

Centre No.						Paper Reference						Surname	Initial(s)	
Candidate No.						6	4	6	3	/	0	2	Signature	

Paper Reference(s)

6463/02

Edexcel GCE

Geography A

Advanced Subsidiary

Unit 3B: Applied Geographical Skills

Friday 19 May 2006 – Afternoon

Time: 1 hour 30 minutes

Examiner's use only

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Team Leader's use only

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Question Number	Leave Blank
1	
2	
Total	

Materials required for examination

Nil

Items included with question papers

Resource Booklet

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initial(s) and signature. Check that you have the correct question paper. Answer **BOTH** questions in the spaces provided in this question paper. Do not use pencil. Use black or blue ink. Show **all** the steps in any calculations.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2). There are 2 questions in this question paper. The total mark for this paper is 60. There are 16 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

You will be assessed on your ability to organise and present information, ideas, descriptions and arguments clearly and logically, including your use of grammar, punctuation and spelling. In all parts, credit will be given for the use of diagrams and sketch maps where they are appropriate.

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SECTION A

You MUST answer this question.

- 1. A group of students investigated rates of infiltration within a small drainage basin in lowland Britain (Item 1 in the Resource Booklet).**

Moderately grazed grassland covered approximately 75% of the study area and the remaining 25% was mixed woodland.

Two possible relationships were investigated:

- 1. Infiltration rates vary with different types of vegetation.**
- 2. Infiltration rates vary with the sand content of the soil.**

40 sites were selected: 30 on moderately grazed grassland, 10 in the mixed woodland.

- (a) (i) Explain why it was appropriate to select 10 sites in the area of mixed woodland.

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(3)

- (ii) Explain how the sampling would be organised if the proposed woodland clearance shown on Item 1 had taken place.

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(2)



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(iii) Items 2(a) and 2(b) in the Resource Booklet show the equipment used to measure infiltration rates.

Suggest possible difficulties that the students may have experienced in using this equipment.

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(4)



Relationship 1: Infiltration rates will vary under different types of vegetation

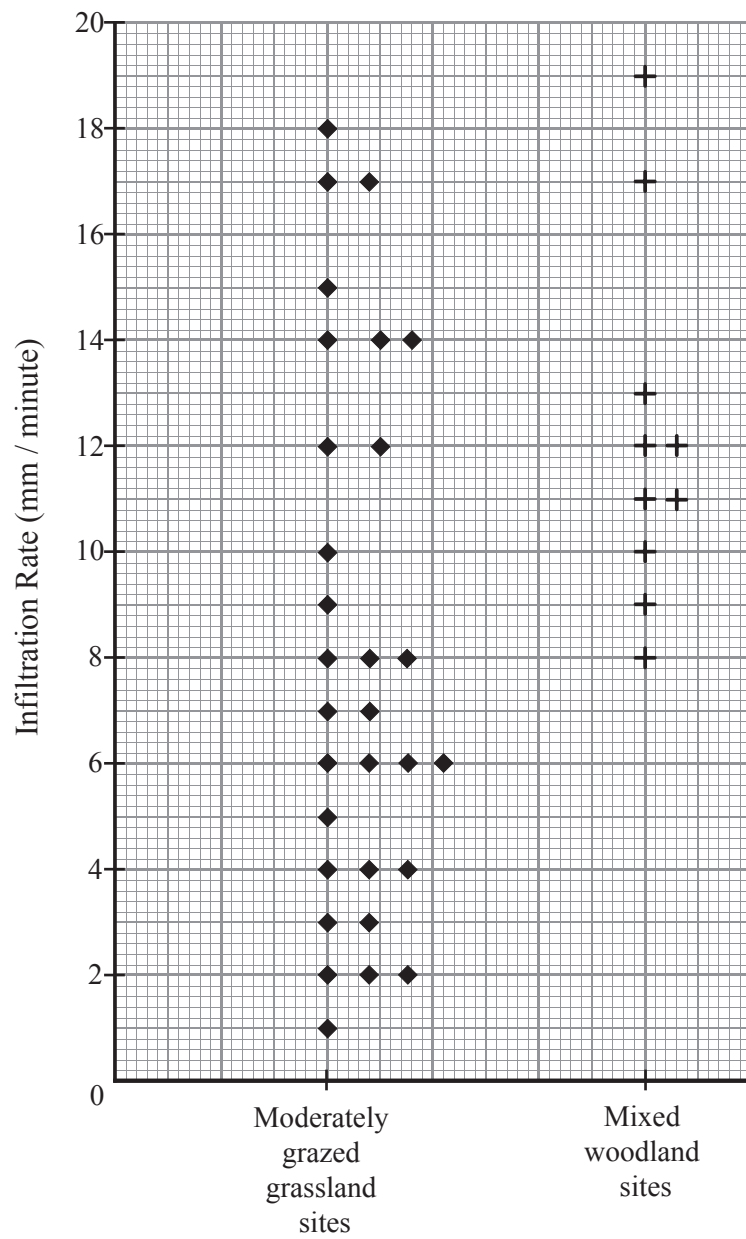


Figure 1

(b) (i) With reference to Figure 1 calculate:

1. the median infiltration value for mixed woodland

..... (1)

2. the inter-quartile range for mixed woodland.

