

**Paper Reference 4GE1/01R**  
**Pearson Edexcel**  
**International GCSE (9–1)**

Total Marks

**Geography**  
**Paper 1: Physical Geography**

**Tuesday 21 May 2019 – Afternoon**

**Time: 1 hour 10 minutes plus your  
additional time allowance.**

**In the boxes below, write your name,  
centre number and candidate number.**

<b>Surname</b>					
<b>Other names</b>					
<b>Centre Number</b>					
<b>Candidate Number</b>					

**Y59901A**

**YOU MUST HAVE**

**Calculator**

**YOU WILL BE GIVEN**

**Diagram Book**

**Resource Book**

**Turn over**

## **INSTRUCTIONS**

**In Section A, answer TWO questions from Questions 1, 2 AND 3**

**In Section B, answer ONE question from Questions 4, 5 AND 6**

**Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.**

**Calculators may be used.**

**Where asked you must show all your working out with your answer clearly identified at the end of your solution.**

**Turn over**

## **INFORMATION**

**The total mark for this paper is 70**

**The marks for EACH question are shown in brackets – use this as a guide as to how much time to spend on each question.**

**There may be spare copies of some diagrams.**

## **ADVICE**

**Read each question carefully before you start to answer it.**

**Check your answers if you have time at the end.**

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**Turn over**

## **SECTION A**

**Answer TWO questions from this section.**

**Some questions are multiple choice. Write the letter(s) of your chosen answer(s) in the box(es) provided.**

**Indicate which question you are answering by marking a cross in the box. If you change your mind, put a line through the box and then indicate your new question with a cross.**

**Turn over**

**6**

**If you answer Question 1 put  
a cross in this box**

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**Turn over**

# 1. River Environments.

(a) Identify the statement below that best describes the channel shape in the upper course of a river.

- A** narrow river channel with shallow sides
- B** narrow river channel with steep sides
- C** wider river channel with shallow sides
- D** widest river channel with very shallow sides

Answer

(1 mark)

(continued on the next page)

Turn over

**1. continued.**

**(b) (i) Identify ONE process of river transportation.**

**A suspension**

**B abrasion**

**C attrition**

**D deposition**

**Answer**

**(1 mark)**

**(continued on the next page)**

**Turn over**

1. (b) continued.

(ii) State ONE store in the  
hydrological cycle.

(1 mark)

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(continued on the next page)

Turn over

1. (b) continued.

(iii) Explain ONE method of water transfer in the hydrological cycle.

(2 marks)

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(continued on the next page)

Turn over

**1. continued.**

**(c) Study Figure 1a in the  
Resource Book.**

**Suggest TWO ways in which  
water quality can be affected by  
people.**

**(4 marks)**

**Answer lines continue on the  
next page.**

**1**

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**Turn over**

1. (c) continued.

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(continued on the next page)

1. continued.

(d) Explain ONE way precipitation  
can affect a river regime.

(3 marks)

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(continued on the next page)

Turn over

**1. continued.**

**(e) Study Figure 1b in the  
Resource Book.**

**Identify the river landform at X  
(1 mark)**

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**(continued on the next page)**

**Turn over**

**1. continued.**

**(f) Explain the formation of an  
oxbow lake.**

**(4 marks)**

**Answer lines continue on the  
next page.**

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**Turn over**

1. (f) continued.

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(continued on the next page)

Turn over

**1. continued.**

**(g) Study Figure 1c and Figure 1d in the Resource Book.**

**Analyse the reasons why areas differ in their risk of river flooding.**

**(8 marks)**

**Answer lines continue on the next three pages.**

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**Turn over**

**1. (g) continued.**

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**Turn over**

**1. (g) continued.**

[illegible]

**Turn over**

**1. (g) continued.**

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**(Total for Question 1 = 25 marks)**

**Turn over**

**21**

**If you answer Question 2 put  
a cross in this box**

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**Turn over**

## 2. Coastal Environments.

(a) Identify the statement below that best describes the characteristics of a constructive wave.

- A** long wavelength and weak backwash
- B** short wavelength and strong backwash
- C** long wavelength and strong backwash
- D** short wavelength and weak backwash

Answer

(1 mark)

(continued on the next page)

Turn over

**2. continued.**

**(b) (i) Identify ONE depositional landform.**

**A headland**

**B spit**

**C cave**

**D stack**

**Answer**

**(1 mark)**

**(continued on the next page)**

**Turn over**

**2. (b) continued.**

**(ii) State ONE type of weathering  
that affects coastal  
landscapes.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**2. (b) continued.**

**(iii) Explain the process of  
longshore drift.**

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**2. continued.**

**(c) Study Figure 2a in the  
Resource Book.**

**Suggest TWO ways geology  
influences the shape of this  
coastline.**

**(4 marks)**

**Answer lines continue on the  
next page.**

**1**

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**Turn over**

**2. (c) continued.**

**2** \_\_\_\_\_

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**(continued on the next page)**

**Turn over**

**2. continued.**

**(d) Explain ONE physical factor that influences the distribution of coral reef ecosystems.**

**(3 marks)**

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**Turn over**

**2. continued.**

**(e) Study Figure 2b in the  
Resource Book.**

**Identify the coastal landform X  
(1 mark)**

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**(continued on the next page)**

