Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

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General Certificate of Education
January 2004
Advanced Level Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

GEOGRAPHY (SPECIFICATION B) GGB6
Unit 6

Friday 30 January 2004 Afternoon Session

No additional materials are required

Time allowed: 1 hour 30 minutes

Instructions

- Use blue or black ink or ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **both** questions.
- Sketch maps, diagrams and specific examples should be given, where appropriate.
- Do all rough work in this book. Cross through any work you do not want marked.

Information

- The maximum mark for this paper is 50.
- Mark allocations are shown in brackets.
- 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
1			
2			
Total (Column 1) →			
Total (Column 2) →			
TOTAL			
Examiner's Initials			

Answer **both** questions

Total for this question: *25 marks*

1 With reference to a fieldwork investigation that you have carried out in geography:

(a) (i) Describe the aims of your fieldwork; and state **one** hypothesis or research question that you set up to help you achieve your aims.

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(5 marks)

(ii) Describe **one** technique which you used to present your data.
Explain why this technique was suitable for your investigation. Refer to the strengths, and any weaknesses, of the technique.

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(8 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

(b) (i) State the results of your investigation.

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(4 marks)

(ii) How did your fieldwork help you to gain an understanding of the environment or topic which you were studying?

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(8 marks)

TURN OVER FOR THE NEXT QUESTION

25

2 (a) Study **Figure 1**. It shows figures for GNP and carbon emissions for selected countries. These figures are being used as the basis for a Spearman rank correlation test.

	GNP per capita		Carbon emissions (tonnes per person per year)		D (R1–R2)	
		Rank 1		Rank 2	D	D^2
Brazil	4 790	4	1.7			
China	860	10	2.8	8	2	4
Colombia	2 180	8	1.7			
Germany	28 280	2	10.5	3	–1	1
India	370	11	1.1			
Jamaica	1 550	9	4.0	7	2	4
Kenya	340	12	0.2			
Malaysia	4 530	5	5.6	6	–1	1
Russia	2 680	7	10.7	2	5	25
S Africa	3 210	6	7.3	5	1	1
UK	20 870	3	9.5	4	–1	1
USA	29 080	1	20.0	1	0	0
						ΣD^2

Figure 1

(i) State the null hypothesis that is being tested.

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(1 mark)

(ii) Complete the table in **Figure 1**. *(5 marks)*

(iii) Substitute information from **Figure 1** in the equation below, then work out the Spearman rank correlation coefficient for these two sets of data.

$$Rs = 1 - \frac{(6\ \Sigma D^2)}{n^3 - n}$$

(3 marks)

(iv)

	Levels of significance	
n	0.05	0.01
4	1.000	–
5	.900	1.000
6	.829	.943
7	.714	.893
8	.643	.833
9	.600	.783
10	.564	.746
12	.506	.712
14	.456	.645

Figure 2

Use the table in **Figure 2** to test the significance of your results.
Comment on the statistical significance of your results.

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(3 marks)

QUESTION 2 CONTINUES ON THE NEXT PAGE

(b) The data in **Figure 1** were collected by a non-governmental organisation concerned with the issues of the greenhouse effect, global warming and sustainable development.

Write a brief report of approximately 300 words to:
- summarise what these figures suggest about global warming issues;
- assess the strengths and weaknesses of the Spearman rank correlation test for analysing the data.

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(13 marks)

END OF EXAMINATION

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