Surname		Other Names	
Centre Number			Candidate Number				
Candidate Signature									

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General Certificate of Education
June 2005
Advanced Level Examination

AQA
ASSESSMENT and QUALIFICATIONS ALLIANCE

GEOGRAPHY (SPECIFICATION A) GGA7
Unit 7

Friday 17 June 2005 Morning Session

In addition to this paper you will require:
pre-release material (previously despatched);
a calculator.

Time allowed: 2 hours

Instructions

- Use blue or black ink or ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions in the spaces provided.
- Do all rough work in this book. Cross through any work you do not want marked.
- Figure and page numbers prefixed **P** are to be found in the pre-release book.

Information

- The maximum mark for this paper is 100.
- 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.

Advice

Where appropriate, credit will be given for the use of diagrams to illustrate answers and where reference is made to your personal investigative work. You are advised to allocate your time carefully.

For Examiner's Use			
Number	Mark	Number	Mark
1			
2			
3			
4			
5			
Total (Column 1) →			
Total (Column 2) →			
TOTAL			
Examiner's Initials			

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

1 Aim

(a) **With reference to your own experience of planning a fieldwork enquiry**, state one hypothesis based on each of **Figures P2a** and **P2b** and justify their inclusion in the enquiry.

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(4 marks)

(b) **Photograph 1** on **Figure P3** shows the study area. With reference to the photograph, suggest why Slapton Sands was a suitable location for this study.

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(2 marks)

6

2 Methods

(a) The method of collecting data for the beach profiles is described on page **P5** and the results are displayed in **Figure P5a**.

Describe an alternative method of collecting beach profile data and outline its relative advantages and disadvantages.

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(8 marks)

(b) The sampling of beach material is described on page **P12**. With reference to your own experience of conducting a fieldwork enquiry, describe an alternative method of sampling and determining the size of beach material.

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(5 marks)

(c) The historical data on beach profiles in **Figures P8a-c** are secondary data. Identify **one other** item of secondary data that could be collected and outline its usefulness in this enquiry.

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(3 marks)

16

3 Skills, Techniques and Interpretation

(a) (i) Using **Photograph 3** on **Figure P3**, draw and label a sketch profile of the beach from the parked car to the water's edge in the space for **Figure 1** to show the characteristics of the beach and beach material. The position of the profile is shown as X–Y on the copy of **Photograph 3** in **Figure 1**.

Figure 1

(5 marks)

(ii) Using **Figures P2a** and **P3**, comment on the extent to which the visual changes in the beach profiles and material help with Objectives 1 and 2.

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(8 marks)

NO QUESTIONS APPEAR ON THIS PAGE

QUESTION 3 CONTINUES ON THE NEXT PAGE

(b) (i) **Figure P5a** shows the results of the beach profile surveys for February 2003. The information for site 2 is partly plotted on **Figure 2** whilst the information for sites 1 and 3-6 is completely plotted. Complete **Figure 2** by adding the remaining information for site 2.

