showing closures in Teesside, Scunthorpe, Rotherham, Wolverhampton, Wednesbury, Llanwern with key: T - Teesside, S - Scunthorpe, R - Rotherham, W - Wolverhampton, We - Wednesbury, L - Llanwern, 600 job losses]
SECTION B: Answer ONE question from this section, ie either Question 5 or Question 6.

Question 5: Biosphere

(a) Study Diagram Q5.

Choose one of the soil profiles.

Describe the characteristics of the soil, including horizons, colour, soil biota, texture and drainage.

(b) Explain how factors such as natural vegetation, soil organisms, climate, relief and drainage have contributed to the formation and characteristics of a brown earth soil.
Question 6: Atmosphere

(a) With the aid of an annotated diagram or diagrams, explain why there is a surplus of solar energy in the tropical latitudes and a deficit of solar energy towards the poles. 8

(b) Study Diagram Q6.

Describe the possible consequences of global warming throughout the world. 6

Diagram Q6: Newspaper Extract

“Global warming is causing an increase in temperature throughout the World. In Scotland, some areas of Glasgow near the Clyde are in danger of serious flooding—and the risk is only going to get worse because of climate change due to global warming.”

The Herald, 28 November 2009
SECTION C: Answer ONE question from this section, ie either Question 7 or Question 8.

**Question 7: Rural Geography**

(a) **Describe** the main features of the shifting cultivation farming system.  

6

(b) Study Diagram Q7.

**Describe** and **explain** the advantages and disadvantages of **two** of the **changes** shown in intensive peasant farming.  

8

**Diagram Q7: Recent changes in intensive peasant farming**

- Increased fertiliser use
- Land reform schemes
- High Yielding Varieties (HYVs) of crops
- Mechanisation

**CHANGES**
Question 8: Urban

(a) For a named Developed World city you have studied, describe the changes that have taken place in the Central Business District (CBD).
   Your answer should refer to specific named locations within your chosen city. 8

(b) Study Diagram Q8.

Describe and explain the main urban landscape characteristics of either the inner city or the outer suburbs. 6

Diagram Q8: A summary model of Land Use in a City
ACKNOWLEDGEMENTS


Answer any two questions.

Write the numbers of the two questions you have attempted in the marks grid on the back cover of your answer booklet.

The value attached to each question is shown in the margin.

Credit will be given for appropriate maps and diagrams, and for reference to named examples.

Questions should be answered in sentences.

Note  The reference maps and diagrams in this paper have been printed in black only: no other colours have been used.
Question 1: Rural Land Resources

(a) The Yorkshire Dales National Park is an area of Upland Limestone.

With the aid of annotated diagrams, **describe** and **explain** how the main physical features of upland limestone landscapes are formed.

Both surface **and** underground features should be included in your answer.  

(b) For the Yorkshire Dales National Park, **or** a named upland area you have studied, **describe** how this landscape has provided a variety of socio-economic opportunities.  

(c) Study Map Q1 and Diagram Q1.

Environmental conflicts such as this windfarm proposal for the Yorkshire Dales may occur in upland landscapes.

With reference to any named upland landscape that you have studied:

(i) **describe** and **explain** the environmental conflicts;  

(ii) **describe** the measures taken to resolve these environmental conflicts and **comment on** their effectiveness.  

(50)

Map Q1: Location of Yorkshire Dales National Park and Gargrave Windfarm
“Celebrations as Dales windfarm plan is rejected.

Hundreds of Yorkshire Dales residents in the Gargrave area were celebrating today over the decision by a government planning inspector to reject plans for a major windfarm which would have dominated the scenery for some 40 miles around. The turbines . . . would have been visible from some of the outstanding beauty spots of the Yorkshire Dales National Park.”

Yorkshire Dales Country News, 9 March 2010
Question 2: Rural Land Degradation

(a) Study Map Q2

Describe the climatic conditions found in Mali and explain why such physical conditions may lead to the degradation of rural land.

Map Q2: Climatic regions of Mali

- **TOMBOUCTOU**
  - **Temperature (°C)**
  - **Precipitation (mm)**

- **MOPTI**
  - **Temperature (°C)**
  - **Precipitation (mm)**

- **BAMAKO**
  - **Temperature (°C)**
  - **Precipitation (mm)**

**KEY**
- Precipitation (mm)
- Temperature (°C)

[250] Mean annual precipitation in mm
[---] National border
Question 2 – continued

(b) Study Table Q2A.

