

Surname						Other Names					
Centre Number						Candidate Number					
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General Certificate of Education
 January 2004
 Advanced Subsidiary Examination



**GEOGRAPHY (SPECIFICATION B)
 Unit 2**

GGB2

Tuesday 13 January 2004 Morning Session

<p>In addition to this paper you will require:</p> <ul style="list-style-type: none"> the coloured insert (enclosed).

Time allowed: 1 hour

Instructions

- Use blue or black ink or ball-point pen. You may use pencil for maps, diagrams and graphs.
- Fill in the boxes at the top of this page.
- Answer **one** question in the spaces provided.
 Choose option **P** or **Q** or **R**.
 Option **P**: Glacial Environments – Page 2.
 Option **Q**: Coastal Environments – Page 10.
 Option **R**: Urban Physical Environments (Temperate Urban Areas) – Page 18.
- Do all rough work in this book. Cross through any work you do not want marked.
- Give sketch maps, diagrams and specific examples, where appropriate.
- If there is not enough space for your answer(s), use the extra page(s) at the end of the book. If you do this, make sure that you show the number of the question you are answering.

Information

- The maximum mark for this paper is 50.
- Mark allocations are shown in brackets.
- You are expected to use a calculator where appropriate.
- You will be assessed on your ability to use an appropriate form and style of writing, to organise relevant information clearly and coherently, and to use specialist vocabulary, where appropriate.
- The degree of legibility of your handwriting and the level of accuracy of your spelling, punctuation and grammar will also be taken into account.

For Examiner's Use			
Number	Mark	Number	Mark
P	X		
1			
Q	X		
2			
R	X		
3			
Total (Column 1)	→		
Total (Column 2)	→		
TOTAL			
Examiner's Initials			

Answer the question on Option **P** or **Q** or **R**.

All questions carry equal marks.

OPTION P GLACIAL ENVIRONMENTS

1 (a) (i) In the context of glacial budgets, what is meant by the following terms?

1. Accumulation:

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2. Ablation:

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(4 marks)

(ii) Describe the ways in which glacial ice moves and explain the processes involved.

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(8 marks)

(b) Study **Figure 1**, a photograph which shows an area of upland glaciation.

