

Surname						Other Names					
Centre Number						Candidate Number					
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General Certificate of Education
 June 2006
 Advanced Subsidiary Examination



GEOGRAPHY (SPECIFICATION B)
Unit 2 The Physical Options

GGB2

Friday 26 May 2006 1.30 pm to 2.30 pm

For this paper you must have:

- the colour insert (enclosed)

You may use a calculator.

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 17.
- 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.
- The marks for questions are shown in brackets.
- You are expected to use a calculator where appropriate.
- You are reminded of the need for good English and clear presentation in your answers. All questions should be answered in continuous prose. Quality of Written Communication will be assessed in all answers.

For Examiner's Use			
Number	Mark	Number	Mark
P	X	R	X
1		3	
Q	X		
2			
TOTAL			
Examiner's Initials			

There are no questions printed on this page

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?

Accumulation

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(4 marks)

Ablation

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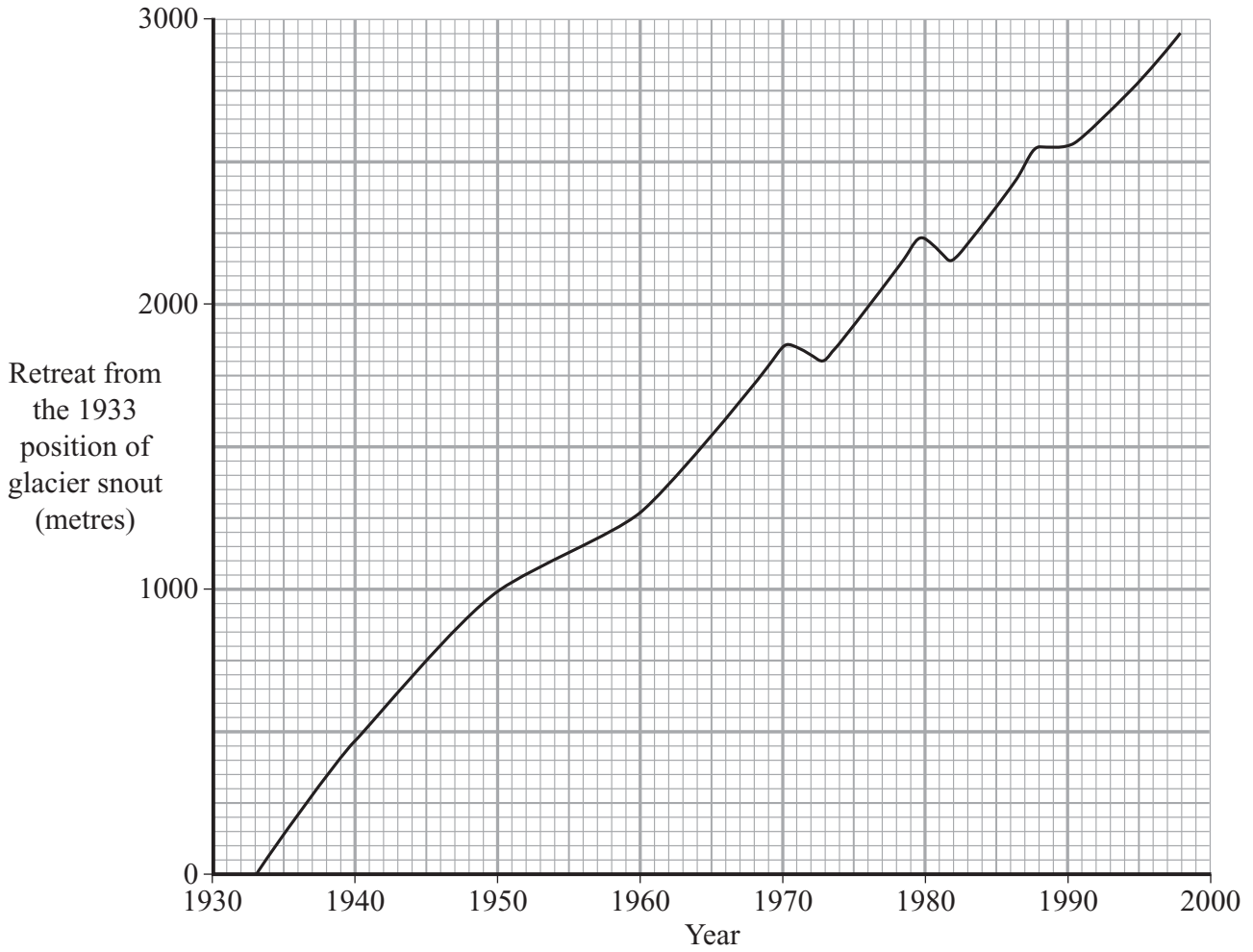
(4 marks)

Question 1 continues on the next page

Turn over ►

(ii) Study **Figure 1** which relates to a glacier in Iceland.

Figure 1



Describe the retreat of the glacier.

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(5 marks)

(iii) Describe and explain the ways in which a valley glacier flows.

