Instructions
• Use black ink or ball-point pen.
• Fill in the boxes at the top of this page with your name, centre number and candidate number.
• In Section A answer all questions.
• In Section B answer either question 4 or 5.
• Answer the questions in the spaces provided – there may be more space than you need.

Information
• The total mark for this paper is 69.
• The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.
• Questions labelled with an asterisk (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.
• The marks available for spelling, punctuation and grammar are clearly indicated.

Advice
• Read each question carefully before you start to answer it.
• Check your answers if you have time at the end.
SECTION A – THE PHYSICAL WORLD

Answer ALL questions in this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Topic 1: Coastal Landscapes

1 (a) Study Figure 1a.

Figure 1a

Two sections of coastline (X and Y) in Cornwall
(a) (i) Complete the following sentences about Figure 1a.

Use some of the words and letters below.

<table>
<thead>
<tr>
<th>geology</th>
<th>Y</th>
<th>south west</th>
<th>headland</th>
<th>bay</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>north east</td>
<td>plants</td>
<td>north west</td>
<td>estuary</td>
</tr>
</tbody>
</table>

Coastline Y faces south-east whereas coastline X faces

the ..................................................................

Coastline ........................................................... has a straighter shape.

Dodman Point is an example of a .............................................................

The shape of both coastlines has been strongly influenced

by ..................................................................

(ii) Landform Z is a

☐ A spit
☐ B arch
☐ C beach
☐ D stack

(b) (i) Which one of the following is a type of mass movement linked to cliff collapse?

☐ A abrasion
☐ B flooding
☐ C attrition
☐ D slumping

(ii) Which one of the following is an example of physical weathering?

☐ A The breakdown of the cliff due to wind action.
☐ B The breakdown of the cliff due to wave action.
☐ C The breakdown of the cliff due to freezing and thawing of water.
☐ D The breakdown of material due to constructive waves.
(c) Describe the management techniques used to protect a named area of coastline.

Named area of coastline ................................................................. (4)
(d) Study Figure 1b.

<table>
<thead>
<tr>
<th>Location</th>
<th>Average erosion rate (m/year)</th>
<th>Geology</th>
<th>Type of coastal defences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seaford (Sussex)</td>
<td>0.14</td>
<td>Chalk</td>
<td>Rip rap and beach replenishment</td>
</tr>
<tr>
<td>Trimingham (Norfolk)</td>
<td>1.5</td>
<td>Boulder clay</td>
<td>Wooden revetments, groynes and concrete sea wall</td>
</tr>
</tbody>
</table>

**Figure 1b**

**Information about two coastal locations in England**

Using information from Figure 1b and your own knowledge, outline **two** ways geology affects erosion rate.

1

2

(Total for Question 1 = 15 marks)
Topic 2: River Landscapes

2 (a) Study Figure 2.

Figure 2
Ordnance Survey (OS) map extract of River Eden flowing through Cumbria
(a) (i) Complete the following sentences about Figure 2.
Use some of the words below.

- meander
- mouth
- floodplain
- confluence
- source
- oxbow lake
- watershed
- flooding
- drought
- waterfall

In grid square 4357 there is a ...................................................... in the River Eden.

Much of the area around the river is a flat ...................................................... .

There is a ...................................................... where a tributary joins the River Eden in grid square 4156.

The site of Carlisle means that it is at risk from ...................................................... .

(ii) The meander in grid square 4256 could develop into

☐ A  an oxbow lake
☐ B  a waterfall
☐ C  a plunge pool
☐ D  a levee

(b) (i) Which one of the following is a soft engineering technique?

☐ A  channelisation
☐ B  flood relief channels
☐ C  dam
☐ D  flood plain zoning

(ii) Define the term **washlands**.
(c) Draw an annotated diagram(s) to explain the formation of a levee.

(4)
(d) Using examples, describe the effects of river flooding on people.

(Total for Question 2 = 15 marks)
Topic 3: Tectonic Landscapes

3 (a) (i) Which one of the following best describes the earthquake focus?

☐ A The point under the surface where the crust breaks.
☐ B The damage caused by the shaking.
☐ C The point on the surface with the most damage.
☐ D The build-up of tension in the earth's crust.

(ii) Which one of the following is an environmental impact of tectonic activity?

☐ A buildings collapse
☐ B loss of transport links
☐ C fires damage woodlands
☐ D government debt
(b) Study Figure 3a.

Figure 3a

A cartoon about the Haiti earthquake in 2010

Complete the following sentences about Figure 3a.

