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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

**In addition to this paper you will require:**

- 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			
1			
Q			
2			
R			
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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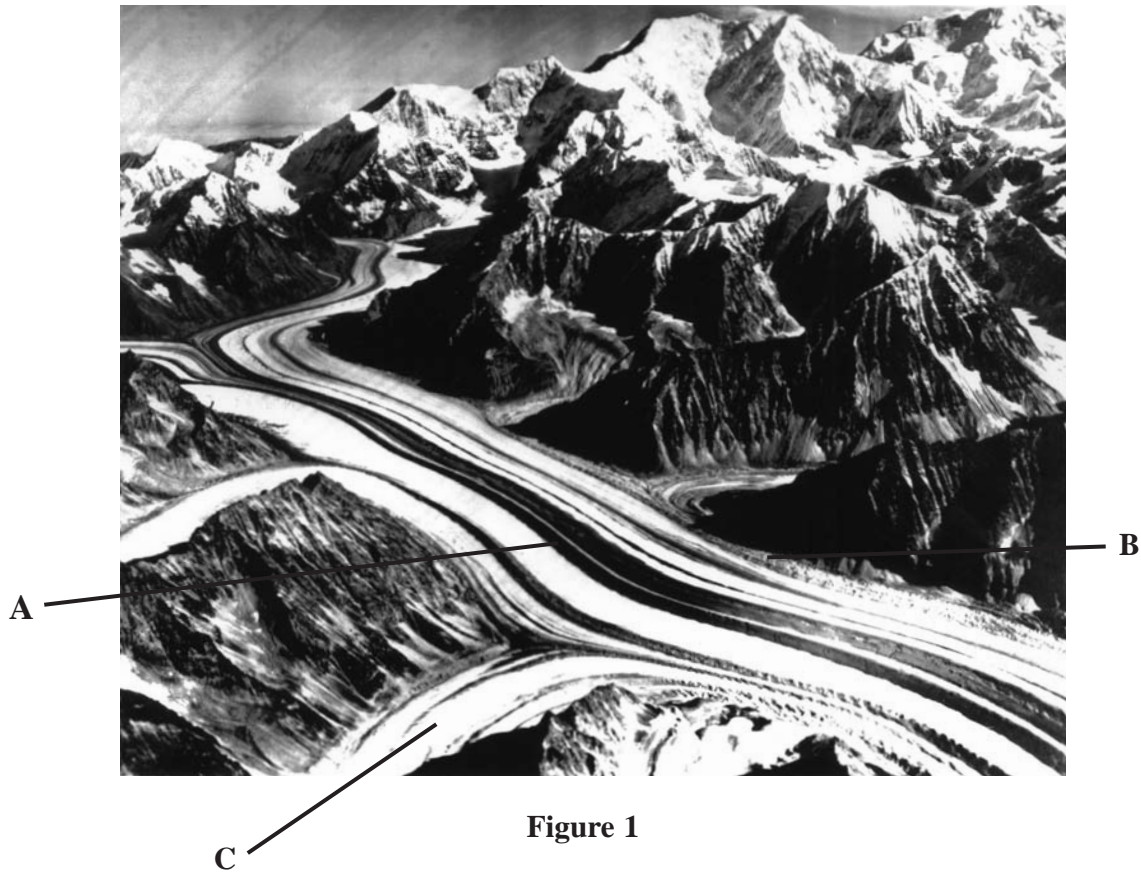
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 (8 marks)

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



- (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)

- Chosen landform: .....

[illegible]

[www.theallpapers.com](http://www.theallpapers.com)

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

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(6 marks)

**QUESTION 1 CONTINUES ON THE NEXT PAGE**

- (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**

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

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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

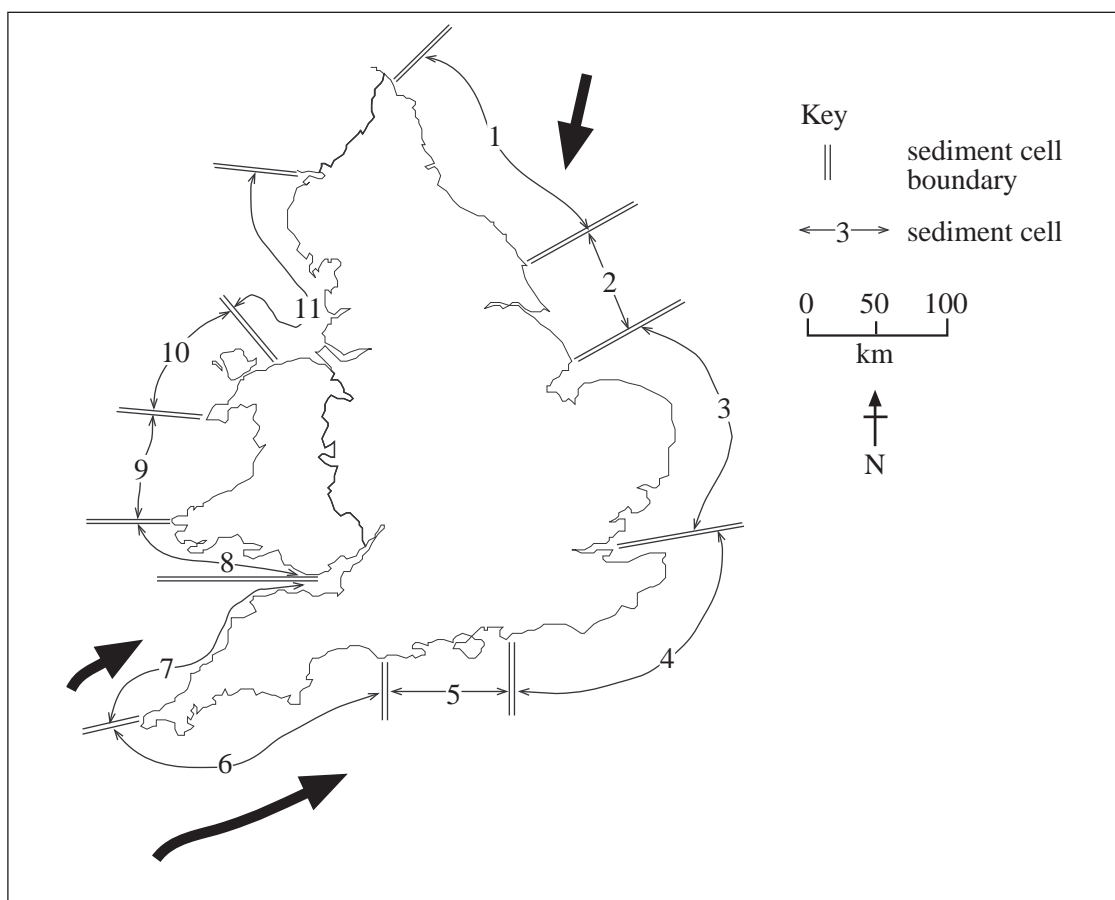
(3 marks)

