Cambridge International Examinations
Cambridge Pre-U Certificate

Cambridge Pre-U

GEOGRAPHY **9768/04**

Paper 4 Research Topic **For Examination from 2016**

SPECIMEN PAPER

1 hour 30 minutes

Additional materials: Answer Booklet/Paper

READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.
Write your Centre number, candidate number and name on the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Chose Section A **or** Section B **or** Section C, according to your research topic.

Answer **three** questions, from the same section.

You are advised to spend thirty minutes on each Question.

For **Section A**, Small-Scale Ecosystems,
Answer Question 1, Question 2 and **either** Question 3 **or** Question 4

For **Section B**, Managing Rural Environments
Answer Question 5, Question 6 and **either** Question 7 **or** Question 8

For **Section C**, Fluvial Geomorphology
Answer Question 9, Question 10 and **either** Question 11 **or** Question 12

The Insert contains all the Figures and the Photograph referred to in the Question Paper.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **4** printed pages, **2** blank pages and **1** Insert.

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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]

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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?   [15]

   Begin by stating the question or hypothesis that you investigated.

Or

12   With reference to examples from your own investigation of fluvial geomorphology, discuss how you developed and improved your methods of data collection.   [15]

   Begin by stating the question or hypothesis that you investigated.

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