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(b) Using an example(s), describe and explain the characteristics of a glacial trough and its associated features.

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(c) Describe **one** example of how glacial ice has directly or indirectly caused a river to change its course (drainage diversion). You may use a diagram to illustrate your answer.

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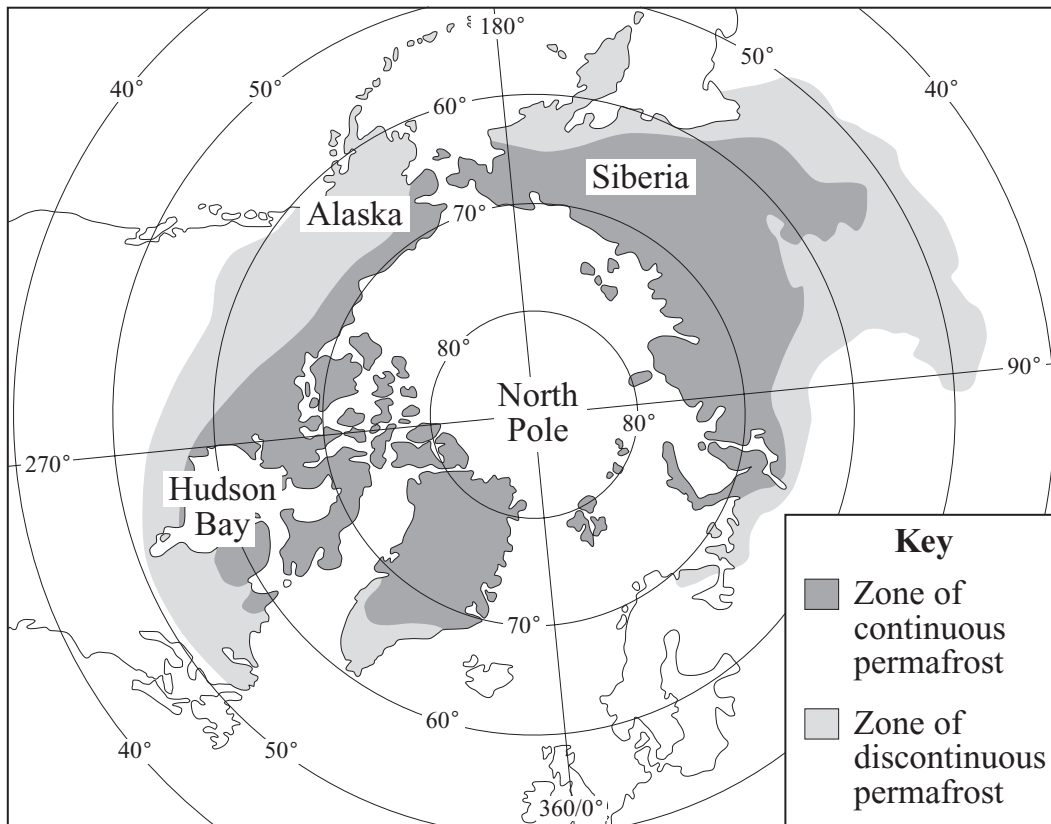
(6 marks)

Question 1 continues on the next page

Turn over ►

(d) Study **Figure 2**.

Figure 2



(i) Describe the distribution of continuous and discontinuous permafrost.

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(7 marks)

- (ii) Choose **one** landform that has been formed by periglacial processes. Describe that landform and explain how it was formed.

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END OF OPTION P

Turn over for Option Q

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

OPTION Q: COASTAL ENVIRONMENTS

2 (a) (i) In the context of marine processes, what is meant by the following terms?

Constructive wave

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(4 marks)

Destructive wave

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(ii) With the aid of a diagram, describe the process of wave refraction.

