GCSE GEOGRAPHY

Paper 1  Living with the physical environment

Specimen

Time allowed: 1 hour 30 minutes

Materials
For this paper you must have:
• a pencil
• a ruler.

Instructions
• Use black ink or black ball-point pen.
• Fill in the boxes at the bottom of this page.
• Answer all questions in Section A and Section B.
• Answer two questions in Section C.
• You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
• Do all rough work in this book. Cross through any work you do not want to be marked.

Information
• The marks for questions are shown in brackets.
• The total number of marks available for this paper is 88.
• Spelling, punctuation, grammar and specialist terminology will be assessed in Question 01.8.

Advice
For the multiple-choice questions, completely fill in the circle alongside the appropriate answer(s).

Please write clearly, in block capitals, to allow character computer recognition.

Centre number  Candidate number  
Surname  
Forename(s)  
Candidate signature  

CORRECT METHOD  WRONG METHODS
Section A  The challenge of natural hazards

Answer all questions in this section.

Question 1  The challenge of natural hazards

Study Figure 1, a map showing the distribution of major earthquakes in part of south east Asia.

Figure 1
Describe the distribution of major earthquakes shown in Figure 1. [2 marks]

Outline one reason for the distribution of earthquakes in Figure 1. [2 marks]

Question 1 continues on the next page
Study Figure 2, information about an earthquake in China in 2008.

Figure 2

One of the most powerful earthquakes ever experienced in China has hit the province of Sichuan. The earthquake has destroyed large areas of towns and cities. Roads and railways have been damaged. Water and electricity supplies have been affected in many cities. The earthquake has caused a number of landslides. Shaking was felt 1500 km away in the capital city of Beijing, where several buildings were evacuated because of fear of collapse.

Damage in Beichuan City

- Thousands of buildings destroyed
- Most roads blocked
- Over half of the town’s population killed or injured
- Many people homeless
- Over 1000 students and teachers killed as a seven-storey school collapsed
- Water and food shortages
- Sanitation systems destroyed

- Most buildings destroyed
- Nearly 10,000 injured
- Landslides have blocked rivers, causing floods
- Two chemical factories collapsed releasing harmful gases
- Hundreds of buildings collapsed

- Thousands of people killed
- Over 10,000 homeless
Using Figure 2, which two of the following natural hazards were caused by the earthquake in China?

Shade two circles only.

A Wildfires  
B Landslides  
C Volcanoes  
D Tsunamis  
E Floods  

[2 marks]

Using Figure 2 and your own knowledge, suggest why the effects of a tectonic hazard vary between areas of contrasting levels of wealth.  

[6 marks]
Study **Figure 3**, a diagram showing the process of global warming, a cause of climatic change.

**Figure 3**

Identify **two** sources of greenhouse gases suggested by **Figure 3**.

[2 marks]

1:  

2:  

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Version 1.1
Study Figure 4, a diagram describing some of the effects of climatic change.

Figure 4

- **G** Forests in Canada are damaged by heat
- **A** Arctic ice melts; polar bears disappear
- **B** Ski resorts in Switzerland close through lack of snow
- **C** One third of Bangladesh is submerged
- **D** Maldives islands disappear
- **E** Increasing water shortages in Saudi Arabia

**01.6** Use Figure 4 to give two countries which might be affected by climatic change under each of the headings in the table below.

Complete the table by using the letters from the labels in Figure 4.

[3 marks]

<table>
<thead>
<tr>
<th>Increase in temperature</th>
<th>Decrease in rainfall</th>
<th>Rise in sea level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Question 1 continues on the next page
Outline one strategy which aims to reduce the rate of climate change (mitigation). [4 marks]
Assess the extent to which prediction is the most important factor in reducing the effects of tropical storms.

[9 marks]
[+ 3 SPaG marks]

End of Section A

Turn over for Section B
Question 2 The living world

Study Figure 5, a world map showing the distribution of tropical rainforest.

Figure 5
In which **two** of the following continents are tropical rainforests found?

Shade **two** circles only.

A  North America
B  South America
C  Asia
D  Antarctica
E  Europe

[2 marks]

Question 2 continues on the next page
Study **Figure 6**, an example of a tropical rainforest climate.

**Figure 6**

<table>
<thead>
<tr>
<th>Month</th>
<th>Temperature (° C)</th>
<th>Rainfall (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>28</td>
<td>282</td>
</tr>
<tr>
<td>February</td>
<td>28</td>
<td>280</td>
</tr>
<tr>
<td>March</td>
<td>28</td>
<td>300</td>
</tr>
<tr>
<td>April</td>
<td>27</td>
<td>285</td>
</tr>
<tr>
<td>May</td>
<td>28</td>
<td>195</td>
</tr>
<tr>
<td>June</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>July</td>
<td>28</td>
<td>73</td>
</tr>
<tr>
<td>August</td>
<td>29</td>
<td>65</td>
</tr>
<tr>
<td>September</td>
<td>29</td>
<td>72</td>
</tr>
<tr>
<td>October</td>
<td>29</td>
<td>114</td>
</tr>
<tr>
<td>November</td>
<td>28</td>
<td>167</td>
</tr>
<tr>
<td>December</td>
<td>28</td>
<td>228</td>
</tr>
</tbody>
</table>

What is the annual temperature range shown in **Figure 6**?

Shade **one** circle only.