Select **two** causes of land degradation from North America **and two** from **either** the Amazon Basin **or** Africa north of the Equator.

Referring to named areas, **explain** how these human activities have contributed to land degradation.

Table Q2A: Causes of rural land degradation

<table>
<thead>
<tr>
<th>North America</th>
<th>Africa north of the Equator</th>
<th>OR</th>
<th>The Amazon Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monoculture</td>
<td>Deforestation</td>
<td></td>
<td>Deforestation</td>
</tr>
<tr>
<td>Deep ploughing</td>
<td>Overcultivation</td>
<td></td>
<td>Cattle ranching</td>
</tr>
<tr>
<td>Farming marginal land</td>
<td>Overgrazing</td>
<td></td>
<td>Mining</td>
</tr>
<tr>
<td>Demand for wheat</td>
<td>Population increase</td>
<td></td>
<td>HEP schemes</td>
</tr>
</tbody>
</table>

(c) Study Table Q2B.

Select **two** soil conservation strategies from North America **and two** from **either** the Amazon Basin **or** Africa north of the Equator.

Referring to named areas:

(i) **describe** your chosen methods and **explain** how they help to conserve soil in rural areas;

(ii) **comment** on the effectiveness of each of your chosen methods.

Table Q2B: Soil conservation strategies

<table>
<thead>
<tr>
<th>North America</th>
<th>Africa north of the Equator</th>
<th>OR</th>
<th>The Amazon Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contour ploughing</td>
<td>Animal fences</td>
<td></td>
<td>Agro-forestry schemes</td>
</tr>
<tr>
<td>Diversification</td>
<td>Dams built in gullies</td>
<td></td>
<td>Crop rotation</td>
</tr>
<tr>
<td>Shelter belts</td>
<td>Stabilisation of dunes</td>
<td></td>
<td>Return to traditional farming</td>
</tr>
<tr>
<td>Strip cropping</td>
<td>“Magic Stones” (Diguettes)</td>
<td></td>
<td>Purchase by conservation groups</td>
</tr>
</tbody>
</table>

[Turn over]
Question 3: River Basin Management

(a) “The Zambezi river basin extends into 8 southern African countries. It is one of the most heavily dammed rivers in Africa.”

Study Map Q3 and Tables Q3A and Q3B.

**Describe** and **explain** why there is a need for water management within the Zambezi river basin.

(b) **Describe** and **explain** the physical and human factors which should be considered when selecting the site for any major dam and its associated reservoir.

(c) **Describe** and **account for** the social, economic and environmental benefits **and** adverse consequences of a named water control project in Africa or Asia or North America.

Map Q3: Zambezi River Basin
Table Q3A: Zambezi River Basin statistics

<table>
<thead>
<tr>
<th>Country</th>
<th>% of River basin area</th>
<th>Population growth (%) per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>41</td>
<td>3.1</td>
</tr>
<tr>
<td>Angola</td>
<td>18</td>
<td>2.0</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>16</td>
<td>4.3</td>
</tr>
<tr>
<td>Mozambique</td>
<td>11</td>
<td>2.4</td>
</tr>
<tr>
<td>Malawi</td>
<td>8</td>
<td>2.8</td>
</tr>
<tr>
<td>Botswana</td>
<td>3</td>
<td>1.7</td>
</tr>
<tr>
<td>Tanzania</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Namibia</td>
<td>1</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Table Q3B: Climate figures for Mongu

<table>
<thead>
<tr>
<th>Max temperature (°C)</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>30</td>
<td>28</td>
<td>27</td>
<td>27</td>
<td>30</td>
<td>33</td>
<td>34</td>
<td>31</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precipitation (mm)</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>210</td>
<td>185</td>
<td>140</td>
<td>45</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>35</td>
<td>105</td>
<td>195</td>
</tr>
</tbody>
</table>

[Turn over]
Question 4: Urban Change and its Management

(a) Study Map Q4A and Map Q4B.