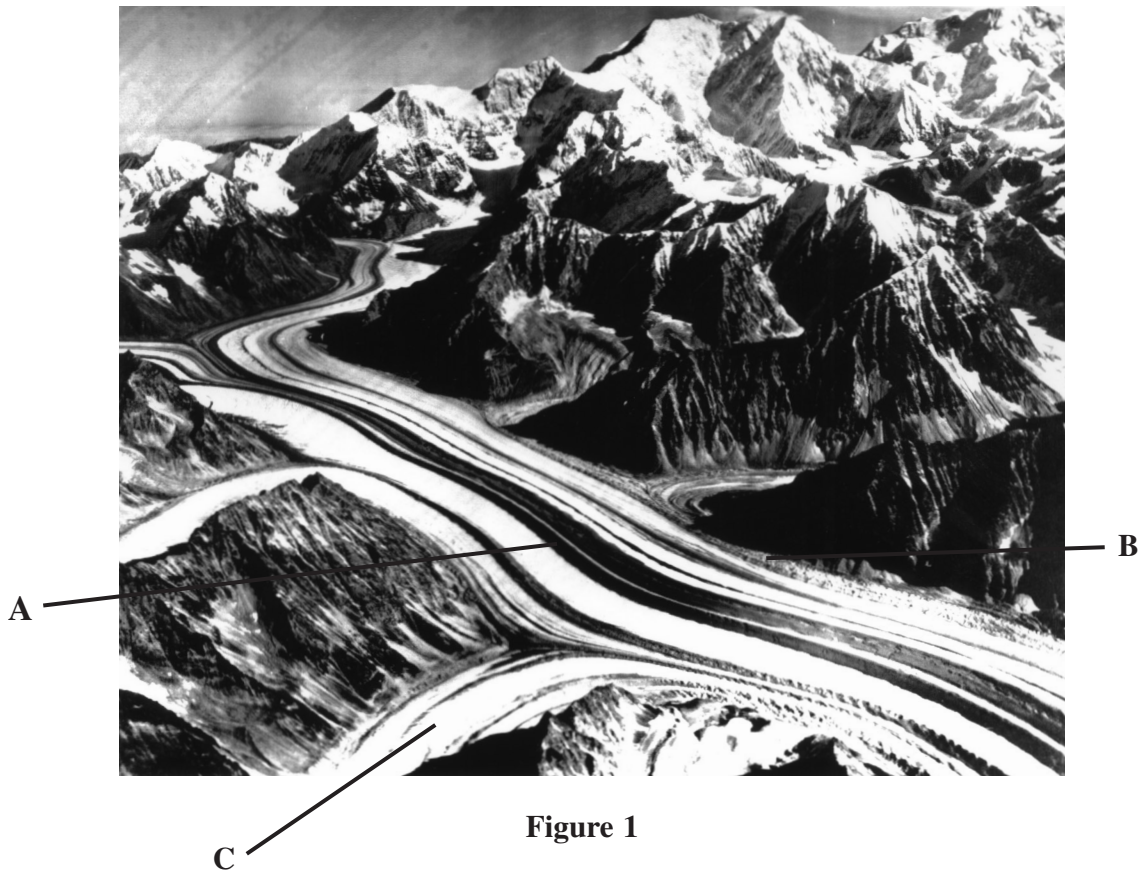


Figure 1

(i) Identify and label on **Figure 1**, **one** example of each of the following:

arête truncated spur corrie

(3 marks)

(ii) Identify the landforms **A**, **B** and **C** marked on **Figure 1**.

A

B

C

(3 marks)

Turn over ►

(iii) Choose **one** of the landforms on **Figure 1, A, B** or **C**, and explain how it has been formed.

Chosen landform:

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(8 marks)

(c) Describe the characteristics of **two** different fluvio-glacial landforms.

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(6 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

Turn over ►

- (d) Study **Figure 2**, which shows the distribution of permafrost during the last glaciation.

*Figure of the distribution of permafrost during the last glaciation –
not reproduced here, due to third-party copyright constraints.*

Source: C EMBLETON & C KING (1975), *Periglacial Geomorphology*,
(Hodder Arnold) (ISBN 0-470-23895-X, pg 47).

Figure 2

- (i) Describe the distribution of both permafrost and the ice sheet as shown in **Figure 2**.

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(7 marks)

(ii) Explain the process of frost heave.

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(6 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

Turn over ►

(iii) Describe **one** landform that results from the process of frost heave.

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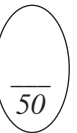
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(5 marks)



Answer the question on Option **P** or **Q** or **R**.

OPTION Q COASTAL ENVIRONMENTS

- 2 (a) **Figure 3a** (coloured insert) shows some coastal landforms. **Figure 3b** is a black and white copy of **Figure 3a**.

Aerial view of the cliffs of La Manneporte – not reproduced here, due to third-party copyright constraints.

Figure 3b

- (i) Identify and label on **Figure 3b**, **one** example of each of the following:

beach arch wave cut notch

(3 marks)

(ii) Identify the landforms **A**, **B** and **C** marked on **Figure 3b**.

A

B

C

(3 marks)

(iii) Choose **one** of the landforms, **A**, **B** or **C**, and explain how it has been formed.

Chosen landform:

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(8 marks)

QUESTION 2 CONTINUES ON THE NEXT PAGE

Turn over ▶

(b) Describe the differences between constructive and destructive waves and their differing effects on a beach.

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(8 marks)

- (c) Study **Figure 4**, which shows the location of some of the major sediment cells on the coast of England and Wales.

