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.
Question 1: Atmosphere

(a) Study Reference Diagram Q1A and Reference Map Q1A.

Identify air masses A and B, and describe their origin and nature.

Reference Diagram Q1A (The Inter-tropical Convergence Zone (ITCZ))

Reference Map Q1A (Location of section X–Y)
(b) Study Reference Map Q1B and Reference Diagram Q1B.

Describe and explain the varying rainfall patterns shown in Reference Diagram Q1B.

Reference Map Q1B (Rainfall patterns in West Africa)

Reference Diagram Q1B (West Africa—selected rainfall graphs)
Question 2: Hydrosphere

Study OS Map Extract number 1560/150: Worcester (separate item).

(a) The River Teme is in the lower section of its course between 760545 and 850522. **Describe** the physical characteristics of the river and its valley in this section.

(b) Select one of the features that you have described for part (a) and **explain**, with the aid of a diagram or diagrams, how this feature is formed.

Marks

5

4
Question 3: Population Geography

(a) Describe the ways in which countries can obtain accurate population data. 3

(b) Explain

(i) why ELDCs (Economically Less Developed Countries) may find the collection of such data more difficult, and

(ii) why the quality of data obtained may be less reliable than that gathered in an EMDC (Economically More Developed Country). 6

[Turn over]
Question 4: Industrial Geography

(a) For South Wales, or any other industrial concentration in the European Union which you have studied, **describe** the physical and human factors which led to the growth of traditional industries before 1950.

(b) Study Reference Map Q4.

**Describe** and **explain** the methods used to attract newer industries and investments to South Wales, or to any other industrial concentration in the European Union which you have studied.

Reference Map Q4 (South Wales: Location of industrial developments since 1950)
SECTION B: Answer ONE question from this section, ie either Question 5 or Question 6.

Question 5: Lithosphere

Study Reference Photograph Q5 which shows a glaciated upland landscape in the Cairngorm Mountains.

(a) Describe the evidence which suggests that the area shown in the photograph has been affected by the processes of glacial erosion. 3 marks

(b) Choose one feature of glacial erosion visible in the photograph and, with the aid of an annotated diagram (or diagrams), explain how it was formed. 4 marks

Reference Photograph Q5
Question 6: Biosphere

Study Reference Diagram Q6A which shows two soil profiles.

Choose one of the soil profiles.

(i) **Describe** the characteristics of the soil, including horizons, colour, texture and drainage.

Reference Diagram Q6A (Selected soil profiles)

- **PODZOL**
  - Layer of needles and cones
  - Horizons: A, E, B, C

- **GLEY**
  - Grasses and small shrubs
  - Horizons: A, B, C
(ii) Study Reference Diagram Q6B.

Explain how the major soil forming factors shown in the diagram have contributed to the formation of your chosen soil profile. 4

Reference Diagram Q6B (Main factors affecting soil formation)
SECTION C: Answer ONE question from this section, ie either Question 7 or Question 8.

Question 7: Rural Geography

(a) Describe the main characteristics of shifting cultivation.

(b) “In Central America, population density and loss of rainforest cover are closely related. During the last two decades, human activities have caused the deforestation of more than 120,000 square kilometres each year.”

Referring to a named area where shifting cultivation is carried out, explain the impact which deforestation and increased population density have had on the environment and way of life of the shifting cultivators.

Question 8: Urban Geography

Study OS Map Extract number 1560/150: Worcester (separate item), and Reference Map Q8.

(a) Describe the urban environment of Area A and explain its location.

(b) For either Area B or Area C, explain the advantages of the residential environment.
Question 8 (continued)

Reference Map Q8 (Location of urban areas in Worcester)
Two questions should be attempted, namely:

one question from Section 1 (Questions 1, 2, 3) and
one question from Section 2 (Questions 4, 5, 6).

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.
SECTION 1

You must answer ONE question from this Section.

Question 1 (Rural Land Resources)

(a) Study Reference Maps Q1A and Q1B.
   Describe and suggest reasons for the location of Britain’s National Parks. 5

(b) Study Reference Diagram Q1 on Page four.
   “Tourism can bring benefits but also causes problems for National Parks.”
   With the aid of Reference Diagram Q1 and referring to a specific National Park or other named upland or coastal landscape area which you have studied:
   (i) describe some of the benefits which an influx of tourists has brought; and
   (ii) suggest and evaluate ways in which the negative effects of tourism can be tackled. 10

(c) With the aid of annotated diagrams, describe and explain the formation of the main features of any coastal landscapes which you have studied. You should refer to erosional and depositional features in your answer. 10

(25)
Question 1 – continued

Reference Map Q1A
(National Parks in Great Britain)

Reference Map Q1B
(Relief map of Great Britain)

[Turn over]
Question 1 – continued

Reference Diagram Q1 (Positive and negative effects of tourism)

Positive effects of tourism

Employment  \rightarrow  Conservation

\rightarrow  Economy

\rightarrow  Communications

Negative effects of tourism

Congestion  \rightarrow  Holiday homes

\rightarrow  Erosion

\rightarrow  Lack of amenities and privacy
Question 2 (Rural Land Degradation)

(a) Study Reference Table Q2. 
Describe the processes of soil erosion by both water and wind.  

