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General Certificate of Education  
 June 2003  
 Advanced Subsidiary Examination



**GEOGRAPHY (SPECIFICATION B)**  
**Unit 2 The Physical Options**

**GGB2**

Friday 23 May 2003 Afternoon Session

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

- The insert to be used with Questions 1 and 3 (enclosed).

The insert is not included in the question paper due to third-party copyright constraints.  
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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 3.  
 Option **Q**: Coastal Environments – Page 10.  
 Option **R**: Urban Physical Environments (Temperate Urban Areas) – Page 16.
- 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(s) of the question(s) you are answering.

**Information**

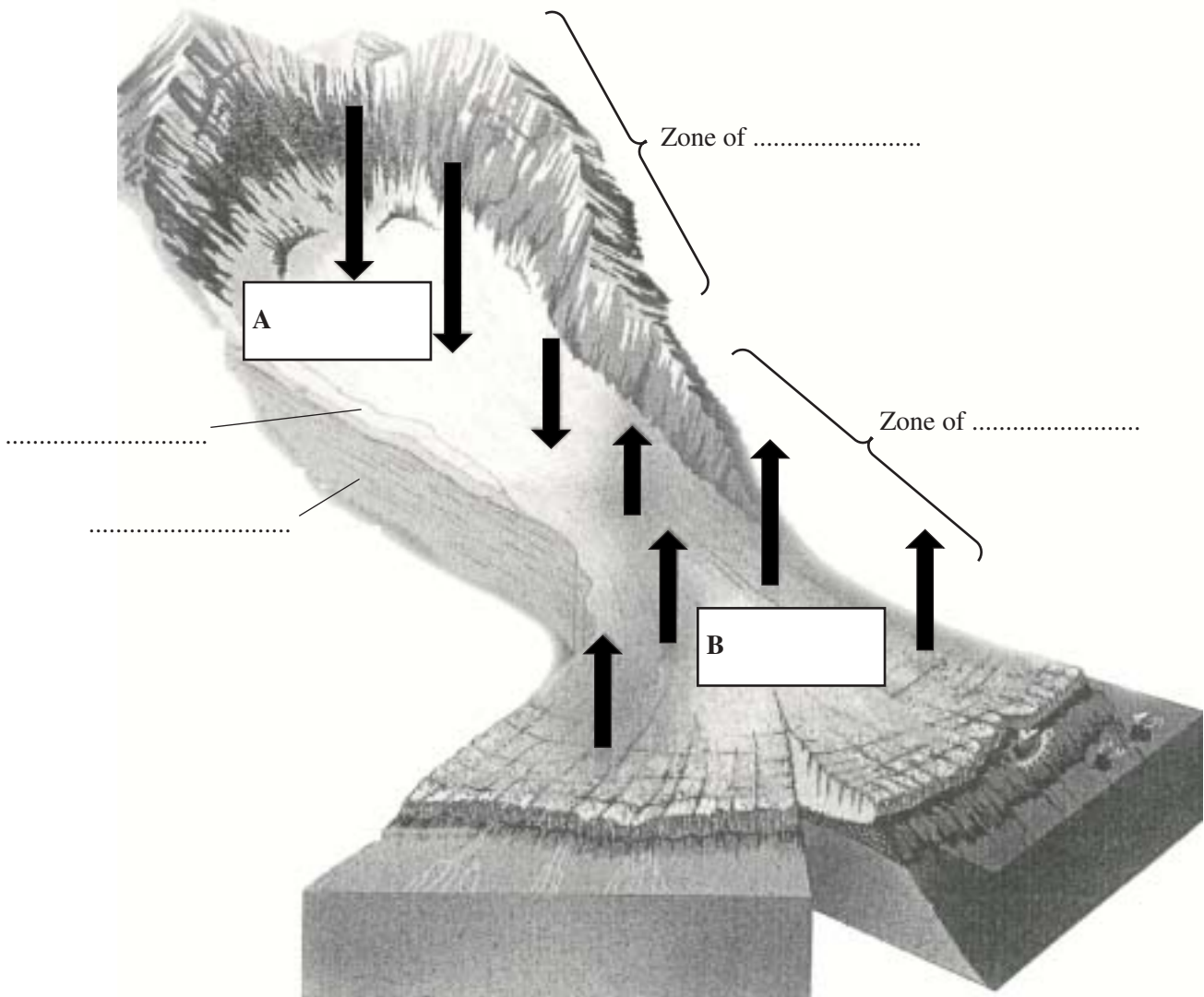
- The maximum mark for this paper is 50.
- Mark allocations are shown in brackets.
- You are expected to use a calculator where appropriate.
- You will be assessed on your ability to use an appropriate form and style of writing, to organise relevant information clearly and coherently, and to use specialist 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.

