Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
TOTAL	

General Certificate of Education
Advanced Level Examination
January 2010

Geography GEO4A

Unit 4A Geography Fieldwork Investigation

Tuesday 26 January 2010 9.00 am to 10.30 am

You will need no other materials.
You may use a calculator.

Time allowed
- 1 hour 30 minutes

Instructions
- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 60.
- You will be marked on your ability to:
  – use good English
  – organise information clearly
  – use specialist vocabulary where appropriate.

Advice
- You are advised to spend about 60 minutes on **Section A** and about 30 minutes on **Section B**.

SECTION A

Answer **all** questions in the spaces provided.

All your answers should relate to the geographical fieldwork investigation that you undertook in preparation for this examination.

State the aim(s) of your investigation.

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1 Describe the location of your fieldwork investigation and explain its relevance to the aim(s).

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(12 marks)

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Turn over for the next question

2 (a) Explain how **one** method of data collection that you used was suitable for the investigation.

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(6 marks)

(Extra space).....

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2 (b) As a result of your experience in the field, justify **one or more** improvements that you would make to a method of data collection that you used.

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Question 2 continues on the next page

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(12 marks)

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3 Evaluate the usefulness of the conclusions reached in your investigation and consider their potential implications.

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Turn over for the next question

SECTION B

Answer **all** questions in the spaces provided.

4 The data in **Figure 1** come from a fieldwork investigation on river velocity and channel width, carried out by an A Level student.

Figure 1

Study site number from source	Channel width (m)	Velocity (m/s)
1	10.3	0.44
2	11.2	0.48
3	13.2	0.58
4	8.7	0.70
5	6.7	0.52
6	17.0	0.95
7	10.1	0.64
8	9.6	0.42
9	15.7	0.98
10	16.8	0.76

The A Level student proposed the following hypothesis:

velocity will increase with increasing channel width.

To test this hypothesis, a Spearman's rank correlation coefficient was calculated; the result was $r_s = +0.576$.

The critical values of r_s at two chosen significance levels are as follows:

Sample size	Significance level	
	0.05	0.01
10	0.564	0.745

4 (a) Interpret the value of r_s that has been calculated.

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(4 marks)

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4 (b) With reference to **Figure 1**, suggest an alternative way to present and analyse these data.

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(4 marks)

(Extra space) .....

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Question 4 continues on the next page

4 (c) Explain how the use of techniques, such as those referred to in **4**(a) and **4**(b), may help the analysis of data collected in the field and increase geographical understanding.

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(12 marks)

(Extra space) .....

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END OF QUESTIONS

There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED