

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

Total Marks

Geography
Paper 1: Physical Geography

Monday 18 May 2020 – Morning

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

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 Book

Diagram Book

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 in the Diagram Book – 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.

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.

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.

If you answer Question 1 put a cross in this box

☐

1. River environments

(a) Identify the meaning of the term **river discharge**.

- A** the average speed of water in a river at one place at any one time
- B** the volume of water in a river at one place at any one time
- C** the average depth of a river at one place
- D** the average width of a river at one place

Answer

(1 mark)

(continued on the next page)

1. continued.

(b) (i) Identify the meaning of the term **drainage basin**.

A an area of land where water is stored

B an area of land where water levels vary

C an area of land where flooding occurs

D an area of land drained by a river

Answer

(1 mark)

(ii) State ONE physical factor that affects river discharge.

(1 mark)

(continued on the next page)

Turn over

1. (b) continued.

(iii) Explain the term **lag time**.

(2 marks)

(continued on the next page)

1. continued.

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

Suggest how TWO human factors can affect water transfers in the hydrological cycle.

(4 marks)

1 _____

2 _____

(continued on the next page)

Turn over

1. continued.

(d) Explain ONE way pollution can affect water quality.

(3 marks)

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

Identify the river valley landform at X

(1 mark)

(continued on the next page)

Turn over

1. continued.

(f) Explain the formation of a flood plain.

(4 marks)

(continued on the next page)

1. continued.

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

Analyse the impacts of this flood prevention scheme.

(8 marks)

Answer lines continue on the next two pages.

[illegible]

Turn over

1. (g) continued.

[illegible]

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 the biotic characteristic of a coastal ecosystem.

A eroded rock

B salt water

C minerals and nutrients

D marine plants

Answer

(1 mark)

(continued on the next page)

2. continued.

(b) (i) Identify the definition of the term **biomass**.

- A** the amount of living matter in an ecosystem
- B** the amount of non–living matter in an ecosystem
- C** the amount of living and non–living matter in an ecosystem
- D** the amount of leaf litter in an ecosystem

Answer

(1 mark)

(ii) State **ONE** feature of a sand dune.

(1 mark)

(continued on the next page)

Turn over

2. (b) continued.

(iii) Explain ONE factor affecting the
distribution of coral reef ecosystems.

(2 marks)

(continued on the next page)

2. continued.

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

Suggest ONE reason for each of these different approaches to coastal management.

(4 marks)

Approach 1 _____

Approach 2 _____

(continued on the next page)

Turn over

2. continued.

**(d) Explain ONE cause of coastal flooding.
(3 marks)**

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

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

(continued on the next page)

Turn over

2. continued.

(f) Explain the formation of a spit.

(4 marks)

(continued on the next page)

2. continued.

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

Analyse the different benefits mangrove ecosystems bring to coastal communities in India.

(8 marks)

Answer lines continue on the next two pages.

2. (g) continued.

[illegible]

Turn over

2. (g) continued.

(Total for Question 2 = 25 marks)

If you answer Question 3 put a cross in this box

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3. Hazardous environments

(a) Identify the short-term response to a natural hazard.

- A** emergency aid
- B** risk assessment
- C** hazard mapping
- D** rebuilding programmes

Answer

(1 mark)

(continued on the next page)

3. continued.

(b) (i) Identify ONE social impact of a hazardous event.

A roads damaged

B buildings damaged

C families separated

D crops destroyed

Answer

(1 mark)

(ii) State ONE method of measuring the magnitude of a natural hazard.

(1 mark)

(continued on the next page)

Turn over

3. (b) continued.

(iii) Explain ONE way longer-term relief can reduce the impact of natural hazards.

(2 marks)

(continued on the next page)

3. continued.

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

**Suggest TWO reasons why people live in areas
at risk from tropical cyclones.**

(4 marks)

1 _____

2 _____

(continued on the next page)

Turn over

3. continued.

(d) Explain ONE way in which government can help prepare the population for earthquake events.

(3 marks)

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

Identify X

(1 mark)

(continued on the next page)

Turn over

3. continued.

(f) Explain the causes of an earthquake.

(4 marks)

(continued on the next page)

3. continued.

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

Analyse the differences between the tropical cyclone hazards and impacts.

(8 marks)

Answer lines continue on the next two pages.

3. (g) continued.

[illegible]

Turn over

3. (g) continued.

(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

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.

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.

If you answer Question 4 put a cross in this box

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4. Investigating river environments

A group of students has undertaken a geographical enquiry exploring changes in a river channel.

- (a) (i) State ONE secondary data source that the students might have used when undertaking this enquiry.