**OPTION P GLACIAL ENVIRONMENTS**

1 (a) Look at **Figure 1**, which shows a glacial budget.



**Figure 1**

(i) On the diagram:

At **A**, name **one** input into a glacier

At **B**, name **one** output from a glacier

(2 marks)

(ii) Complete the other labels in **Figure 1** from the list below.

Ice	Snout	Firn	Accumulation	Ablation
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(4 marks)

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(iii) Describe how and explain how glacial ice moves.

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*(8 marks)*

(b) Choose a landform that has been formed by glacial erosion.

(i) Name your chosen landform and describe its characteristics.

Name of chosen landform: .....

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*(7 marks)*

(ii) Explain how the landform chosen in (b) (i) was formed by glacial erosion.

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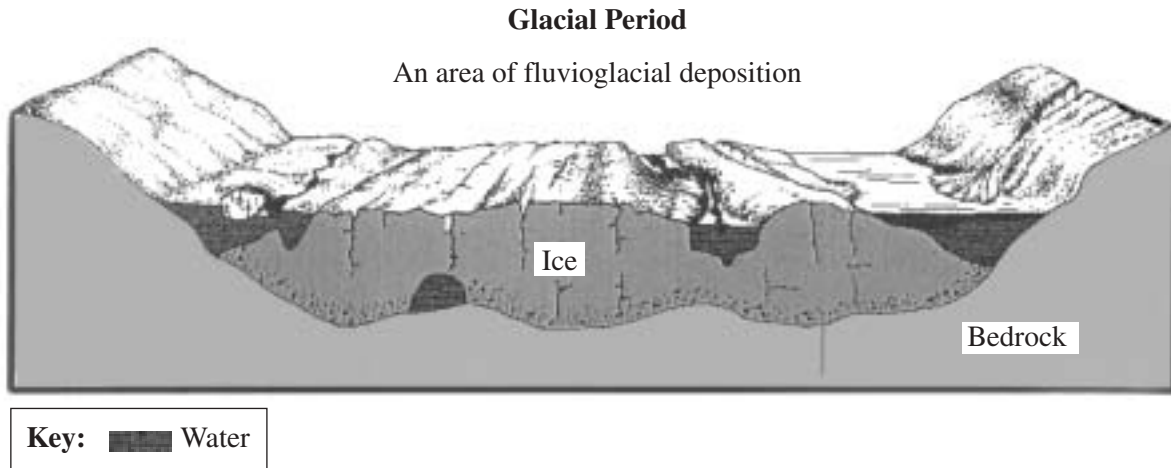
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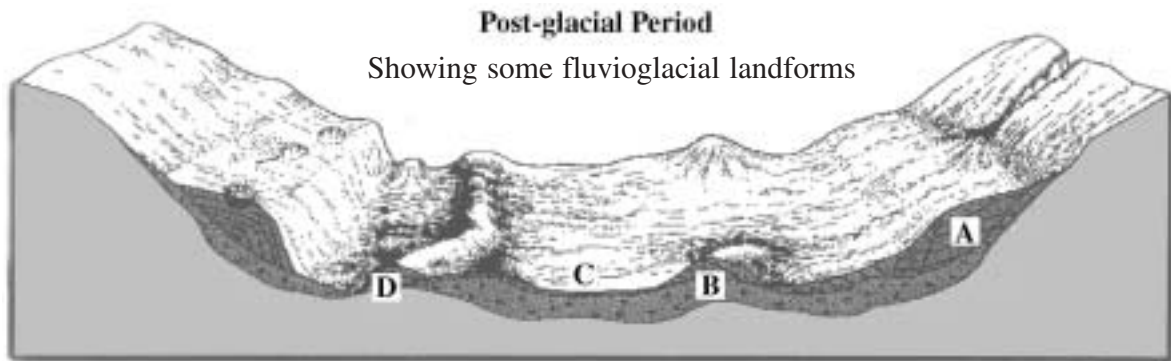
*(7 marks)*

**Turn over ►**

(c) Look at **Figures 2a** and **2b**.



**Figure 2a**



**Figure 2b**

Choose **one** of the landforms **A** to **D** in **Figure 2b**. Name and describe the landform. With the aid of **Figures 2a** and **2b**, explain how it was formed.

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(8 marks)

(d) Look at **Figure 3** (insert), a photograph of a periglacial landform, labelled **X**.

(i) Using the photograph and your own knowledge, describe landform **X**.

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- (ii) Choose **any** periglacial landform (it could be the one in the photograph) and explain how it was formed.