Describe and account for the distribution of major settlements in either Australia or any other Developed Country that you have studied.

(b) Study Map Q4C on Page ten.

With reference to Melbourne, or any named city you have studied in a Developed Country, explain ways in which its site and situation contributed to its growth.

(c) Study Map Q4D on Page ten.

Referring to Melbourne or any named city you have studied in a Developed Country:

(i) explain the problems caused by urban sprawl;

(ii) suggest ways in which these problems may be resolved.

(d) “Lagos is one of the world’s mega-cities—a crime-ridden, seething mass of some 15 million people crammed into the steamy lagoons of Southwest Nigeria. Two out of three Lagos residents live in a slum. The government estimates that Lagos will have expanded to 25 million residents by 2015 to be the third largest city in the world.”

For Lagos or any named city you have studied in a Developing Country:

(i) explain why your chosen city has grown so rapidly;

(ii) describe the socio-economic and environmental problems which have resulted from such rapid growth.

(50)
Question 4 – continued

Map Q4A: Largest cities in Australia

Map Q4B: Physical Map of Australia
Question 4 – continued

Map Q4C: Site and Situation of Melbourne

Map Q4D: New Melbourne Urban Growth Boundary
Question 5: European Regional Inequalities

(a) Study Maps Q5A and Q5B.

Convergence Region Funding aims to raise the standard of living in the poorest EU countries and replaced Objective 1 Funding. This funding covers regions whose GDP per capita is below 75% of the EU average and aims at accelerating their economic development.

(i) **Describe** the changing distribution of areas towards which EU funding is directed.

(ii) **Explain** how EU initiatives such as Convergence Region Funding might improve the development of less prosperous areas of the European Union.

(b) Study Table Q5

(i) **Describe** how the data shows a pattern of inequality across the European Union member states.

(ii) **Suggest** both physical and human reasons for the variation in prosperity found across the 27 European Union member states.

(c) “Many European countries suffer from regional inequalities within them.”

For any named European Union country you have studied **describe** the steps taken by the national government to reduce inequalities and **comment** on their effectiveness.
Question 5 – continued

Table Q5: European Union Statistics, 2011

<table>
<thead>
<tr>
<th>Country (Year of membership)</th>
<th>HDI (ranked)*</th>
<th>GDP per capita (Euros)</th>
<th>% of population aged 15−64 in employment</th>
<th>% Internet users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium (1957)</td>
<td>10</td>
<td>28 200</td>
<td>62</td>
<td>78</td>
</tr>
<tr>
<td>France (1957)</td>
<td>4</td>
<td>26 300</td>
<td>64</td>
<td>69</td>
</tr>
<tr>
<td>Germany (1957)</td>
<td>12</td>
<td>26 900</td>
<td>71</td>
<td>79</td>
</tr>
<tr>
<td>Italy (1957)</td>
<td>11</td>
<td>24 300</td>
<td>58</td>
<td>52</td>
</tr>
<tr>
<td>Luxembourg (1957)</td>
<td>5</td>
<td>65 700</td>
<td>65</td>
<td>85</td>
</tr>
<tr>
<td>Netherlands (1957)</td>
<td>2</td>
<td>30 700</td>
<td>77</td>
<td>89</td>
</tr>
<tr>
<td>Denmark (1973)</td>
<td>7</td>
<td>29 600</td>
<td>76</td>
<td>86</td>
</tr>
<tr>
<td>Ireland (1973)</td>
<td>1</td>
<td>34 200</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>UK (1973)</td>
<td>12</td>
<td>27 800</td>
<td>70</td>
<td>83</td>
</tr>
<tr>
<td>Greece (1981)</td>
<td>14</td>
<td>22 900</td>
<td>61</td>
<td>46</td>
</tr>
<tr>
<td>Portugal (1986)</td>
<td>17</td>
<td>17 500</td>
<td>66</td>
<td>48</td>
</tr>
<tr>
<td>Spain (1986)</td>
<td>7</td>
<td>24 700</td>
<td>60</td>
<td>63</td>
</tr>
<tr>
<td>Finland (1995)</td>
<td>6</td>
<td>27 500</td>
<td>69</td>
<td>85</td>
</tr>
<tr>
<td>Sweden (1995)</td>
<td>3</td>
<td>29 300</td>
<td>72</td>
<td>93</td>
</tr>
<tr>
<td>Austria (1995)</td>
<td>7</td>
<td>30 000</td>
<td>72</td>
<td>75</td>
</tr>
<tr>
<td>Cyprus (2004)</td>
<td>16</td>
<td>21 603</td>
<td>70</td>
<td>39</td>
</tr>
<tr>
<td>Czech Republic (2004)</td>
<td>18</td>
<td>18 500</td>
<td>67</td>
<td>66</td>
</tr>
<tr>
<td>Estonia (2004)</td>
<td>20</td>
<td>16 100</td>
<td>70</td>
<td>75</td>
</tr>
<tr>
<td>Latvia (2004)</td>
<td>25</td>
<td>12 600</td>
<td>61</td>
<td>68</td>
</tr>
<tr>
<td>Lithuania (2004)</td>
<td>24</td>
<td>13 200</td>
<td>60</td>
<td>59</td>
</tr>
<tr>
<td>Malta (2004)</td>
<td>19</td>
<td>18 100</td>
<td>55</td>
<td>59</td>
</tr>
<tr>
<td>Poland (2004)</td>
<td>21</td>
<td>12 300</td>
<td>59</td>
<td>58</td>
</tr>
<tr>
<td>Slovakia (2004)</td>
<td>21</td>
<td>15 000</td>
<td>60</td>
<td>74</td>
</tr>
<tr>
<td>Slovenia (2004)</td>
<td>15</td>
<td>20 700</td>
<td>68</td>
<td>65</td>
</tr>
<tr>
<td>Bulgaria (2007)</td>
<td>26</td>
<td>8600</td>
<td>64</td>
<td>48</td>
</tr>
<tr>
<td>Romania (2007)</td>
<td>27</td>
<td>9100</td>
<td>59</td>
<td>36</td>
</tr>
</tbody>
</table>

