

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

Total Marks

Geography
PAPER 1: Physical geography

Friday 17 May 2024 – Afternoon

Time: 1 hour 10 minutes

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

Surname					
Other names					
Centre Number					
Candidate Number					

YOU MUST HAVE
Calculator

YOU WILL BE GIVEN
Resource Booklet
Diagram 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 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 in case you need them.

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 boxes provided.

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

☐

Turn over

1. River environments

(a) Identify the best definition of the term evaporation.

- A** any form of water that falls from the sky
- B** the emission of water vapour from leaves
- C** water changing from a gas to a liquid
- D** water changing from a liquid to a gas

Answer

(1 mark)

(continued on the next page)

Turn over

1. continued.

(b) (i) Identify the best definition of a river source.

A a smaller river that joins a larger river

B where the river meets the sea

C where the river starts

D where two rivers meet

Answer

(1 mark)

(continued on the next page)

Turn over

1. (b) continued.

**(ii) State ONE human cause of
river flooding.**

(1 mark)

continued on the next page)

1. (b) continued.

**(iii) Explain the process of
saltation.**

(2 marks)

(continued on the next page)

1. continued.

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

**Suggest TWO pieces of evidence
from the map that this is an
upland area.**

(4 marks)

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

1 _____

Turn over

1. (c) continued.

2

(continued on the next page)

1. continued.

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

**Identify the feature of the storm
hydrograph labelled X.**

(1 mark)

(continued on the next page)

1. continued.

(e) Explain TWO different causes of river water pollution.

(4 marks)

Answer lines continue on the next page.

1

2

Turn over

1. (e) continued.

(continued on the next page)

1. continued.

**(f) Explain ONE way dams can
affect river regimes.**

(3 marks)

(continued on the next page)

Turn over

1. continued.

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

**Analyse the possible reasons for
water shortages.**

**You MUST refer to the resource
in your answer.**

(8 marks)

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

Turn over

1. (g) continued.

1. (g) continued.

Turn over

1. (g) continued.

Turn over

1. (g) continued.

(Total for Question 1 = 25 marks)

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

☐

2. Coastal environments

(a) Identify ONE abiotic characteristic of a coastal ecosystem.

A coral

B fungi

C phytoplankton

D temperature

Answer

(1 mark)

(continued on the next page)

Turn over

2. continued.

(b) (i) Identify the best definition of backwash.

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. (b) continued.

**(ii) State ONE characteristic of a
constructive wave.**

(1 mark)

(continued on the next page)

2. (b) continued.

**(iii) Explain ONE type of coastal
mass movement.**

(2 marks)

(continued on the next page)

2. continued.

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

**Suggest TWO reasons hard
engineering is suitable for this
stretch of coastline.**

(4 marks)

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

1 _____

Turn over

2. (c) continued.

(continued on the next page)

2. continued.

(d) Explain why ONE conflict might occur between different users of coastlines.

(3 marks)

(continued on the next page)

Turn over

2. continued.

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

**Identify the landform labelled X.
(1 mark)**

(continued on the next page)

Turn over

2. continued.

- (f) Explain TWO physical factors that affect coastal deposition. (4 marks)**

Answer lines continue on the next page.

1

2

Turn over

2. (f) continued.

(continued on the next page)

2. continued.

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

**Analyse the possible reasons
why the populations of some
countries are more at risk from
coastal flooding than others.**

**You MUST refer to the resource
in your answer.**

(8 marks)

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

2. (g) continued.

Turn over

2. (g) continued.

2. (g) continued.

Turn over

2. (g) continued.

(Total for Question 2 = 25 marks)

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

☐

3. Hazardous environments

(a) Identify the plate boundary where volcanoes DO NOT form.

A conservative (transform)

B constructive (divergent)

C destructive (convergent)

D hotspot

Answer

(1 mark)

(continued on the next page)

Turn over

3. continued.

(b) (i) Identify the correct way to measure tropical cyclone intensity.

A Mercalli scale

B Moment magnitude scale

C Richter scale

D Saffir–Simpson scale

Answer

(1 mark)

(continued on the next page)

Turn over

3. (b) continued.

**(ii) State ONE characteristic of a
tropical cyclone.**

(1 mark)

(continued on the next page)

3. (b) continued.

**(iii) Explain ONE reason tropical
cyclones lose their energy
when they reach land.**

(2 marks)

(continued on the next page)

Turn over

3. continued.

**(c) Explain TWO reasons
preparation for earthquakes
may be more effective in some
countries than others.**

(4 marks)

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

1 _____

Turn over

3. (c) continued.

2 _____

(continued on the next page)

3. continued.

**(d) Explain ONE physical factor that
can make people more vulnerable
to natural hazards.**

(3 marks)

(continued on the next page)

Turn over

3. continued.

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

**Identify the volcanic hazard
labelled **X**.**

(1 mark)

(continued on the next page)

3. continued.

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

**Suggest TWO reasons for the
distribution of volcanoes.**

(4 marks)

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

1 _____

Turn over

3. (f) continued.

2 _____

(continued on the next page)

3. continued.

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

**Analyse the impacts of the
volcanic eruption on the
environment.**

**You MUST refer to the resource
in your answer.**

(8 marks)

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

3. (g) continued.

3. (g) continued.

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 boxes provided.

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

☐

Turn over

4. Investigating river environments

A group of students has undertaken an enquiry that investigated changes within a river channel along its course.

(continued on the next page)

4. continued.

(a) (i) Identify ONE piece of equipment used to measure gradient.

A calliper

B clinometer

C compass

D quadrat

Answer

(1 mark)

(continued on the next page)

Turn over

4. (a) continued.

(ii) State ONE risk the students should have prepared for when carrying out their river fieldwork.