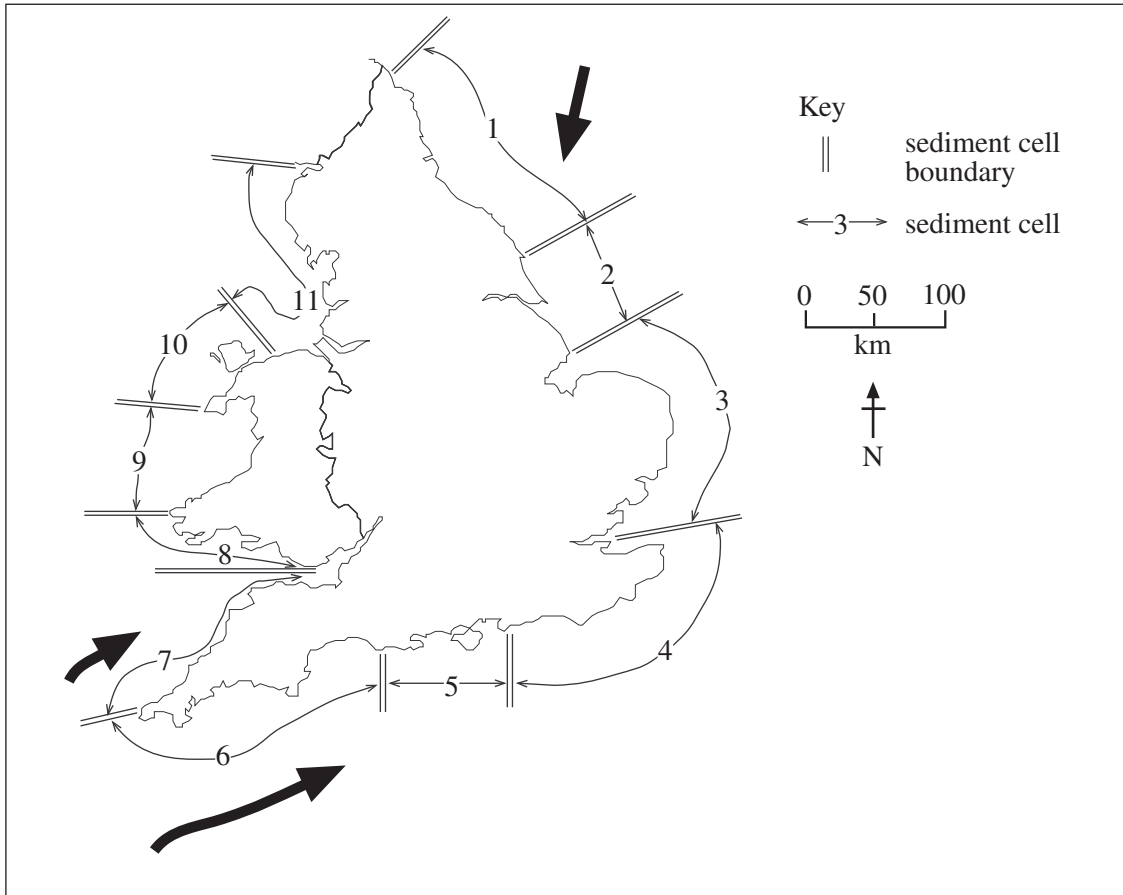


Figure 4

- (i) Describe the distribution of the major sediment cells along the coast of England and Wales.

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(7 marks)

(ii) Explain the process of longshore drift.

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(6 marks)

QUESTION 2 CONTINUES ON THE NEXT PAGE

Turn over ►

(iii) How have longshore drift and other marine processes helped in the formation of coastal spits?

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(5 marks)

(d) (i) In the context of sea level change, what is meant by the following terms?

1. Isostatic

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2. Eustatic

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(4 marks)

(ii) Describe **one** coastal landform that has been created by sea level rise.

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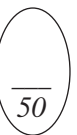
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(6 marks)

TURN OVER FOR THE NEXT QUESTION

Turn over ►



Answer the question on Option **P** or **Q** or **R**.

OPTION R URBAN PHYSICAL ENVIRONMENTS (TEMPERATE URBAN AREAS)

- 3 (a) Study **Photographs A, B and C** on the coloured insert, which show **three** different routeways in an urban area.

Using evidence from the photographs, describe the distinctive ecologies that have developed along **two** of the different routeways.

Photograph 1:

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Photograph 2:

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(8 marks)

(b) Using example(s) that you have studied, describe the plant succession in urban areas following neglect and explain the processes involved.

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(8 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

Turn over ►

(c) (i) In the context of weather and climate in urban areas, what is meant by the following terms?

1. Surface albedo

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2. Net heat loss

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(4 marks)

(ii) Why do temperatures vary within urban areas?

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(d) Look at **Figure 5**, which shows three types of wind flow in urban areas.