(1 mark)

- (ii) Identify ONE possible disadvantage of the secondary data source identified in 4(a)(i).

(1 mark)

(continued on the next page)

Turn over

4. (a) continued.

Study Figure 4a in the Resource Book. It shows river channel characteristics at three sites.

(iii) Use the data in Figure 4a to find the mean depth of the river at Site 2.

Give your answer to one decimal place.

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

(2 marks)

4. (a) (iii) continued.

_____ cm

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

Use the data in Figure 4a to plot the data for sampling points 7 and 8 to complete the graph.

(2 marks)

(continued on the next page)

4. (a) continued.

(v) The three sites (Sites 1–3) were selected randomly along the river.

Suggest ONE reason why an alternative sampling method might be chosen to select the sites.

(2 marks)

Sampling method _____

(continued on the next page)

4. continued.

(b) The students used annotated field sketches as part of their data collection.

Suggest ONE advantage and ONE disadvantage of this technique.

(4 marks)

Answer lines continue on the next page.

Advantage

Disadvantage

Turn over

4. (b) continued.

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

(c) Evaluate the effectiveness of the data presentation methods you used.

(8 marks)

Answer lines continue on the next three pages.

Enquiry question

Turn over

4. (c) continued.

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Turn over

4. (c) continued.

[illegible]

Turn over

4. (c) 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 a geographical enquiry exploring changes along a section of coastline.

- (a) (i) State ONE secondary data source that the students might have used when undertaking this enquiry.

(1 mark)

- (ii) Identify ONE possible disadvantage of the secondary data source identified in 5(a)(i).

(1 mark)

(continued on the next page)

5. (a) continued.

Study Figure 5a in the Resource Book. It shows the data collected for their investigation into beach sediment.

(iii) Use the data in Figure 5a to find the mean height of the sand accumulations on the North side of Groyne 3.

Give your answer to one decimal place.

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

(2 marks)

5. (a) (iii) continued.

North side _____ cm

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

**Use the data in Figure 5a to plot the data
for Groyne 2 (both North and South)
on Figure 5b.**

(2 marks)

(continued on the next page)

5. (a) continued.

- (v) The groynes (Groynes 1–5) were selected randomly along the section of coast.

Suggest ONE reason why an alternative sampling method might be chosen to select the groynes.

(2 marks)

Sampling method _____

(continued on the next page)

5. continued.

(b) The students used annotated field sketches as part of their data collection.

Explain ONE advantage and ONE disadvantage of this type of technique.

(4 marks)

Answer lines continue on the next page.

Advantage

Disadvantage

Turn over

5. (b) continued.

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

(c) Evaluate the effectiveness of the data presentation methods you used.

(8 marks)

Answer lines continue on the next three pages.

Enquiry question

Turn over

5. (c) continued.

[illegible]

Turn over

5. (c) continued.

[illegible]

5. (c) continued.

(Total for Question 5 = 20 marks)

If you answer Question 6 put a cross in this box

☐

6. Investigating hazardous environments

A group of students has undertaken a geographical enquiry exploring temperature variation as part of their studies into extreme weather events.

- (a) (i) State ONE secondary data source that the students might have used when undertaking this enquiry.

(1 mark)

- (ii) Identify ONE possible disadvantage of the secondary data source identified in 6(a)(i).

(1 mark)

(continued on the next page)

Turn over

6. (a) continued.

Study Figure 6a in the Resource Book. It shows temperature variations across five sites during an extreme weather event.

(iii) Using the data in Figure 6a calculate the mean highest temperature.

Give your answer to one decimal place.

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

(2 marks)

6. (a) (iii) continued.

_____ °C

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

**Use the data in Figure 6a to plot the data
for Sites 3 and 4 on Figure 6b to complete
the graph.**

(2 marks)

(continued on the next page)

6. (a) continued.

- (v) The five sites (1–5) were selected randomly to take temperature readings.

Suggest ONE reason why an alternative sampling method might be chosen to select the sites.

(2 marks)

Sampling method _____

(continued on the next page)

6. continued.

- (b) The students used annotated field sketches as part of their data collection to record information before and after the tropical cyclone.**

Suggest ONE advantage and ONE disadvantage of this technique.

(4 marks)

Answer lines continue on the next page.

Advantage

6. (b) continued.

Disadvantage

(continued on the next page)

6. continued.

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

(c) Evaluate the effectiveness of the data presentation methods you used.

(8 marks)

Answer lines continue on the next three pages.

Enquiry question

6. (c) continued.

[illegible]

6. (c) continued.

[illegible]

6. (c) continued.

(Total for Question 6 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS

TOTAL FOR PAPER = 70 MARKS

END OF PAPER