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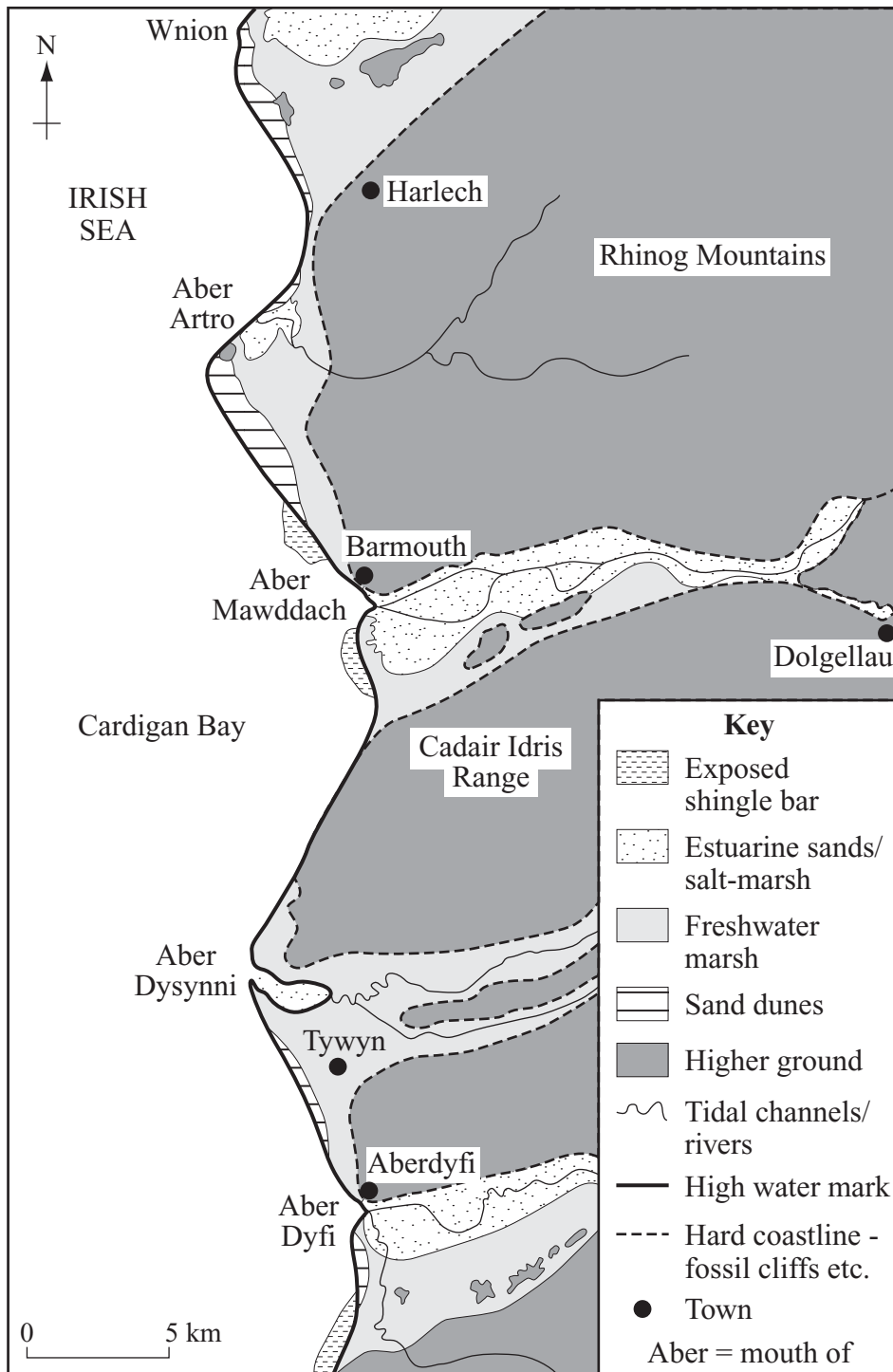
(6 marks)

Question 2 continues on the next page

Turn over ►

(b) Study **Figure 3** which shows part of the Welsh coast.

Figure 3



- (i) Describe the distribution of sand dunes and estuarine sands/salt-marsh along this part of the Welsh coast.

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(7 marks)

- (ii) Choose **one** landform that has been formed by marine deposition. Describe that landform and explain how it was formed.

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(c) (i) Explain the process of eustatic sea level change.

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- (ii) Explain how glacially induced isostatic movements have affected, and still affect, sea levels around the British Isles.

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Question 2 continues on the next page

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- (iii) Using an example(s), describe the characteristics of coral reefs and explain the role of sea level change in their formation.

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END OF OPTION Q

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

OPTION R: URBAN PHYSICAL ENVIRONMENTS (TEMPERATE URBAN AREAS)

- 3** (a) Study **Figure 4** which shows the increase in heat island intensity in selected temperate cities.

Figure 4

Graph on increasing temperatures - not reproduced here due to third-party copyright constraints.

- (i) What does **Figure 4** show about urban heat islands?

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(4 marks)

Question 3 continues on the next page

Turn over ►

(ii) Explain why the urban heat island is growing in intensity in most temperate cities.

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(6 marks)

(b) Study **Figure 5**, on the insert, which shows the distribution of thunderstorm rain in south-east England over a 10-year period.

(i) Describe the distribution of thunderstorm rain in south-east England.

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(ii) Explain the effects that urban areas have on the incidence and intensity of thunderstorms.

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(c) (i) How and why do winds in urban areas vary in speed and frequency?

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(ii) With the aid of a diagram, describe how an isolated building may affect winds.

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Question 3 continues on the next page

Turn over ►

- (d) (i) Using example(s), describe and explain the plant succession that occurs in an urban environment after land has been neglected.

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- (ii) Describe an urban ecological conservation area that you have studied.

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END OF QUESTIONS

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Figure 2 &

Figure 3: D BRIGGS ET AL, *Fundamentals of the Physical Environment*, 2nd Edition, Thomson Publishing Services.

Figure 4: www.snr.unl.edn

Figure 5: DR A K HIGNELL – Head of Geography Dept, Wells Cathedral School, Sept '93–Dec '04 (e-mail: higgers@glamorgancricket.co.uk)
After B W ATKINSON, *Transactions of the Institute of British Geographers*, 1968.

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QUESTION
NUMBER

Write the question number in the left-hand margin.

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