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 (2)



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(ii) Why is it useful to know the inter-quartile range when analysing this data on infiltration rates?

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(2)

(iii) Describe how the pattern of results for moderately grazed grassland differs from that of mixed woodland.

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Relationship 2: Infiltration rates vary with sand content of the soil

(c) (i) Soil samples were taken from Sites A and B (shown on Item 1 in the Resource Booklet).

Complete Table 1 taking the data for Site B from Figure 2.

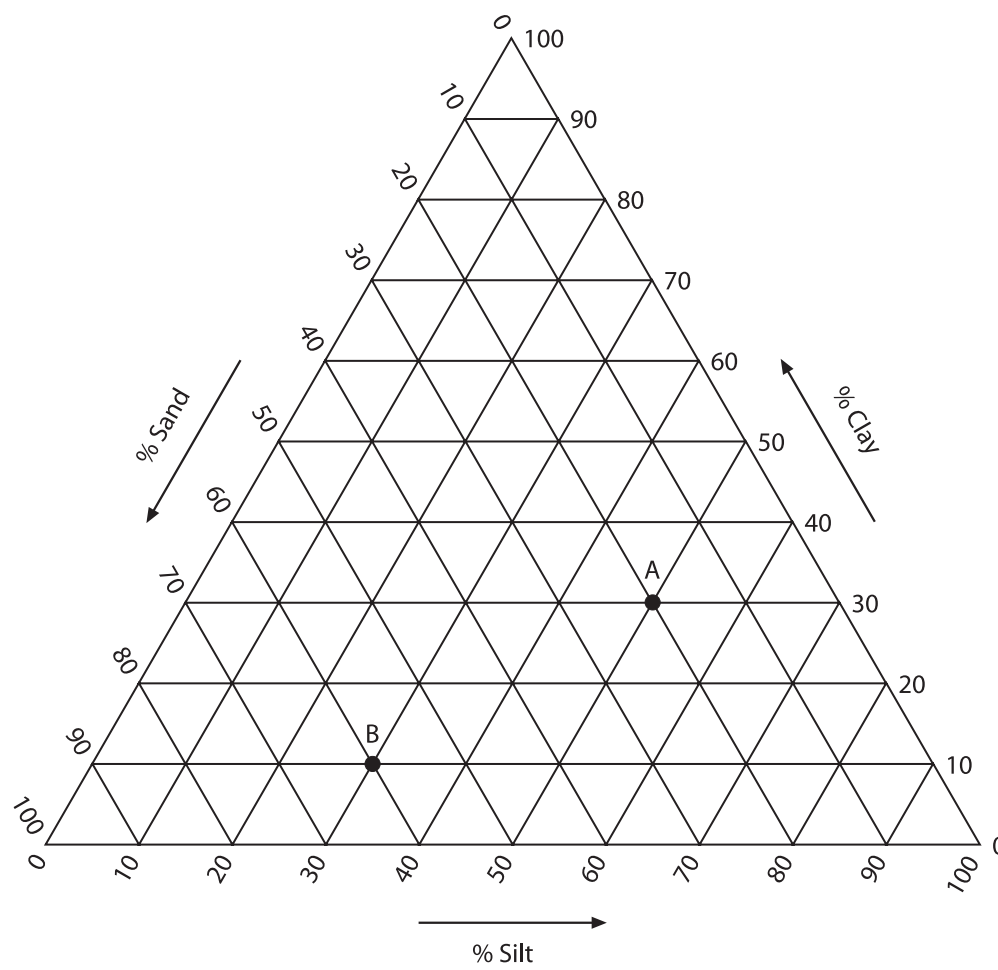


Figure 2

	% Sand	% Silt	% Clay	Infiltration rate mm / minute
A	20	50	30	1.0
B				13.0

Table 1

(2)



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(ii) Plot the '% Sand' data for sites A and B on Figure 3.

