

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

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General Certificate of Education  
January 2009  
Advanced Level Examination



**GEOGRAPHY (SPECIFICATION B)**  
**Unit 6 The Practical Paper**

**GGB6**

Friday 30 January 2009 9.00 am to 10.30 am

<p><b>You will need no other materials.</b> You may use a calculator.</p>
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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 **both** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Do all rough work in this book. Cross through any work you do not want to be marked.

**Information**

- The maximum mark for this paper is 50.
- The marks for questions are shown in brackets.
- You will be marked 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 legibility of your handwriting and the accuracy of your spelling, punctuation and grammar will also be considered.

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Question	Mark	Question	Mark
1			
2			
Total (Column 1)		→	
Total (Column 2)		→	
<b>TOTAL</b>			
Examiner's Initials			









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(8 marks)

      
**20**

**Turn over for the next question**

**Turn over** ▶



**Total for this question: 30 marks**

- 2 A group of A Level students was studying a river basin. The students obtained some data for the flow of two streams, **A** and **B**, in the basin.

The data had been collected by hydrologists at weirs. The depth of water flowing over these weirs is measured regularly and can be used to calculate the discharge of the river.

The data in **Figure 1** show the highest daily recording during each month, over a 15 month period.

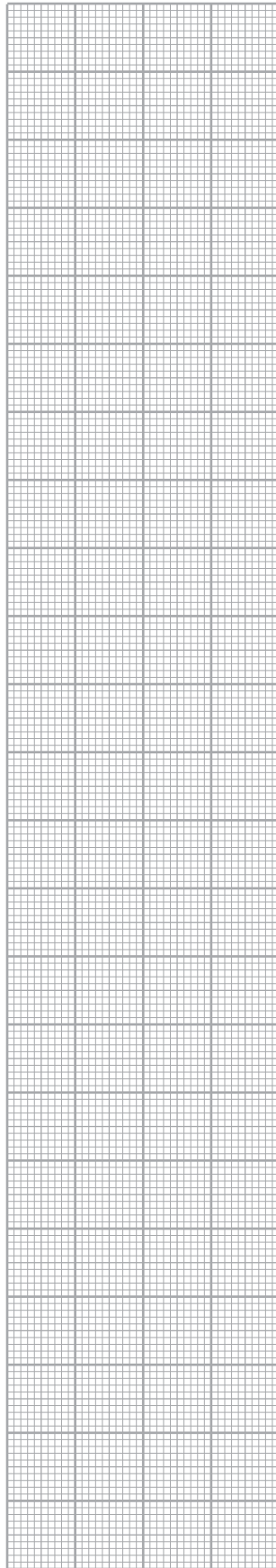
**Figure 1**

Recording	Monthly maximum depth in mm	
	Stream A	Stream B
1	183	198
2	227	371
3	146	127
4	156	148
5	129	101
6	123	73
7	110	36
8	107	34
9	159	159
10	150	141
11	247	451
12	141	118
13	137	106
14	128	97
15	126	96
Total	2269	2256
Mean	151.27	
Median	141	
UQ	159	
LQ	126	
IQR	33	



- 2 (a) (i) Draw a dispersion graph on **Figure 2** using the data for Stream **B**.

**Figure 2**



(4 marks)

Turn over ►



- 2 (a) (ii) Add lines to your graph to show the median value and the upper and lower quartile values. Label each line.

(3 marks)

$$UQ = \frac{n + 1}{4} \text{th position in the rank order}$$

$$LQ = \frac{3(n + 1)}{4} \text{th position in the rank order}$$

- 2 (a) (iii) Calculate the range and the inter-quartile range for the data.

Range .....

Inter-quartile range .....

(2 marks)

$$IQR = UQ - LQ$$



- 2 (b) The students calculated the standard deviation of monthly maximum depth for Stream A and obtained a result of 38.70mm.

They then started to calculate the standard deviation of monthly maximum depth for Stream B. Their partially completed working is shown in **Figure 3**.

Complete the calculation of standard deviation for Stream B, using **Figure 3**.

**Figure 3**

Recording	Stream B (mm)	$x - \bar{x}$	$(x - \bar{x})^2$
1	198	47.6	2265.76
2	371	220.6	48 664.36
3	127	-23.4	547.56
4	148	-2.4	5.76
5	101	-49.4	2440.36
6	73	-77.4	5990.76
7	36	_____	_____
8	34	_____	_____
9	159	8.6	73.96
10	141	-9.4	88.36
11	451	300.6	90 360.36
12	118	-32.4	1049.76
13	106	-44.4	1971.36
14	97	-53.4	2851.56
15	96	-54.4	2959.36
Total	2256	$\sum (x - \bar{x})^2 =$	_____

Mean ( $\bar{x}$ ) = 150.4

$\frac{\sum (x - \bar{x})^2}{n} =$  \_\_\_\_\_

Use the formula

SD = \_\_\_\_\_

$$SD = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

$x$  = maximum depth for month

$\bar{x}$  = mean of  $x$  for the total period

$\sum$  = sum of

$n$  = number of variables

(7 marks)

**Question 2 continues on the next page**

**Turn over** ►





2 (d) In order to write a full geographical comparison of the flows of the two streams, you would need further information about the basin.  
Identify the information that you would need and justify your choice.

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(6 marks)

30
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**END OF QUESTIONS**



**There are no questions printed on this page**

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ANSWER IN THE SPACES PROVIDED**

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