



# Cambridge Pre-U

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## GEOGRAPHY

9768/04

Paper 4 Research Topic

For examination from 2020

SPECIMEN PAPER

1 hour 30 minutes



You must answer on the answer booklet/paper.

You will need: Answer booklet/paper  
Insert (enclosed)

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### INSTRUCTIONS

- Answer **three** questions in total:  
Choose Section A, B or C according to your research topic.  
Answer three questions from the same section.  
**For Section A**, answer Question 1, Question 2 and **either** Question 3 **or** Question 4.  
**For Section B**, answer Question 5, Question 6 and **either** Question 7 **or** Question 8.  
**For Section C**, answer Question 9, Question 10 and **either** Question 11 **or** Question 12.
- If you have been given an answer booklet, follow the instructions on the front cover of the answer booklet.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number on all the work you hand in.
- Do **not** use an erasable pen or correction fluid.
- You should support your answers with appropriate examples, sketch maps and diagrams.
- At the end of the examination, fasten all your work together. Do **not** use staples, paper clips or glue.

### INFORMATION

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [ ].
- The insert contains all the resources referred to in the questions.

This specimen paper has been updated for assessments from 2020. The specimen questions and mark schemes remain the same. The layout and wording of the front covers have been updated to reflect the new Cambridge International branding and to make instructions clearer for candidates.

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This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 3 Pre-U Certificate.

This document has **6** pages. Blank pages are indicated.

### Section A: Small-Scale Ecosystems

Answer **three** questions:  
Question 1, Question 2  
and **either** Question 3 **or** Question 4

**1** Study Fig. 1, which shows plant species along a woodland transect.

(a) Using Fig. 1, name the plant species recorded at sample site 6 on the transect. [2]

(b) Contrast the occurrence of couch grass with that of ivy along the transect shown in Fig. 1. [4]

Study Fig. 2, which shows the relationship between distance and soil moisture pH along a transect through a sand dune ecosystem.

(c) To what extent is the use of the line of best fit drawn on Fig. 2 valid? Support your answer with evidence from Fig. 2. [6]

(d) Assess the usefulness of the types of diagrams shown in Figs 1 and 2 to those responsible for managing small-scale ecosystems. [8]

**2** Study Fig. 3, which shows the location of two species of bluebell in the Borough of Halton, near Liverpool, England, in 2007.

(a) Using Fig. 3, to what extent is the spatial distribution of bluebells on the northern side of the River Mersey different from that on the southern side of the river? [5]

(b) 'While the successful management of small-scale ecosystems presents challenges, it should also provide opportunities.'

From your wider study of small-scale ecosystems, to what extent do you agree with this statement? [10]

#### Either

**3** With reference to your own investigation of small-scale ecosystems, to what extent did the scale of your investigation limit the conclusions you were able to draw?

Begin by stating the question or hypothesis that you investigated. [15]

#### Or

**4** With reference to examples from your own investigation of small-scale ecosystems, discuss how you developed and improved your methods of data collection.

Begin by stating the question or hypothesis that you investigated. [15]

## Section B: Managing Rural Environments

Answer **three** questions:  
Question 5, Question 6  
and **either** Question 7 **or** Question 8

- 5** Study Fig. 4, which shows employment type in National Parks and in England and Wales in 2011.
- (a) Giving evidence from Fig. 4, in which employment type shown is there the largest difference between National Parks and the total for England and Wales? [2]

Study Fig. 5, which shows internal migration for rural and major urban areas in England from 2000 to 2010.

- (b) Using Fig. 5, contrast the internal migration trend for rural areas with that for major urban areas in England between 2000 and 2010. [4]

Study Fig. 6, which shows the percentage change in population size for selected National Parks in England and Wales between 2001 and 2011.

- (c) 'A common picture appearing across National Parks is an ageing population.'
- How far does Fig. 6 support this statement? [6]
- (d) Assess the usefulness of Figs 4, 5 and 6 to those responsible for managing rural environments. [8]

- 6** Study Fig. 7, a 1:50 000 OS map extract of a rural area in SW Northumberland, England.