(b) Describe and explain the main human causes of land degradation in North America and either Africa north of the Equator or the Amazon Basin.  

(c) Referring to named locations in either Africa north of the Equator or the Amazon Basin, describe the social and economic impact of land degradation on the people.  

(d) Study Reference Diagram Q2. 
For any four methods of soil conservation, explain how each helps to conserve soil and reduce land degradation.  

Reference Table Q2 (Types of water and wind erosion)

<table>
<thead>
<tr>
<th>Soil Erosion by Water</th>
<th>Soil Erosion by Wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainsplash</td>
<td>Suspension</td>
</tr>
<tr>
<td>Sheet wash</td>
<td>Saltation</td>
</tr>
<tr>
<td>Rill erosion</td>
<td>Surface creep</td>
</tr>
<tr>
<td>Gully erosion</td>
<td></td>
</tr>
</tbody>
</table>

Reference Diagram Q2 (Soil conservation strategies)
Question 3 (River Basin Management)

(a) Study Reference Maps Q3A, Q3B and Q3C.
For Asia or Africa or North America, describe and explain the general distribution of the main river basins. 5

(b) “Among the 30 largest dams planned for the Narmada river in India, the Sardar Sarovar is the largest. Most of the water held back by the dam will be used in the neighbouring state of Gujarat as it expands its rice and cotton production.”

Study Reference Maps Q3D, Q3E and Reference Diagram Q3 on Page eight. Explain why there is a need for water management in the Narmada River Basin and in Gujarat State. 5

(c) For the Narmada River Project or any other river basin management project in Asia or Africa or North America, explain the political problems that may have resulted from the project. 3

(d) Describe and suggest reasons for the social, economic and environmental benefits and adverse consequences of a named water control project in Asia or Africa or North America. 12 (25)
Question 3 – continued

Reference Map Q3A
(Major river basins of Africa)

Reference Map Q3B
(Major river basins of North America)

Reference Map Q3C (Major river basins of Asia)
Question 3 – continued

Reference Map Q3D
(Location of Narmada River Basin in India)

Reference Diagram Q3
(Climate graphs for Ahmedabad)

Reference Map Q3E (Basin of Narmada River)

<table>
<thead>
<tr>
<th>Temperature (average monthly maximum)</th>
<th>Rainfall (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JF M A M J A S O N D</td>
<td></td>
</tr>
<tr>
<td>0 10 20 30 40</td>
<td></td>
</tr>
<tr>
<td>0 300 600 900 1200</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>40°C</td>
<td>1200 mm</td>
</tr>
<tr>
<td>30°C</td>
<td>900 mm</td>
</tr>
<tr>
<td>20°C</td>
<td>600 mm</td>
</tr>
<tr>
<td>10°C</td>
<td>300 mm</td>
</tr>
<tr>
<td>0°C</td>
<td>00 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Months</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>400</td>
</tr>
<tr>
<td>February</td>
<td>300</td>
</tr>
<tr>
<td>March</td>
<td>200</td>
</tr>
<tr>
<td>April</td>
<td>100</td>
</tr>
<tr>
<td>May</td>
<td>0</td>
</tr>
<tr>
<td>June</td>
<td>500</td>
</tr>
<tr>
<td>July</td>
<td>700</td>
</tr>
<tr>
<td>August</td>
<td>600</td>
</tr>
<tr>
<td>September</td>
<td>500</td>
</tr>
<tr>
<td>October</td>
<td>400</td>
</tr>
<tr>
<td>November</td>
<td>300</td>
</tr>
<tr>
<td>December</td>
<td>200</td>
</tr>
</tbody>
</table>
[Turn over for Question 4 on Page ten
SECTION 2

You must answer ONE question from this Section.

Question 4 (Urban Change and its Management)

Study Reference Maps Q4A and Q4B.

(a) Describe and suggest reasons for the changing distribution of the world’s largest urban areas over the last 50 years. 6

(b) With reference to a named city which you have studied in an ELDC (Economically Less Developed Country):
   (i) describe the social, economic and environmental problems which have resulted from its rapid growth;
   (ii) describe some of the methods used to tackle these problems; and
   (iii) comment on the effectiveness of the methods used. 10

(c) The rural-urban fringe of many cities in EMDCs (Economically More Developed Countries) is frequently an area of land-use conflict.

Study Reference Map Q4C on Page twelve.