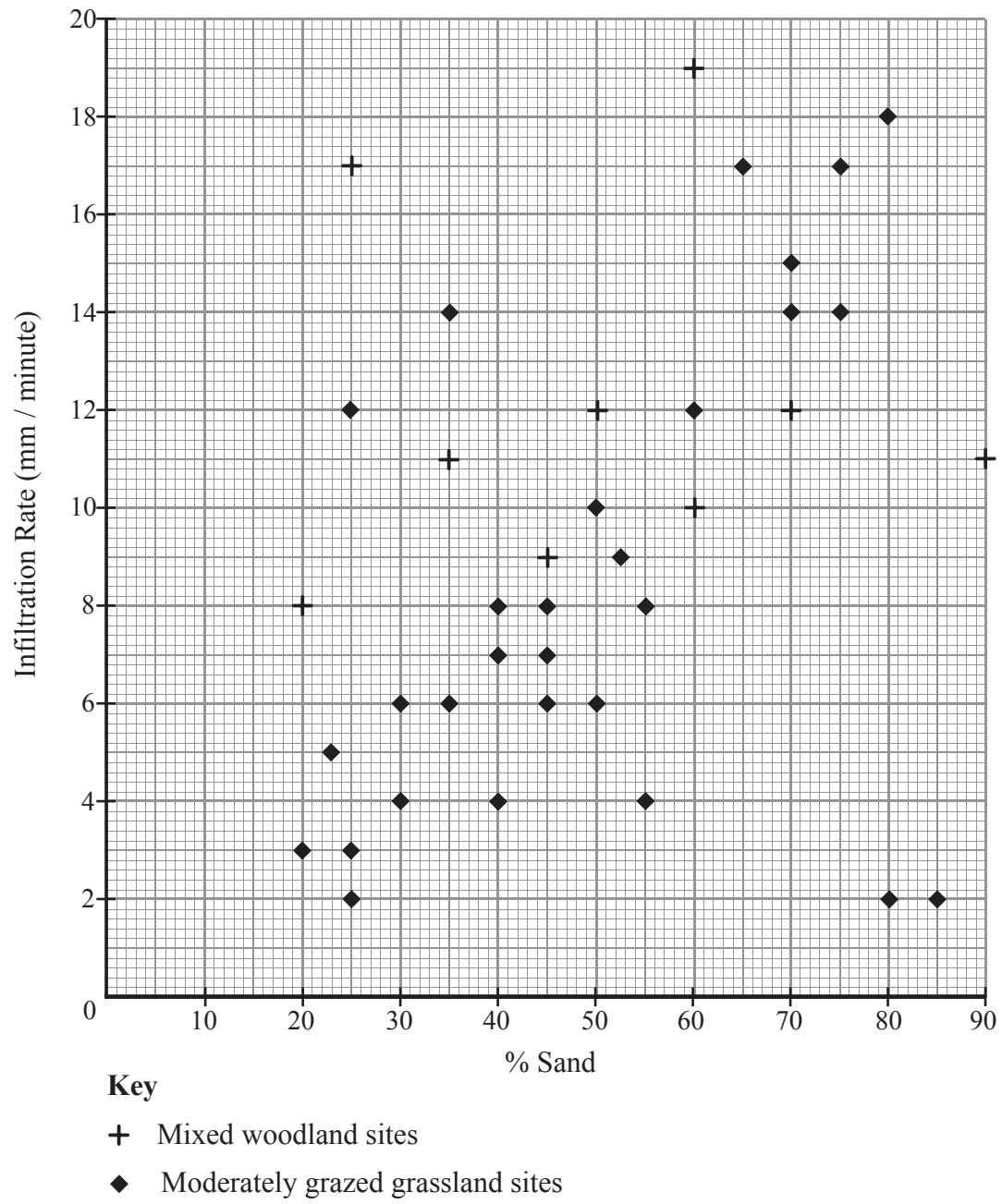


Figure 3

(2)



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(iii) Table 2 shows the results of a Spearman Rank correlation to test the relationship between infiltration rates and sand content of the soil.

	Spearman rank (r_s value)	Significance level
Moderately grazed grassland	0.49	Significant at the 99% (0.01) confidence level
Mixed woodland	0.31	Not significant

Table 2

Comment on the statistical strength and reliability of these results.

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(iv) Compare and suggest reasons for the relationships between infiltration rates and sand content in the soil for the two different land use types.

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(6)

(d) (i) Using Item 1 in the Resource Booklet identify four factors, other than land use and soil content, which might affect infiltration rates.

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(ii) For TWO of the factors identified in (d) (i), explain how they could influence infiltration rates thus allowing you to extend the investigation.

Selected Factor 1

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Selected Factor 2

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(4)

Q1

(Total 40 marks)

TOTAL FOR SECTION A: 40 MARKS



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SECTION B

You must answer this question based on a HUMAN geography topic.

You are reminded that your answers in Section B should include evidence from your own personal fieldwork investigation. Where appropriate you will be credited for specific reference to your fieldwork location(s), the techniques you used, and the results you obtained.

2. (a) (i) Outline the aim(s) of your investigation.

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(2)

(ii) Draw a sketch map to show the location of your data collection sites.

(4)



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(iii) Explain the factors which affected your choice of data collection sites.

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(4)

(b) Identify two types of data collected and explain how each one was presented in a visual form.

Type of data 1

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Type of data 2

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(4)



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(c) (i) Briefly summarise and evaluate the conclusions of your investigation.

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(4)

(ii) Other than collecting more of the same type of data, suggest two ways in which your investigation might be improved.

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(2)

Q2

(Total 20 marks)

TOTAL FOR SECTION B: 20 MARKS

TOTAL FOR PAPER: 60 MARKS

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