

Please check the examination details below before entering your candidate information

Candidate surname					Other names									
<b>Pearson Edexcel</b>					Centre Number					Candidate Number				
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<b>Tuesday 12 May 2020</b>														
Afternoon (Time: 1 hour 45 minutes)							Paper Reference <b>8GE0/01</b>							
<b>Geography</b>														
<b>Advanced Subsidiary</b>														
<b>Paper 1: Dynamic Landscapes</b>														
<b>You must have:</b>												Total Marks		
Resource Booklet (enclosed)														
Calculator, ruler														

### 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.
- Answer Question 1 in Section A **and EITHER** Section B **OR** Section C.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show **all** stages of **working out** and a **clear answer**.

### Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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**Answer Section A and EITHER Section B OR Section C.**

**SECTION A: TECTONIC PROCESSES AND HAZARDS**

**Answer Question 1. Write your answers in the spaces provided.**

**You must use the Resource Booklet provided.**

- 1 (a) Identify which hazard is a primary impact of an earthquake.

(1)

<input type="checkbox"/>	<b>A</b> Aftershocks
<input type="checkbox"/>	<b>B</b> Crustal fracturing
<input type="checkbox"/>	<b>C</b> Pyroclastic flow
<input type="checkbox"/>	<b>D</b> Tsunamis

- (b) Study Figure 1 in the Resource Booklet.

Papua New Guinea experienced a magnitude 7.5 earthquake in February 2018.

Figure 1 shows the frequency of the aftershocks that were reported.

- (i) Calculate the mean number of aftershocks per day.

Show your working.

Give your answer to 1 decimal place.

(2)

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(ii) Suggest **one** reason for the changing number of aftershocks each day.

(3)

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(c) There are complex interrelationships between a hazard and the community it affects. These can be explained by the Pressure and Release Model.

Explain **two** parts of this model.

(4)

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(d) Explain why some tectonic hazards occur away from plate boundaries.

(6)

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(e) Assess the view that tectonic disasters are affecting more people in the world, but causing fewer deaths than in the past.

(12)

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(Total for Question 1 = 28 marks)

**TOTAL FOR SECTION A = 28 MARKS**



## SECTION B: GLACIATED LANDSCAPES AND CHANGE

Do not answer Section B (Glaciated Landscapes and Change) if you have answered Section C (Coastal Landscapes and Change).

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 .

If you answer Section B put a cross in the box .

You must use the Resource Booklet provided.

- 2 (a) Define the term 'cryosphere'.

(1)

- (b) Study Figure 2a below which shows data collected about the surface area of nine European glaciers in 1977 and 1995.

A t-test can establish if there is a significant difference between the two datasets.

	Surface area of 9 glaciers in 1977	Surface area of 9 glaciers in 1995
Mean glacier size	7.3	3.8
Standard deviation	1.5	1.7

Figure 2a

- (i) Using the partially completed Student's t-test below, calculate the value of t.

Give your answer to 1 decimal place.

(1)

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}} = \frac{3.5}{0.8}$$

t = .....



(ii) Identify the significance level of your t-test result using Figure 2b in the Resource Booklet.

(1)

(iii) Suggest **one** reason for the change in size of glaciers between 1977 and 1995.

(3)

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(c) Explain **two** economic reasons why glaciated landscapes are important.

(4)

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(d) Using a named example, explain how periglacial landforms produce a distinctive landscape.

(6)

Named example: .....

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(e) Assess the importance of ablation in contributing to the rate of glacier movement.

(12)

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**(Total for Question 2 = 28 marks)**



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

A group of students used GIS to find secondary information to help plan their primary fieldwork investigation into glaciated landscapes in the Cairngorms National Park.

(i) Identify the type of landscape shown in Figure 3.

(1)

<input type="checkbox"/>	<b>A</b> Lowland active
<input type="checkbox"/>	<b>B</b> Lowland relict
<input type="checkbox"/>	<b>C</b> Upland active
<input type="checkbox"/>	<b>D</b> Upland relict

(ii) Study Figure 3.

Identify the type of glaciated landform shown in box A (Loch Brandy).

(1)

(iii) Describe the angle of slope the students might expect to find around Loch Brandy.

(3)

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(iv) Explain **two** decisions these students would have to make as part of a risk assessment.

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**(Total for Question 3 = 18 marks)**



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**Use your knowledge and understanding from across the course of study, along with the information in Figure 4, to answer this question.**

- 4** Study Figures 4a, 4b, 4c and 4d in the Resource Booklet.

Evaluate the view that the risks from tectonic activity in Villarrica National Park outweigh those from glacial processes.

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(Total for Question 4 = 16 marks)

**TOTAL FOR SECTION B = 62 MARKS**



### SECTION C: COASTAL LANDSCAPES AND CHANGE

Do not answer Section C (Coastal Landscapes and Change) if you have answered Section B (Glaciated Landscapes and Change).

If you answer Section C put a cross in the box  .

You must use the Resource Booklet provided.

- 5 (a) Define the term 'eustatic sea level change'. (1)

- (b) Study Figure 5a below which shows two samples of nine pebbles on a beach on the east coast of England.

A t-test can determine if there is a significant difference between the two sets of data.

	Average size of 9 pebbles at the backshore	Average size of 9 pebbles at the foreshore
Mean pebble size	38	25
Standard deviation	8.1	6.2

Figure 5a

- (i) Using the partially completed Student's t-test below, calculate the value of t. Give your answer to 1 decimal place. (1)

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}} = \frac{13}{3.4}$$

t = .....



(ii) Identify the significance level of your t-test result using Figure 5b in the Resource Booklet.

(1)

(iii) Suggest **one** reason for the difference in pebble size.

(3)

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(c) Explain **two** economic reasons why coastal recession is significant.

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(d) Using a named example, explain the sediment cell concept.

(6)

Named example: .....

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P 6 2 3 6 4 A 0 2 1 3 2

(e) Assess the importance of subaerial processes in contributing to the rate of coastal recession.

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**(Total for Question 5 = 28 marks)**



6 (a) Study Figure 6 in the Resource Booklet.

A group of students used GIS to find secondary information about the relief of the Glamorgan Heritage Coast in South Wales in order to help plan their fieldwork investigation into coastal landscapes.

(i) Identify the most likely type of coastal landscape shown in Figure 6.

(1)

<input type="checkbox"/>	<b>A</b> Rocky and concordant
<input type="checkbox"/>	<b>B</b> Rocky and discordant
<input type="checkbox"/>	<b>C</b> Sandy and concordant
<input type="checkbox"/>	<b>D</b> Sandy and discordant

(ii) Study Figure 6.

Identify **one** coastal landform shown in box A.

(1)

(iii) Describe the angle of slope the students might expect to find at this stretch of coastline.

(3)

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(iv) Explain **two** decisions these students would have to make as part of a risk assessment.

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(Total for Question 6 = 18 marks)



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(Total for Question 7 = 16 marks)

**TOTAL FOR SECTION C = 62 MARKS**  
**TOTAL FOR PAPER = 90 MARKS**



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