(8 marks)

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- This image shows a full page of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page, providing a template for handwriting practice or general writing. There are no margins, text, or other markings on the page.

[www.theallpapers.com](http://www.theallpapers.com)

- (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**

- (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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(6 marks)

TURN OVER FOR THE NEXT QUESTION

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)

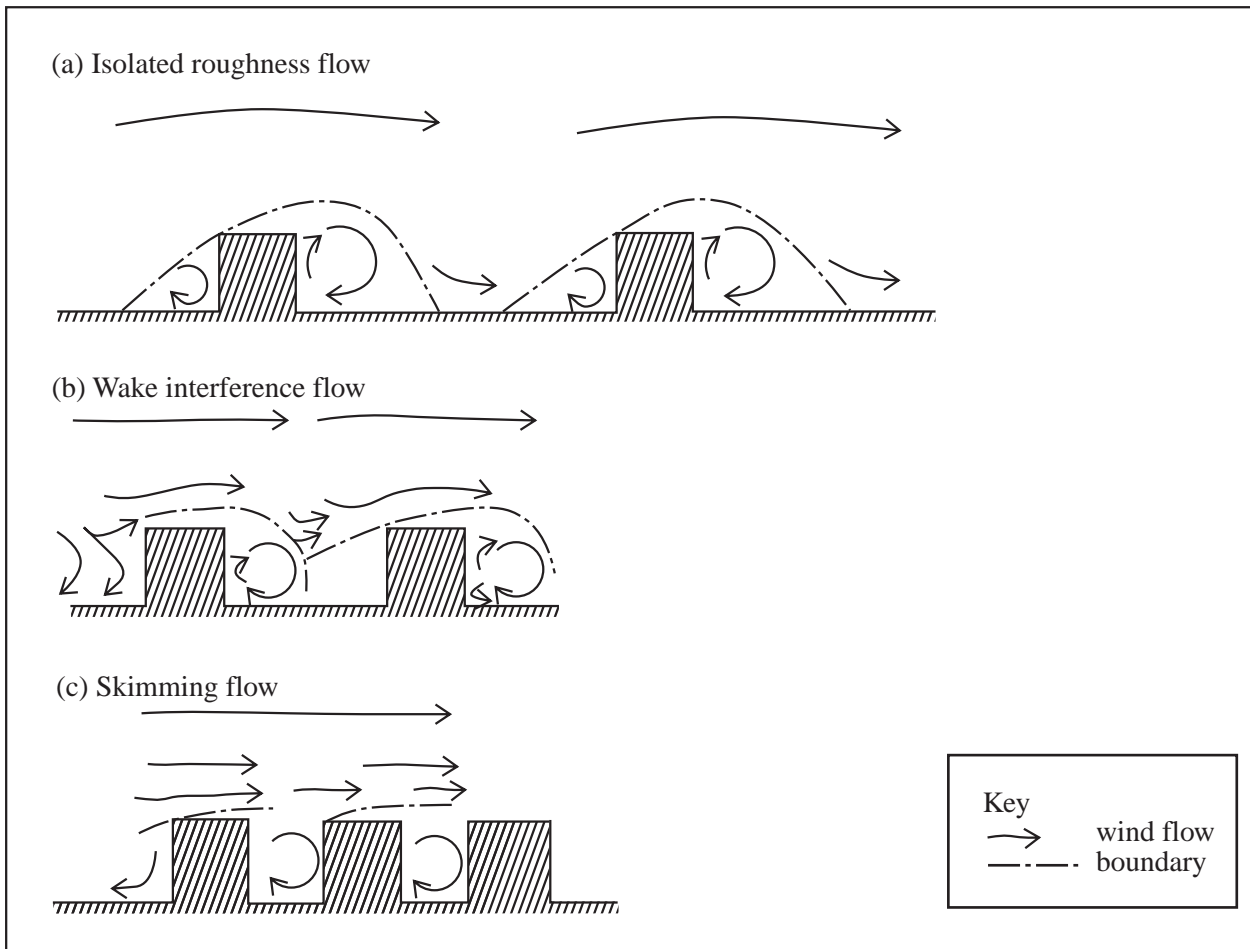


- [illegible]

**QUESTION 3 CONTINUES ON THE NEXT PAGE**

- [www.theallpapers.com](http://www.theallpapers.com)

(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)

- (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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(5 marks)

END OF QUESTIONS

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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 C**