HDI  Human Development Index (combined indicator which includes a measure of wealth, health and education in a country)
* Ranking 1–27 with 1 best and 27 worst
Question 6: Development and Health

(a) Infant Mortality Rate per 1000 live births is a social indicator of development. Name one other social indicator and one economic indicator of development and explain how they show a country’s level of development. 8

(b) Referring to named developing countries that you have studied, suggest reasons why there is such a wide range in levels of development between developing countries. 12

(c) Study Table Q6 and Map Q6.

Many African countries have been trying to eliminate water-related diseases like malaria, cholera and bilharzia/schistosomiasis.

For one of the above diseases:

(i) describe the physical and human factors which put people at risk of contracting the disease; 8

(ii) describe the measures that can be taken to combat the disease. 12

(d) Study Diagram Q6.

Many Developing Countries are attempting to reduce the death rate of children under 5 by implementing Primary Health Care strategies. Describe some specific Primary Health Care strategies and explain why these strategies are suited to people living in developing countries. 10

(50)

Table Q6: Statistics on Malaria

- 3·3 billion people in 109 countries are at risk from malaria
- 247 million annual cases of malaria
- 850 000 people die from malaria each year
- 91% of deaths caused by malaria are in Africa
- 85% of deaths caused by malaria are of children aged under 5

Extract from article “Why can’t we rid the world of malaria?”

Daily Telegraph, 8 July 2010
Question 6 – continued

Map Q6: Areas in Africa affected by Malaria

Most infected countries
1 Nigeria (57.5 million)
2 DR Congo (23.6 million)
3 Ethiopia (12.4 million)
4 Tanzania (11.5 million)
5 Kenya (11.3 million)

In brackets are the number of people infected.

Diagram Q6: Major causes of deaths of children under 5 in the Developing World, 2008

- Birth related: 30%
- Pneumonia: 18%
- Diarrhoea: 16%
- Other infectious diseases: 15%
- Malnutrition: 2%
- Malaria: 8%
- Other: 11%
ACKNOWLEDGEMENTS


Table Question 6—Adapted extract from article “Why can’t we rid the world of malaria?”, taken from Daily Telegraph, 8 July 2010. Reproduced by permission of Telegraph Media Group Ltd. ©Telegraph Media Group Limited 2010.