**Turn over**

**2. continued.**

**(f) Explain the formation of a cliff.**

**(4 marks)**

**Answer lines continue on the  
next page.**

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**Turn over**

**2. (f) continued.**

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**(continued on the next page)**

**Turn over**

**2. continued.**

**(g) Study Figure 2c and Figure 2d in the Resource Book.**

**Analyse the reasons for the choice of the different hard engineering strategies shown.**

**(8 marks)**

**Answer lines continue on the next three pages.**

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**Turn over**

**2. (g) continued.**

[illegible]

**Turn over**

**2. (g) continued.**

[illegible]

**Turn over**

**2. (g) continued.**

[illegible]

**(Total for Question 2 = 25 marks)**

**Turn over**

**36**

**If you answer Question 3 put  
a cross in this box**

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**Turn over**

### 3. Hazardous Environments.

(a) Identify the statement below that best describes a destructive (convergent) plate margin.

- A** the plates pull apart and magma rises
- B** the plates push together and both plates are destroyed
- C** the plates pull apart and volcanoes erupt
- D** the plates push together and one plate is destroyed

Answer

(1 mark)

(continued on the next page)

Turn over

**3. continued.**

**(b) (i) Identify ONE measurement of a volcanic hazard.**

**A Volcanic Mercalli Scale**

**B Volcanic Saffir–Simpson Scale**

**C Volcanic Explosivity Index**

**D Volcanic Eruption Source**

**Answer**

**(1 mark)**

**(continued on the next page)**

**Turn over**

**3. (b) continued.**

**(ii) State ONE human factor  
that affects the impact of a  
tectonic hazard.**

**(1 mark)**

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**Turn over**

**3. (b) continued.**

**(iii) Explain ONE physical impact  
of a volcanic eruption.**

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**3. continued.**

**(c) Study Figure 3a in the  
Resource Book.**

**Suggest TWO factors that  
influence the distribution of a  
tropical cyclone.**

**(4 marks)**

**Answer lines continue on the  
next page.**

**1**

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**Turn over**

3. (c) continued.

2

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(continued on the next page)

Turn over

**3. continued.**

**(d) Explain ONE way a hotspot can lead to a tectonic hazard.**

**(3 marks)**

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**(continued on the next page)**

**Turn over**

**3. continued.**

**(e) Study Figure 3b in the  
Resource Book.**

**Identify the building design  
characteristic in Box **X** that  
makes this building more  
resistant to collapse.**

**(1 mark)**

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**Turn over**

**3. continued.**

**(f) Explain why people live in areas at risk from hazardous events.**

**(4 marks)**

**Answer lines continue on the next page.**

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**Turn over**

**3. (f) continued.**

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**(continued on the next page)**

**Turn over**

**3. continued.**

**(g) Study Figure 3c and Figure 3d in the Resource Book.**

**Analyse the use of GIS in managing earthquake risk.**

**(8 marks)**

**Answer lines continue on the next three pages.**

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**Turn over**

**3. (g) continued.**

[illegible]

**Turn over**

**3. (g) continued.**

[illegible]

**Turn over**

**3. (g) continued.**

[illegible]

**(Total for Question 3 = 25 marks)**

**TOTAL FOR SECTION A = 50 MARKS**

**Turn over**

## **Section B**

### **Geographical Enquiry**

**Answer ONE question from this section.**

**If you answer Question 4 put  
a cross in this box**

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**Turn over**

#### **4. Investigating River Environments.**

**A group of students have undertaken a study exploring changes in a river channel.**

- (a) (i) Identify ONE risk that the students may identify when undertaking a risk assessment for this investigation.**
- (1 mark)**
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**(continued on the next page)**

**Turn over**

4. (a) continued.

(ii) State ONE way that this risk  
could be managed.

(1 mark)

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Turn over

**4. (a) continued.**

**Study Figure 4a in the Resource Book. It shows some sample data from one site on a river. A cork float was used to measure the time taken to travel between two points.**

**(continued on the next page)**

**Turn over**

4. (a) continued.

(iii) Calculate the mean time  
taken for the cork float to  
travel from site **A** to site **B**

Give your answer to  
one decimal place.

You must show all your  
workings in the space below  
and on the next page.

(2 marks)

Turn over

4. (a) (iii) continued.

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Turn over

**4. (a) continued.**

**(iv) Study Figure 4b in the  
Diagram Book.**

**Complete Figure 4b for  
samples 1 and 4 using data  
in Figure 4a (in the  
Resource Book).**

**(2 marks)**

**(continued on the next page)**

**Turn over**

4. (a) continued.

(v) Sample 5 shows an  
anomalous result.

**Suggest ONE possible  
explanation for this.**

**(2 marks)**

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**Turn over**

**4. continued.**

**(b) To extend the river study,  
students were asked to use  
one additional quantitative and  
one qualitative technique.**

**Describe the TWO additional  
fieldwork techniques the  
students may have selected.**

**(4 marks)**

**Answer lines continue on the  
next page.**

**Quantitative**

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**Turn over**

4. (b) continued.