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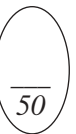
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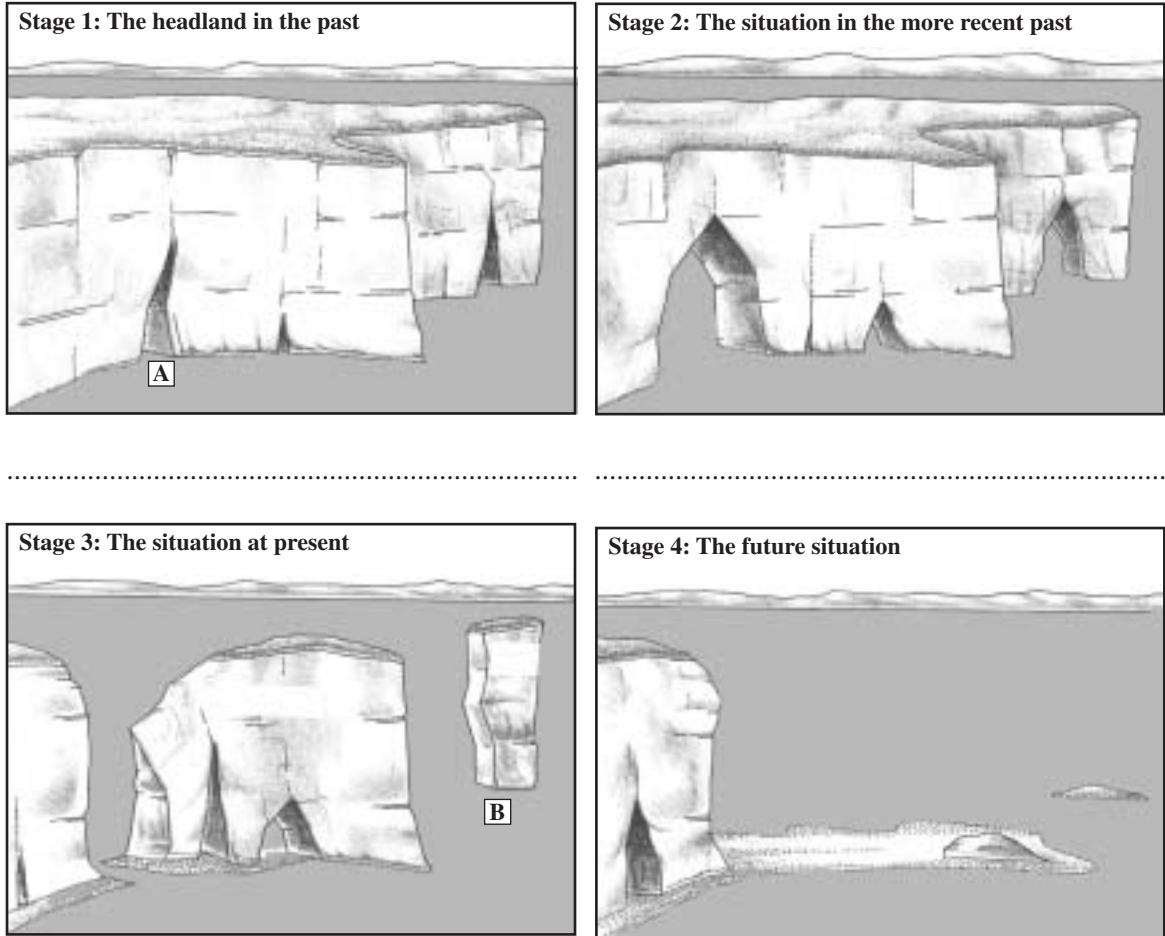


**TURN TO PAGE 10 FOR THE NEXT QUESTION**

Answer the question on Option P or Q or R.

**OPTION Q COASTAL ENVIRONMENTS**

2 (a) Look at **Figure 4**.



**Figure 4**

(i) Name the landforms **A** and **B** on **Figure 4**.

**Landform A:** .....

**Landform B:** .....

(2 marks)