Referring to Edinburgh or any other named city which you have studied in an EMDC:
   (i) suggest why land-use conflicts may have arisen; and
   (ii) comment on the effectiveness of strategies such as the creation of Green Belts, in resolving these conflicts. 9

(25)
Reference Map Q4A (Ten largest urban areas in the world in 1957)

Key
- Divide between "The North" (EMDCs) and "The South" (ELDCs)
- Population in millions

1 LONDON (8.7)
2 PARIS (5.4)
(5.0)

Reference Map Q4B (Ten largest urban areas in the world in 2007)

(5.0) Population in millions
Reference Map Q4C (Pressures on Edinburgh’s Green Belt)
[Turn over for Question 5 on Page fourteen
Question 5 (European Regional Inequalities)

(a) Study Reference Table Q5A and Reference Map Q5A.

Describe and suggest reasons for the differences in levels of development between the countries shown.  

(b) Study Reference Map Q5B on Page sixteen and Reference Table Q5B.

To what extent does the data provide evidence of regional inequalities within Poland?  

(c) Many countries within the European Union (EU) have marked regional inequalities.

For a named country in the EU, select one less developed region and:

(i) describe and account for the social and economic problems faced by the region;

(ii) outline the efforts being made by both the national government and European Union agencies to tackle the problems, and comment on their effectiveness.

Reference Table Q5A (Selected EU country statistics)

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>Spain</th>
<th>Poland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (millions)</td>
<td>60</td>
<td>41</td>
<td>39</td>
</tr>
<tr>
<td>GDP ($US per capita)</td>
<td>26 920</td>
<td>21 460</td>
<td>10 560</td>
</tr>
<tr>
<td>Life expectancy</td>
<td>79</td>
<td>79</td>
<td>74</td>
</tr>
<tr>
<td>Health expenditure</td>
<td>2567</td>
<td>1607</td>
<td>629</td>
</tr>
<tr>
<td>Urban %</td>
<td>76</td>
<td>76</td>
<td>62</td>
</tr>
<tr>
<td>Date of EU membership</td>
<td>1957</td>
<td>1986</td>
<td>2004</td>
</tr>
</tbody>
</table>

Data: UN World Development Handbook
Reference Table Q5B (Polish Provinces—selected statistics)

<table>
<thead>
<tr>
<th>Province</th>
<th>GDP per capita (in 1000 zloty) 2002</th>
<th>Private vehicles % national total 2003</th>
<th>Electricity production % total 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Silesia</td>
<td>21·2</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Cuiavia &amp; Pomerania</td>
<td>18·6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Lublin</td>
<td>14·3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Lubusz</td>
<td>17·8</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Łódź</td>
<td>18·5</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>Lesser Poland</td>
<td>17·7</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Mazovia</td>
<td>31·1</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Opole</td>
<td>16·7</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Sub-Carpathia</td>
<td>14·6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Podlassia</td>
<td>15·7</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Pomerania</td>
<td>20·3</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Silesia</td>
<td>22·6</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Kielce</td>
<td>16·0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Varmia &amp; Masuria</td>
<td>15·2</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Greater Poland</td>
<td>21·0</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Western Pomerania</td>
<td>20·2</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

[Turn over to see map of Provinces]
Question 5 – continued

Reference Map Q5B (Poland: Provinces)

BALTIC SEA

Western Pomerania

Pomerania

Varmia & Masuria

Podlassia

Mazovia

Greater Poland

Lubusz

Lower Silesia

Opole

Silesia

Kielce

Sub-Carpathia

Lesser Poland

Łódź

Key

- Warsaw: Capital city

0 100 km

Warsaw
Question 6 (Development and Health)

(a) % Adult literacy is a social indicator of development. Identify one other social indicator of development and one economic indicator of development. For each indicator you have identified, explain how it might illustrate a country’s level of development.

(b) Study Reference Table Q6.

Reference Table Q6 (Adult literacy rates in selected Economically Less Developed Countries (ELDCs))

<table>
<thead>
<tr>
<th>Country</th>
<th>% Adult Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>35</td>
</tr>
<tr>
<td>Bolivia</td>
<td>85</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>22</td>
</tr>
<tr>
<td>Cuba</td>
<td>96</td>
</tr>
<tr>
<td>Kenya</td>
<td>81</td>
</tr>
<tr>
<td>Malaysia</td>
<td>87</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>91</td>
</tr>
</tbody>
</table>

The table shows that there are considerable differences in levels of development between Economically Less Developed Countries (ELDCs). Referring to these countries and/or to other ELDCs you have studied, suggest reasons why such differences exist between countries.

(c) Many ELDCs have marked differences in levels of development within their borders. For a named ELDC, explain the differences found within the country.

(d) Study Reference Map Q6 which shows the main areas of the world at risk from cholera.

Referring to cholera or malaria or bilharzia/schistosomiasis:

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

(ii) describe and explain the strategies used in controlling the spread of the disease; and

(iii) explain the benefits to ELDCs of controlling the disease.
Question 6 – continued

Reference Map Q6 (Countries with a recent cholera outbreak)

[END OF QUESTION PAPER]