A 28 ° C

B 17 ° C

C 9 ° C

D 2 ° C

[1 mark]
What is the total annual rainfall shown in Figure 6?

Shade one circle only.

A 3875 mm
B 2161 mm
C 1521 mm
D 742 mm

[1 mark]

Which one of the following describes the length of the growing season in a tropical rainforest climate?

Shade one circle only.

A 12 months
B 9 months
C 7 months
D 1 month

[1 mark]

Question 2 continues on the next page
Study Figure 7, a diagram showing the different plant layers in a tropical rainforest.

Complete the diagram above.
Write the correct label in each box.
Choose from the labels below.

<table>
<thead>
<tr>
<th>Canopy</th>
<th>Emergents</th>
<th>Forest floor</th>
<th>Under canopy</th>
</tr>
</thead>
</table>

[2 marks]
Study Figure 8, pie charts showing deforestation in Borneo, a country in south east Asia between 1980 and 2020 (estimate).

**Figure 8**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rainforest</th>
<th>Deforested area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>2000</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>2020</td>
<td>65%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Key:  
- Dark grey: Rainforest
- Light grey: Deforested area

Complete the pie chart for 2020 (estimate).

Use the following information:

- Rainforest = 35%
- Deforested area = 65%

[1 mark]

Suggest two reasons why the rate of deforestation varies between different countries.

[2 marks]

Reason 1:

Reason 2:

Question 2 continues on the next page
Study Figure 9, a diagram showing the nutrient cycle.

Explain why the diagram shown in Figure 9 is an example of nature’s recycling system.

[6 marks]
Choose one of the following environments: an area on the fringe of a hot desert or a cold environment.

For your chosen environment, assess the importance of management strategies used to reduce the risk of environmental damage.

Chosen environment:

[9 marks]
Section C  Physical landscapes in the UK

Answer two questions from the following:

Question 3 (Coasts), Question 4 (Rivers), Question 5 (Glacial).

Shade the circle below to indicate which two optional questions you will answer.

Question 3 ◐ Question 4 ◐ Question 5

CORRECT METHOD ◐ WRONG METHODS ◐ ◐ ◐ ◐

Question 3  Coastal landscapes in the UK

The following paragraph describes how coastal processes are linked.

Complete the paragraph. Choose the correct words from the list below.

deposition  transported  weathering  [2 marks]

Erosion and ................................ break down rocks in coastal areas.

Sediment is ................................ by the action of waves and tides. Once the waves and tides have lost energy ................................ takes place.
Study Figure 10, a diagram showing features of coastal erosion.

Complete the diagram by using the following terms:

- Arch
- Cave
- Stack
- Wave-cut platform

[3 marks]

Figure 10

Question 3 continues on the next page
Study **Figure 11**, a photograph showing storm damage in a coastal area.

**Figure 11**

Suggest why the coastal area shown in **Figure 11** needs to be protected from the effects of physical processes.  

[4 marks]
Study Figure 12, a photograph showing soft engineering.

With the help of Figure 12, explain how soft engineering is used to protect coastlines from the effects of physical processes.

[6 marks]
Question 4   River landscapes in the UK

Study Figure 13, a diagram showing features of a lowland river valley.

Complete the diagram using the following terms:

Meander   Estuary   Flood plain   Ox-bow lake

[3 marks]
The following paragraph describes how sediment is transported by a river.

Complete the paragraph. Choose the correct words from the list below.

saltation  suspension  traction

[2 marks]

Sediment is moved downstream by rivers in a number of ways. Small sediments are carried in …………………………………. while larger pebbles are moved along the river bed in small ‘hops’. This movement is called………………………………… .

Larger material is pushed along the river bed by …………………………………….. .

Question 4 continues on the next page
Study Figure 14, a photograph showing urban flooding.

With the help of Figure 14, explain how physical and human factors can increase the risk of river flooding.

[6 marks]
Study **Figure 15**, a diagram of a flood management scheme.

**Figure 15**

- Widen river channel next to the car park and create riverside walkway
- Move car park upstream, away from the river
- Raise car park areas
- Remove trees
- Form wide channel upstream
- Change position of existing channel
- Riverside walkway
- Trees and debris caught here

Suggest how the flood management scheme shown in **Figure 15** helps reduce the risk of flooding.

[4 marks]
Question 5  Glacial landscapes in the UK

The following paragraph describes how glacial processes shape the landscape in upland areas.

Complete the paragraph. Choose the correct words from the list below.

[2 marks]

In upland areas, the effects of freeze-thaw ........................................ can be significant. As ice moves over the land it can rip material out of the ground. This type of erosion is called ....................................... . Moving glaciers often carry fragments of rock which smooth the bedrock by a process of ................................. .
Study Figure 16, a diagram showing the features produced by glaciation.

Complete the diagram by using the following terms:

<table>
<thead>
<tr>
<th>Corrie</th>
<th>Drumlín</th>
<th>Hanging valley</th>
<th>Pyramidal peak</th>
</tr>
</thead>
</table>

[3 marks]
Study Figure 17, a photograph showing a glaciated upland area.

With the help of Figure 17, explain how glaciated landscapes provide opportunities for economic activities.

[6 marks]
Study Figure 18, a photograph of a glaciated upland area.

Suggest why land use conflicts might occur in the glaciated upland area shown in Figure 18.

[4 marks]

END OF QUESTIONS
There are no questions printed on this page