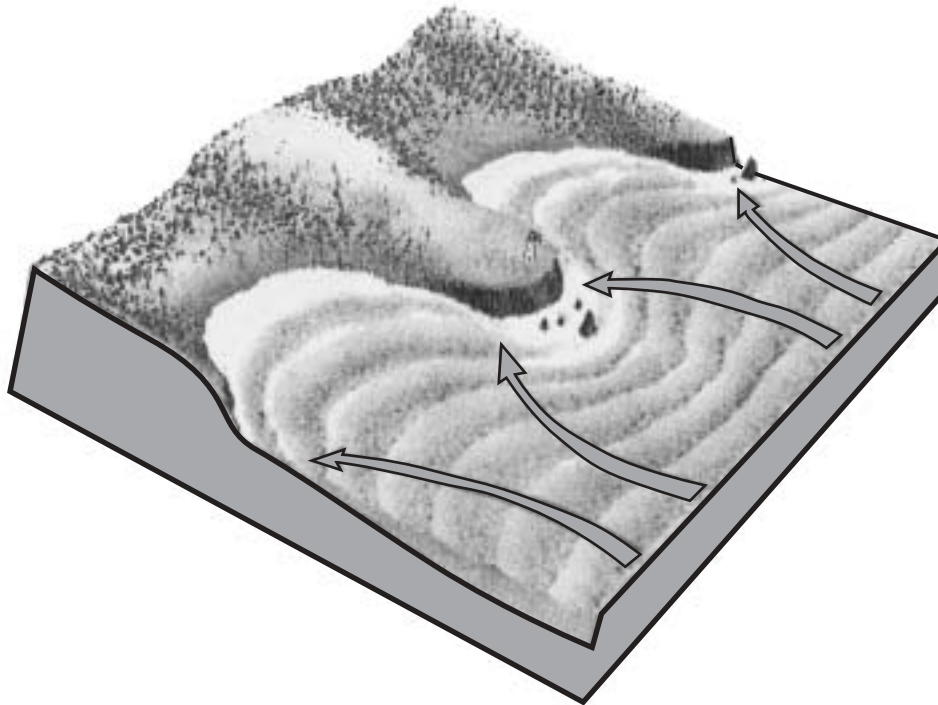
(ii) Complete **Figure 4** by labelling each diagram from the list below.

Spit	Stump	Waves attack weakness in the rock	Arch of rock collapses	Arch formed by action of waves
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(4 marks)



(iii) Look at **Figure 5**.



**Figure 5**

With the help of **Figure 5** and your own knowledge, explain how the process of wave refraction can cause erosion to both sides of the headland.

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- (d) Explain how sea levels can change relative to land area, both locally and globally.

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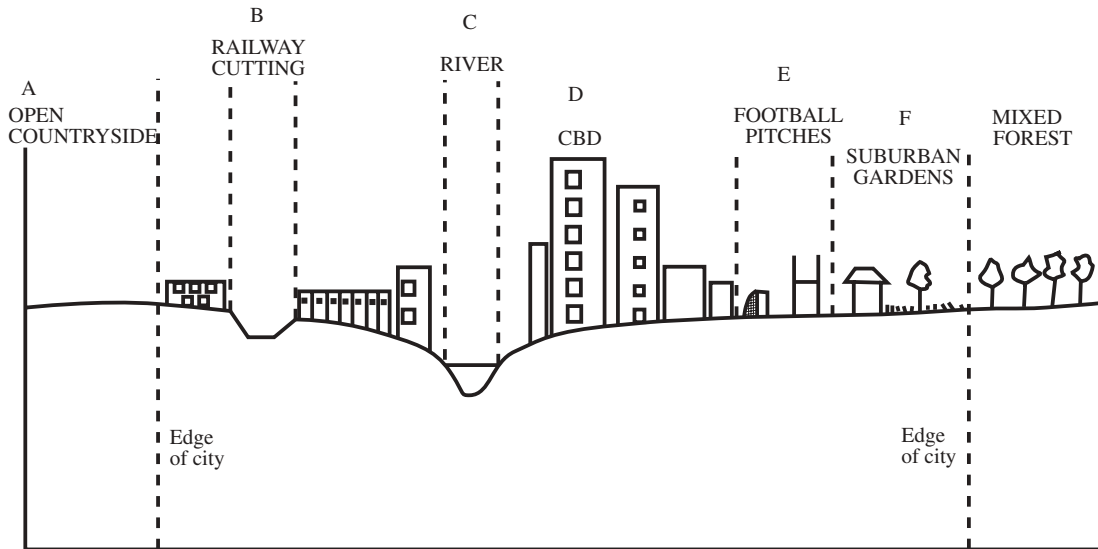
**TURN OVER FOR THE NEXT QUESTION**

**Turn over ►**

Answer the question on Option P or Q or R.

**OPTION R URBAN PHYSICAL ENVIRONMENT (TEMPERATE URBAN AREAS)**

3 (a) (i) Study **Figure 6**.



**Figure 6**

Put the correct letter from the diagram against the following statements.

Highest average wind speeds	
Most diverse ecology	
Least diverse ecology	
The area most likely to experience fog	
The highest temperatures	
The most-planned introduction of species	

(6 marks)

(ii) Using **Figure 6** and your own knowledge, explain how particulates and other factors lead to the formation of precipitation and fog in urban areas.

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(8 marks)

(b) Look at **Figure 7** (insert).

(i) Describe the distribution of temperature in the temperate city as shown in **Figure 7**.

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(d) Describe and explain why parks have an ecology that is different to other parts of the urban area.

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(8 marks)



**END OF QUESTIONS**

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**Figure 1** DOLGOFF, ANATOLE, *Essentials of Physical Geology*, 1998 (Houghton Mifflin Company).

**Figure 4** TARBUCK, LUTGENS, *Earth: An Introduction to Physical Geology* (Pearson Education Ltd).