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**Qualitative**

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(continued on the next page)

**Turn over**

**4. continued.**

**You have studied river processes as part of your own geographical enquiry.**

**(c) Evaluate the effectiveness of the data collection methods in relation to the purpose of the study.**

**(8 marks)**

**Answer lines continue on the next four pages.**

**Enquiry question**

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**Turn over**

4. (c) continued.

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Turn over

4. (c) continued.

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Turn over

4. (c) continued.

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Turn over

4. (c) continued.

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**(Total for Question 4 = 20 marks)**

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**Turn over**

**66**

**If you answer Question 5 put  
a cross in this box**

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**Turn over**

## **5. Investigating Coastal Environments.**

**A group of students have investigated processes and landforms along a stretch of coastline.**

- (a) (i) Identify ONE risk that the students may identify when undertaking a risk assessment for this investigation.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**5. (a) continued.**

**(ii) State ONE way that this risk  
could be managed.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**5. (a) continued.**

**Study Figure 5a in the Resource Book. It shows some sample data about shingle size along a stretch of coastline.**

**(iii) Calculate the mean shingle size across the five sites.**

**Give your answer to one decimal place.**

**You must show all your workings in the space on the next page.**

**(2 marks)**

**Turn over**

5. (a) (iii) continued.

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(continued on the next page)

Turn over

**5. (a) continued.**

**(iv) Study Figure 5b in the  
Diagram Book.**

**Complete Figure 5b for  
sites 1 and 4 using data in  
Figure 5a (in the  
Resource Book).**

**(2 marks)**

**(continued on the next page)**

**Turn over**

**5. (a) continued.**

**(v) Site 5 shows an anomalous result.**

**Suggest ONE possible explanation for this.**

**(2 marks)**

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**Turn over**

**5. continued.**

**(b) To extend the coastal study, students were asked to use one additional quantitative and one qualitative technique.**

**Describe the TWO additional fieldwork techniques the students may have selected.**

**(4 marks)**

**Answer lines continue on the next page.**

**Quantitative**

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**Turn over**

5. (b) continued.

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**Qualitative**

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**Turn over**

**5. continued.**

**You have studied a coastal environment as part of your own geographical enquiry.**

**(c) Evaluate the effectiveness of the data collection methods in responding to the purpose of the study.**

**(8 marks)**

**Answer lines continue on the next four pages.**

**Enquiry question**

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**Turn over**

**5. (c) continued.**

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**Turn over**

**5. (c) continued.**

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**Turn over**

5. (c) continued.

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Turn over

**5. (c) continued.**

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**(Total for Question 5 = 20 marks)**

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**Turn over**

**80**

**If you answer Question 6 put  
a cross in this box**

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**Turn over**

## **6. Investigating Hazardous Environments.**

**A group of students have investigated the physical processes involved in an extreme weather event, by recording a weather diary.**

- (a) (i) Identify ONE risk that the students may identify when undertaking a risk assessment for this investigation.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**6. (a) continued.**

**(ii) State ONE way that this risk  
could be managed.**

**(1 mark)**

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**(continued on the next page)**

**Turn over**

**6. (a) continued.**

**Study Figure 6a in the Resource Book.  
It shows some sample data about wind  
speed recordings during a tropical  
storm.**

**(iii) Calculate the mean wind  
speed across the  
five samples.**

**Give your answer to  
one decimal place.**

**You must show all your  
workings in the space on the  
next page.**

**(2 marks)**

**Turn over**

6. (a) (iii) continued.

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(continued on the next page)

Turn over

**6. (a) continued.**

**(iv) Study Figure 6b in the  
Diagram Book.**

**Complete Figure 6b for  
sites 1 and 4 using the data  
in Figure 6a (in the  
Resource Book).**

**(2 marks)**

**(continued on the next page)**

**Turn over**

6. (a) continued.

(v) Sample 5 shows an  
anomalous result.

**Suggest ONE possible  
explanation for this.**

**(2 marks)**

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**(continued on the next page)**

**Turn over**

**6. continued.**

**(b) To extend the hazardous environment study, students were asked to use one additional quantitative and one qualitative technique.**

**Describe the TWO additional fieldwork techniques the students may have selected.**

**(4 marks)**

**Answer lines continue on the next page.**

**Quantitative**

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**Turn over**

6. (b) continued.

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**Qualitative**

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**(continued on the next page)**

**Turn over**

**6. continued.**

**You have studied a hazardous environment as part of your own geographical enquiry.**

**(c) Evaluate the effectiveness of the data collection methods in responding to the purpose of the study.**

**(8 marks)**

**Answer lines continue on the next four pages.**

**Enquiry question**

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**Turn over**

**6. (c) continued.**

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**Turn over**

**6. (c) continued.**

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**Turn over**

**6. (c) continued.**

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**Turn over**

6. (c) continued.

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(Total for Question 6 = 20 marks)

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**TOTAL FOR SECTION B = 20 MARKS**

**TOTAL FOR PAPER = 70 MARKS**

**END OF PAPER**

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