

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

Total Marks

Geography
PAPER 1: Physical geography

Tuesday 14 November 2023 – Morning

Time: 1 hour 10 minutes

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

Surname					
Other names					
Centre Number					
Candidate Number					

Y74638A

YOU MUST HAVE
Calculator

YOU WILL BE GIVEN
Resource Booklet

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 – there may be more space than you need.

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.

Calculators may be used.

ADVICE

Read each question carefully before you start to answer it.

Check your answers if you have time at the end.

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.

If you answer Question 1, put a cross in this box.

☐

Turn over

1. River environments

(a) Identify ONE type of data shown on a flood hydrograph.

A cloud cover

B discharge

C temperature

D wind strength

Answer

(1 mark)

(continued on the next page)

Turn over

1. continued.

(b) (i) Identify the best definition of water abstraction.

**A Holding back water
behind a wall**

**B Improving water quality
to make it acceptable for
use**

**C The storage of rainwater
for reuse**

**D The removal of water
from surface or
underground stores**

Answer

(1 mark)

(continued on the next page)

Turn over

1. (b) continued.

(ii) State ONE reason why the hydrological cycle is a closed system.

(1 mark)

(continued on the next page)

Turn over

1. (b) continued.

(iii) Explain ONE reason river
depth changes along the
long profile.

(2 marks)

(continued on the next page)

Turn over

1. continued.

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

**Suggest TWO reasons for
differences in water usage
between developed and
developing/emerging countries.
(4 marks)**

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

1

Turn over

1. (c) continued.

2

(continued on the next page)

Turn over

1. continued.

**(d) Study Figure 1b in the
Resource Booklet.**

**Identify the drainage basin
feature labelled **X** on Figure 1b.
(1 mark)**

(continued on the next page)

Turn over

1. continued.

(e) Explain TWO physical factors
that affect river discharge.

(4 marks)

Answer lines continue on the
next page.

1

Turn over

1. (e) continued.

2

(continued on the next page)

Turn over

1. continued.

(f) Explain ONE way to predict
river flooding.

(3 marks)

(continued on the next page)

Turn over

1. continued.

**(g) Study Figure 1c in the
Resource Booklet.**

**Analyse the different impacts of
managing water supply.**

**Refer to the resource in your
answer.**

(8 marks)

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

Turn over

1. (g) continued.

Turn over

1. (g) continued.

Turn over

1. (g) continued.

Turn over

1. (g) continued.

(Total for Question 1 = 25 marks)

21

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

☐

Turn over

2. Coastal environments

(a) Identify the best definition of swash.

- A** Distance between two wave crests
- B** Friction between wind and water surface
- C** Movement of water down the beach
- D** Movement of water up the beach

Answer

(1 mark)

(continued on the next page)

Turn over

2. continued.

(b) (i) Identify the best definition of mass movement.

- A The breakdown and decay of rocks by natural forces**
- B The dropping of material being carried by waves**
- C The movement of material along the shore by waves**
- D The movement of material down a slope due to gravity**

Answer

(1 mark)

(continued on the next page)

Turn over

2. (b) continued.

**(ii) Name ONE landform created
by coastal erosion.**

(1 mark)

(continued on the next page)

Turn over

2. (b) continued.

(iii) Explain ONE influence

**geology can have on rates of
coastal erosion.**

(2 marks)

(continued on the next page)

Turn over

2. continued.

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

**Explain ONE advantage
and ONE disadvantage of
managed retreat as a form of
coastal management.**

(4 marks)

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

Advantage

Turn over

2. (c) continued.

Disadvantage

(continued on the next page)

Turn over

2. continued.

**(d) Explain ONE way education
can reduce the impact of
coastal flooding.**

(3 marks)

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

Turn over

2. (d) continued.

(continued on the next page)

Turn over

2. continued.

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

**Identify the coastal ecosystem
shown in Figure 2b.**

(1 mark)

(continued on the next page)

Turn over

2. continued.

(f) Explain TWO reasons why coral reef ecosystems are under threat.

(4 marks)

Answer lines continue on the next page.

1

Turn over

2. (f) continued.

2

(continued on the next page)

Turn over

2. continued.

**(g) Study Figure 2c in the
Resource Booklet.**

**Analyse the impact of
human activity on mangrove
ecosystems.**

**Refer to the resource in your
answer.**

(8 marks)

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

Turn over

2. (g) continued.

Turn over

2. (g) continued.

Turn over

2. (g) continued.

Turn over

2. (g) continued.

(Total for Question 2 = 25 marks)

Turn over

38

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

☐

Turn over

3. Hazardous environments

(a) Identify the feature of an earthquake.

A cone

B crater

C epicentre

D eye

Answer

(1 mark)

(continued on the next page)

Turn over

3. continued.

(b) (i) Identify the best definition of Coriolis force.

- A The wall of cloud that surrounds the eye**
- B The deflection of air due to the Earth's rotation**
- C The force placed on the surface by the air above**
- D The region of calm weather in the centre**

Answer

(1 mark)

(continued on the next page)

Turn over

3. (b) continued.

**(ii) State ONE impact of a
volcanic eruption.**

(1 mark)

(continued on the next page)

Turn over

3. (b) continued.

(iii) Explain ONE way risk

**assessments can be used to
manage earthquake hazards.**

(2 marks)

(continued on the next page)

Turn over

3. continued.