(1 mark)

(continued on the next page)

4. continued.

(b) Study Figure 4a in the Resource Booklet. It shows some data about the average channel depth at the 10 sites where data was collected.

Calculate the range in river depth.

You MUST show all your working in the space below and on the next page.

(2 marks)

Turn over

4. (b) continued.

_____ cm

(continued on the next page)

Turn over

4. continued.

**(c) (i) Study Figure 4b in
the Resource Booklet
and Figure 4c in the
Diagram Booklet.**

Figure 4c shows a graph.

**Plot the data for sites 1 and
3, from Figure 4b (shown
in the Resource Booklet),
on Figure 4c in the
Diagram Booklet.**

(2 marks)

(continued on the next page)

Turn over

4. (c) continued.

**(ii) Draw a line of best fit
on Figure 4c in the
Diagram Booklet.**

(1 mark)

(continued on the next page)

4. (c) continued.

**(iii) Suggest ONE reason for
the relationship shown on
Figure 4c.**

(2 marks)

(continued on the next page)

Turn over

4. continued.

(d) Explain ONE OTHER primary data collection method students might have found useful in their river enquiry.

(3 marks)

Answer lines continue on the next page.

Turn over

4. (d) continued.

(continued on the next page)

4. continued.

(e) You have studied river processes as part of your own geographical enquiry.

Evaluate the accuracy and reliability of your data collection techniques.

(8 marks)

Answer lines continue on the next four pages.

Geographical enquiry title

Turn over

4. (e) continued.

Turn over

4. (e) continued.

Turn over

4. (e) continued.

4. (e) continued.

(Total for Question 4 = 20 marks)

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

☐

5. Investigating coastal environments

A group of students has undertaken an enquiry that investigated beach characteristics along a stretch of coastline.

(continued on the next page)

5. continued.

(a) (i) Identify ONE piece of equipment used to measure gradient.

A calliper

B clinometer

C compass

D quadrat

Answer

(1 mark)

(continued on the next page)

Turn over

5. (a) continued.

**(ii) State ONE risk the students
should have prepared for
when carrying out their
coastal fieldwork.**

(1 mark)

(continued on the next page)

5. continued.

(b) Study Figure 5a in the Resource Booklet. It shows some data about the pebble length for 10 pebbles measured at site 2.

Calculate the range in sediment size at site 2.

You MUST show all your working in the space below and on the next page.

(2 marks)

Turn over

5. (b) continued.

_____ cm

(continued on the next page)

5. continued.

**(c) (i) Study Figure 5b in
the Resource Booklet
and Figure 5c in the
Diagram Booklet.**

Figure 5c shows a graph.

**Plot the data for sites 1 and
3, from Figure 5b (shown
in the Resource Booklet),
on Figure 5c in the
Diagram Booklet.**

(2 marks)

(continued on the next page)

Turn over

5. (c) continued.

**(ii) Draw a line of best fit
on Figure 5c in the
Diagram Booklet.**

(1 mark)

(continued on the next page)

5. (c) continued.

**(iii) Suggest ONE reason for
the relationship shown on
Figure 5c.**

(2 marks)

(continued on the next page)

Turn over

5. continued.

(d) Explain ONE OTHER primary data collection method students might have found useful in their coastal enquiry.

(3 marks)

Answer lines continue on the next page.

Turn over

5. (d) continued.

(continued on the next page)

5. continued.

(e) You have studied a coastal environment as part of your own geographical enquiry.

Evaluate the accuracy and reliability of your data collection methods.

(8 marks)

Answer lines continue on the next four pages.

Geographical enquiry title

Turn over

5. (e) continued.

Turn over

5. (e) continued.

Turn over

5. (e) continued.

5. (e) continued.

(Total for Question 5 = 20 marks)

Turn over

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

☐

6. Investigating hazardous environments

A group of students has undertaken an enquiry that investigated changes in the weather as part of their studies into hazardous environments.

(continued on the next page)

6. continued.

(a) (i) Identify ONE piece of equipment used to measure air pressure.

A barometer

B clinometer

C compass

D thermometer

Answer

(1 mark)

(continued on the next page)

Turn over

6. (a) continued.

**(ii) State ONE risk the students
should have prepared for
when carrying out their
hazardous environment
fieldwork.**

(1 mark)

(continued on the next page)

6. continued.

(b) Study Figure 6a in the Resource Booklet. It shows some data about the average temperature at the 10 sites where data was collected.

Calculate the range in temperature.

You MUST show all your working in the space below and on the next page.

(2 marks)

Turn over

6. (b) continued.

_____ °C

(continued on the next page)

Turn over

6. continued.

**(c) (i) Study Figure 6b in
the Resource Booklet
and Figure 6c in the
Diagram Booklet.**

Figure 6c shows a graph.

**Plot the data for sites 1 and
3, from Figure 6b (shown
in the Resource Booklet),
on Figure 6c in the
Diagram Booklet.**

(2 marks)

(continued on the next page)

Turn over

6. (c) continued.

**(ii) Draw a line of best fit
on Figure 6c in the
Diagram Booklet.**

(1 mark)

(continued on the next page)

6. (c) continued.

**(iii) Suggest ONE reason for
the relationship shown on
Figure 6c.**

(2 marks)

(continued on the next page)

Turn over

6. continued.

(d) Explain ONE OTHER primary data collection method students might have found useful in their weather enquiry.

(3 marks)

Answer lines continue on the next page.

Turn over

6. (d) continued.

(continued on the next page)

6. continued.

(e) You have studied a hazardous environment as part of your own geographical enquiry.

Evaluate the accuracy and reliability of your data collection methods.

(8 marks)

Answer lines continue on the next four pages.

Geographical enquiry title

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