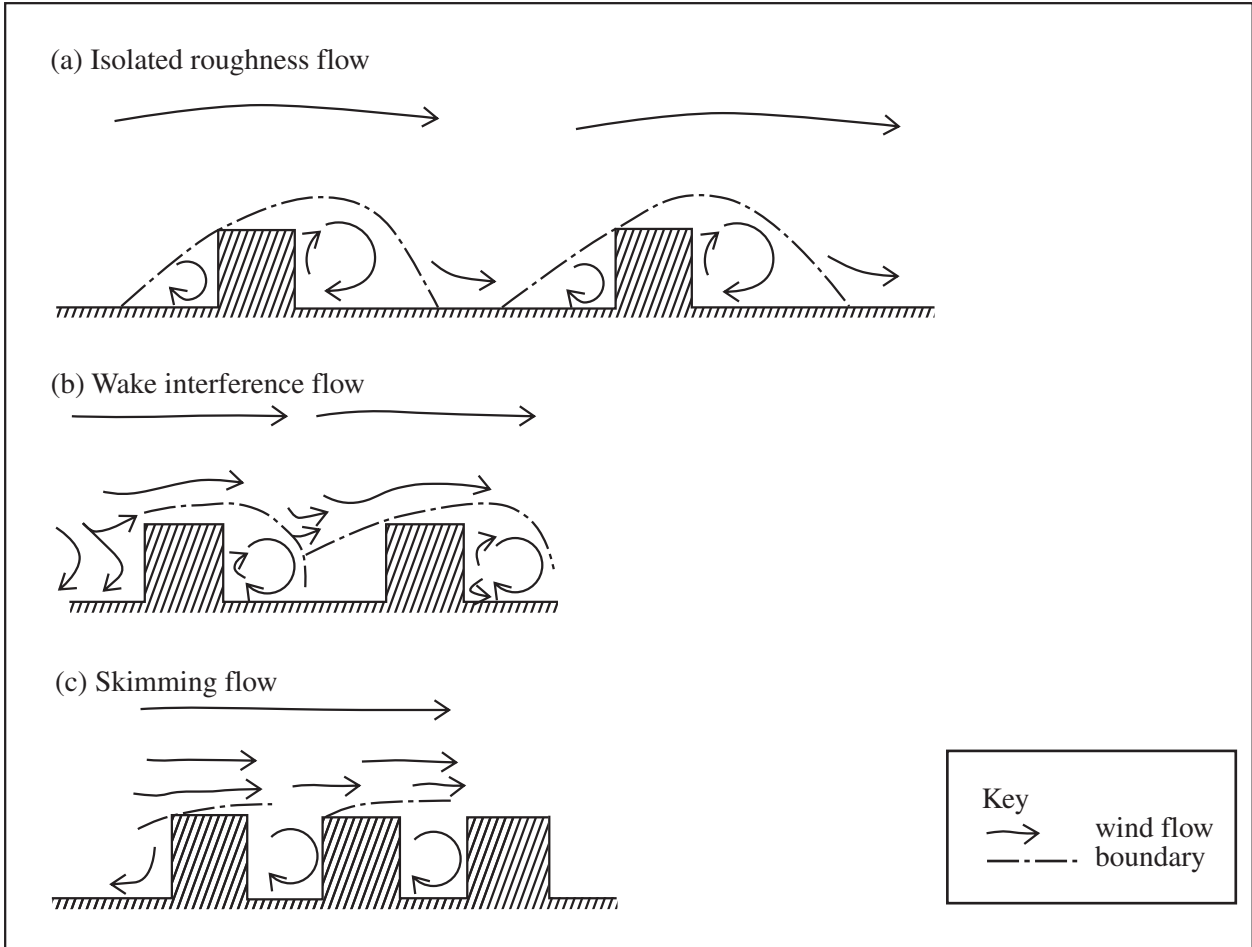


Figure 5

Describe how the separation of the buildings, as shown in **Figure 5**, affects the pattern of wind flow.

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(5 marks)

Turn over ►

(e) Explain how urban structures can both increase **and** decrease wind speeds.

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(6 marks)

- (f) (i) Describe **two** effects that particulate pollution has on precipitation and fog within urban areas.

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(6 marks)

- (ii) Name a pollution reduction policy that has had an effect on the urban atmosphere. Explain how that policy has reduced pollution.

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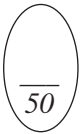
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(5 marks)

END OF QUESTIONS

Turn over ►



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Figure 1 TOLLEY BRIGGS & RILEY, *Alaskan Freeway*, (Associated Press)

Figure 2 C EMBLETON & C KING, *Periglacial Geomorphology*, (Hodder Arnold)

Figure 5 Reprinted from *Energy and Buildings, Vol 11*, OKE, "Street Design and Urban Canopy Layer Climate", pp 103–113, Copyright 1988, with permission from Elsevier Science

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Unit 2

GGB2

Coloured Insert

For use with Question 2 and Question 3

Aerial view of the cliffs of La Manneporte – not reproduced here, due to third-party copyright constraints.

Figure 3a



PHOTOGRAPH A



PHOTOGRAPH B



PHOTOGRAPH C