**(c) Explain ONE way an earthquake
can be measured.**

(3 marks)

(continued on the next page)

Turn over

3. continued.

**(d) Study Figure 3a in the
Resource Booklet.**

**Explain TWO characteristics of a
tropical cyclone.**

(4 marks)

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

1 _____

Turn over

3. (d) continued.

2

(continued on the next page)

Turn over

3. continued.

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

**Identify the feature of the volcano
labelled 'X' in Figure 3b.**

(1 mark)

(continued on the next page)

Turn over

3. continued.

(f) Explain ONE physical factor and ONE social factor that increase a country's vulnerability to the impact of tropical cyclones.

(4 marks)

Answer lines continue on the next page.

Physical

Turn over

3. (f) continued.

Social

(continued on the next page)

Turn over

3. continued.

**(g) Study Figure 3c in the
Resource Booklet.**

**Analyse the influence plate
margin type has on the scale of
tectonic hazards.**

**Refer to the resource in your
answer.**

(8 marks)

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

Turn over

3. (g) continued.

Turn over

3. (g) continued.

Turn over

3. (g) continued.

Turn over

3. (g) continued.

(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

Turn over

SECTION B**Geographical Enquiry**

Answer ONE question from this section.

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

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

☐

Turn over

4. Investigating River Environments

You have carried out a geographical enquiry as part of your work on river environments.

Title of geographical enquiry

(continued on the next page)

Turn over

4. continued.

**(a) Describe ONE of your data
presentation techniques.**

(2 marks)

(continued on the next page)

Turn over

4. continued.

(b) Explain ONE limitation of a secondary data source used in your investigation.

(3 marks)

Answer lines continue on the next page.

Secondary data source

Turn over

4. (b) continued.

(continued on the next page)

Turn over

4. continued.

(c) Explain TWO ways you could have improved a primary data collection method to increase its accuracy.

(4 marks)

Answer lines continue on the next page.

1

Turn over

4. (c) continued.

2

(continued on the next page)

Turn over

4. continued.

**(d) Explain ONE pattern you found
in your primary data.
(3 marks)**

(continued on the next page)

Turn over

4. continued.

(e) Study the data in Figure 4a in the Resource Booklet. It shows some information about the results and conclusion from the students' investigation.

The aim was to investigate how the width and velocity change along a river.

(continued on the next page)

Turn over

4. (e) continued.

Evaluate the reliability of the students' conclusions.

(8 marks)

Answer lines continue on the next two pages.

Turn over

4. (e) continued.

Turn over

4. (e) continued.

(Total for Question 4 = 20 marks)

Turn over

66

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

☐

Turn over

5. Investigating Coastal Environments

You have carried out a geographical enquiry as part of your work on coastal environments.

Title of geographical enquiry

(continued on the next page)

Turn over

5. continued.

**(a) Describe ONE of your data
presentation techniques.**

(2 marks)

(continued on the next page)

Turn over

5. continued.

(b) Explain ONE limitation of a secondary data source used in your investigation.

(3 marks)

Answer lines continue on the next page.

Secondary data source

Turn over

5. (b) continued.

(continued on the next page)

Turn over

5. continued.

(c) Explain TWO ways you could have improved a primary data collection method to increase its accuracy.

(4 marks)

Answer lines continue on the next page.

1

Turn over

5. (c) continued.

2

(continued on the next page)

Turn over

5. continued.

**(d) Explain ONE pattern you found
in your primary data.
(3 marks)**

(continued on the next page)

Turn over

5. continued.

(e) Study the data in Figure 5a in the Resource Booklet. It shows some information about the results and conclusion from the students' investigation.

The aim was to investigate how the sediment size and shape change along a stretch of coastline.

(continued on the next page)

Turn over

5. (e) continued.

Evaluate the reliability of the students' conclusions.

(8 marks)

Answer lines continue on the next two pages.

Turn over

5. (e) continued.

Turn over

5. (e) continued.

(Total for Question 5 = 20 marks)

Turn over

78

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

☐

Turn over

6. Investigating Hazardous Environments

You have carried out a geographical enquiry as part of your work on hazardous environments.

Title of geographical enquiry

(continued on the next page)

Turn over

6. continued.

**(a) Describe ONE of your data
presentation techniques.**

(2 marks)

(continued on the next page)

Turn over

6. continued.

(b) Explain ONE limitation of a secondary data source used in your investigation.

(3 marks)

Answer lines continue on the next page.

Secondary data source

Turn over

6. (b) continued.

(continued on the next page)

Turn over

6. continued.

(c) Explain TWO ways you could have improved a primary data collection method to increase its accuracy.

(4 marks)

Answer lines continue on the next page.

1

Turn over

6. (c) continued.

2

(continued on the next page)

Turn over

6. continued.

**(d) Explain ONE pattern you found
in your primary data.
(3 marks)**

(continued on the next page)

Turn over

6. continued.

(e) Study the data in Figure 6a in the Resource Booklet. It shows some information about the results and conclusion from the students' investigation.

The aim was to investigate how air pressure and rainfall vary in a location at risk of tropical cyclones.

(continued on the next page)

Turn over

6. (e) continued.

**Evaluate the reliability of the
students' conclusions.**

(8 marks)

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

Turn over

6. (e) continued.

Turn over

6. (e) continued.

Turn over

6. (e) continued.

Turn over

6. (e) continued.

(Total for Question 6 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS

TOTAL FOR PAPER = 70 MARKS

END OF PAPER