- (a) Using Fig. 7, outline the ways in which conflicts might arise between different groups of visitors to the rural area shown on the map. [5]

- (b) 'Changes in rural areas have produced both winners and losers.'

From your wider study of managing rural environments, to what extent do you agree with this statement? [10]

### Either

- 7** With reference to your own investigation of managing rural environments, to what extent did the scale of your investigation limit the conclusions you were able to draw?

Begin by stating the question or hypothesis that you investigated. [15]

### Or

- 8** With reference to examples from your own investigation of managing rural environments, discuss how you developed and improved your methods of data collection.

Begin by stating the question or hypothesis that you investigated. [15]

### Section C: Fluvial Geomorphology

Answer **three** questions:  
Question 9, Question 10  
and **either** Question 11 **or** Question 12

- 9 Study Fig. 8, which shows the relationship between river channel pattern and bed material.
- (a) At point **X** on Fig. 8, 60% of the bed material is composed of solid rock. State the percentages of bed material that are sand and gravel and clay and organic material. [2]
- (b) Using Fig. 8, contrast the bed material in a river at **Y** with that found in a river at **Z**. [4]

Study Fig. 9, which is a 1:50 000 OS map extract showing part of the River Spey in Scotland, and Photograph A of part of the River Spey shown on Fig. 9.

- (c) Draw a simple sketch map of the course of the river shown in Photograph A. Using information from both the map extract and the photograph, clearly label the fluvial landforms you can identify. [6]
- (d) It has been suggested that the stretch of the River Spey shown on Fig. 9 should be straightened.

Assess the usefulness of Figs 8 and 9 and Photograph A to those responsible for making the decision about straightening the river course. [8]

- 10 Study Fig. 10, which shows bedload particle diameter and distance from the source of one river in the UK.
- (a) 'Bedload particle diameter decreases downstream.'
- Consider the extent to which the data in Fig. 10 supports this hypothesis. [5]
- (b) 'The unexpected negative effects produced by modification of river channels are often greater than the expected benefits.'
- From your wider study of fluvial geomorphology, to what extent do you agree with this statement? [10]

#### Either

- 11 With reference to your own investigation of fluvial geomorphology, to what extent did the scale of your investigation limit the conclusions you were able to draw?
- Begin by stating the question or hypothesis that you investigated. [15]

#### Or

- 12 With reference to examples from your own investigation of fluvial geomorphology, discuss how you developed and improved your methods of data collection.
- Begin by stating the question or hypothesis that you investigated. [15]



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**Copyright Acknowledgements:**

Question 1 Figure 1	© adapted: Alan Cadogan & Malcolm Ingram; <i>Maths for Advanced Biology</i> ; Nelson Thornes Ltd; 2002.
Question 2 Figure 3	© Dr Samantha Langdon; <i>Halton Bluebell Survey Report</i> ; <a href="http://www.record-irc.co.uk/Downloads/bluebell%20project/WEB%20August%202007%20report.pdf">http://www.record-irc.co.uk/Downloads/bluebell%20project/WEB%20August%202007%20report.pdf</a> ; 22 May 2013.
Question 5 Figure 4	© <i>National Parks in England and Wales</i> ; <a href="http://youtube.com/watch?v=UnVxNzXggMQ">http://youtube.com/watch?v=UnVxNzXggMQ</a> ; 23 May 2013.
Question 5 Figure 5	© <i>DEFRA statistical digest of rural England 2012</i> ; <a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69493/pb13642-rural-digest-2012.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69493/pb13642-rural-digest-2012.pdf</a> ; 23 May 2013.
Question 5 Figure 6	© <i>Characteristics of National Parks</i> ; Office for National Statistics; 23 May 2013.
Question 6 Figure 7	© <i>Hexham and Haltwhistle</i> ; OS Landranger 87; Ordnance Survey; 2009.
Question 9 Figure 8	© K Hilton; <i>Process and Pattern in Physical Geography</i> ; University Tutorial Press; 1985.
Question 9 Figure 9	© <i>Extract of River Spey</i> ; Ordnance Survey.
Question 9 Figure 10	© <i>River Spey between Drumuillie and Culachie</i> ; <a href="http://www.multi-map.net/">http://www.multi-map.net/</a> .

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