Use some of the words below.

rebuilt  cleared  time  rich  modern
developed  collapsed  poor  money  survived

Figure 3a shows that before the earthquake, Haiti was

a ...................................................... country.

The earthquake caused deaths and many

buildings .............................................. .

After the earthquake, homes were .............................................. using

similar construction materials.

People continue to live in places like Haiti because they don’t have

enough ...................................................... to move to a safer area.
(c) Study Figure 3b.

Figure 3b

A volcano on a convergent (destructive) plate boundary

(i) Which one of the following types of volcano is found on a convergent (destructive) plate boundary?

- [ ] A hotspot
- [ ] B composite
- [ ] C shield
- [ ] D fissure
(ii) Outline **two** other characteristic physical features found on a convergent (destructive) plate boundary.

1

2

(d) Outline the effects of **either** a named volcanic eruption **or** an earthquake.

**Named volcanic eruption or earthquake**

(Total for Question 3 = 15 marks)

Total for Section A = 45 marks
SECTION B – ENVIRONMENTAL ISSUES

Answer EITHER Question 4 OR Question 5.

Topic 4: A Wasteful World

Spelling, punctuation and grammar will be assessed in 4*(e).

If you answer Question 4 put a cross in this box ☐.

4  (a) Study Figure 4a.

![Figure 4a: The EU energy mix in 1990 and 2013](Source: http://www.carbonbrief.org/seven-charts-showing-how-the-eus-energy-use-is-being-transformed)

(i) Which one of the following energy types decreased between 1990 and 2013?

- A gas
- B renewables
- C nuclear
- D oil

(1)

(ii) Which one of the following describes the change in use of coal from 1990 to 2013?

- A increased by 9.9%
- B decreased by 10.1%
- C increased by 10.5%
- D decreased by 11.0%

(1)
(iii) Suggest one reason for the change in use of coal shown in Figure 4a.

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(b) Explain two ways a country’s energy consumption is affected by income and wealth.

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Turn over
(c) Study Figure 4b.

![Figure 4b: Examples of domestic waste in a High Income Country (HIC)](Source: © Meriel Jane Waissman/Getty Images)

**Figure 4b**

Examples of domestic waste in a High Income Country (HIC)

(i) A refrigerator could be classified as

- [ ] A renewable waste
- [ ] B food waste
- [ ] C garden waste
- [ ] D electrical waste

(ii) Describe one benefit of recycling the waste shown in Figure 4b.

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(d) Describe the methods used to recycle waste on a local scale.

Use examples in your answer. (4)
*(e) Explain the reasons for the different attitudes towards the exploitation of a named non-renewable energy source. (6)

Named non-renewable energy source .................................................................

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(Total for spelling, punctuation and grammar = 4 marks)
(Total for Question 4 = 24 marks)
5 (a) Study Figure 5a.

![Figure 5a](image)

**Figure 5a**

*Water consumption in selected countries by sector, 2011*

(i) Which country used the largest percentage of water consumption in agriculture?

- [ ] A USA
- [ ] B UK
- [ ] C India
- [ ] D China

(ii) Which one of the following statements best describes the water consumption shown in Figure 5a?

- [ ] A The USA had a smaller percentage of domestic consumption than India.
- [ ] B China had a smaller percentage of industrial consumption than the USA.
- [ ] C India had a larger percentage of domestic consumption than the UK.
- [ ] D The UK had a smaller percentage of industrial consumption than China.
(iii) Suggest one reason for the differences in water consumption by agriculture.

(b) Explain two ways in which water supply in High Income Countries (HICs) is affected by rainfall.
(c) Study Figure 5b.

Method X

Method Y

(Source: thewaterproject.org/images/hand_dug.jpg)

Figure 5b

Two appropriate technologies to manage water in Low Income Countries (LICs)

(i) Which one of the following is Method X? (1)

☐ A gravity-fed scheme
☐ B water filter
☐ C hand dug well
☐ D water recycling

(ii) Describe one reason why a water pump (Method Y) is an appropriate technology to manage water in LICs. (1)
(d) Describe how water use is managed by industry in HICs.

Use examples in your answer.

(4)
*(e) Explain reasons for the different views about the value of a named water-management scheme.

Named water-management scheme

(Total for spelling, punctuation and grammar = 4 marks)
(Total for Question 5 = 24 marks)

TOTAL FOR SECTION B = 24 MARKS
TOTAL FOR PAPER = 69 MARKS

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