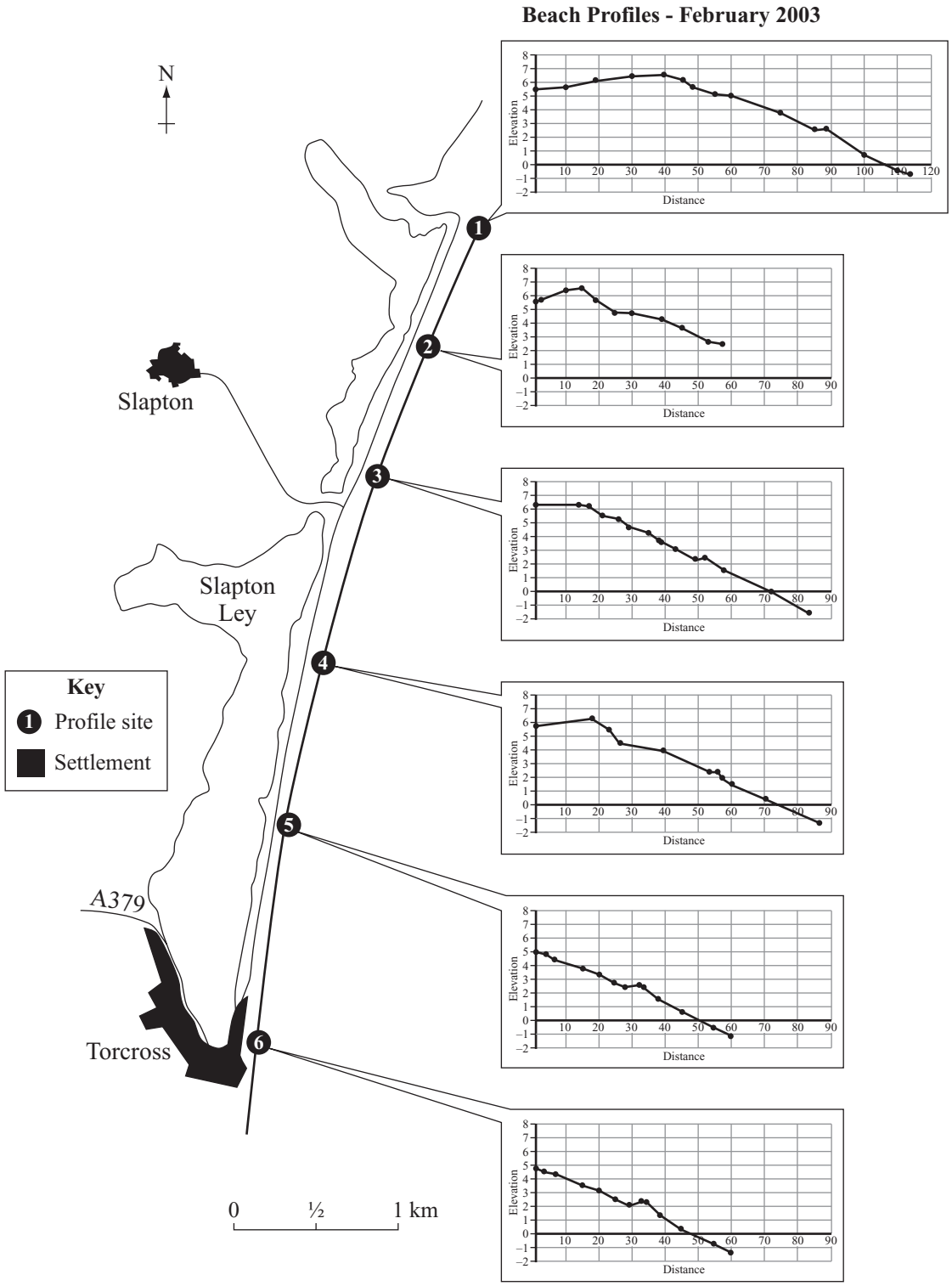

Figure 2

(4 marks)

(ii) With specific reference to Objective 1, describe and suggest reasons for the changes in the beach profiles southwards at Slapton Sands shown in **Figure 2**.

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(8 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

(c) (i) **Figure P7a** shows the results of the beach material survey in September 2003. These results are partly displayed in **Figure 3**. Complete **Figure 3** by adding the information for site 6.

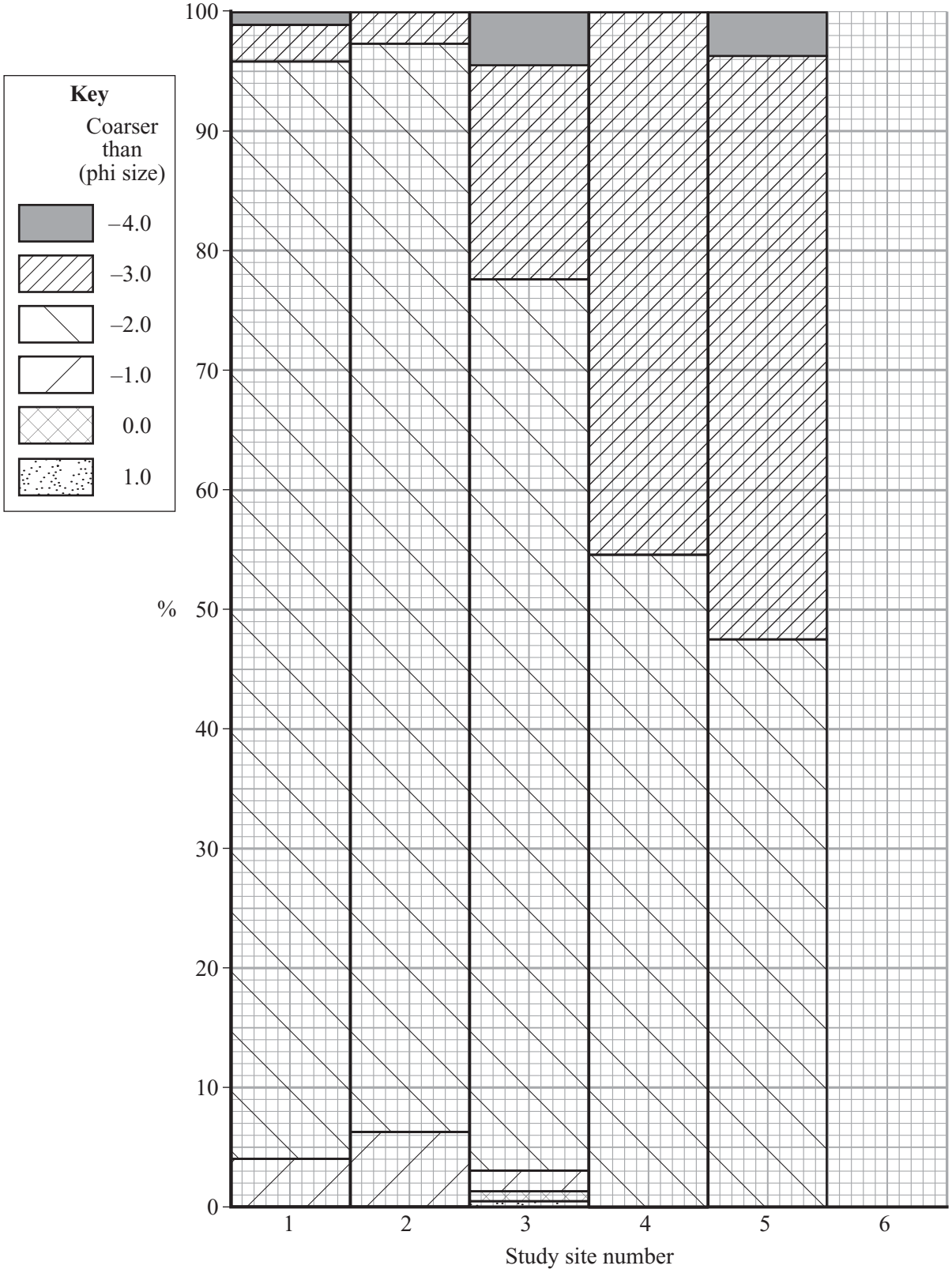

Figure 3

(4 marks)

(ii) Comment on the extent to which the evidence provided by **Figure P7a** and **Figure 3** confirms that the size of beach material increases southwards along the coast at Slapton Sands.

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(6 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

(iii) The seasonal change in the size of beach material can be investigated by applying the Mann-Whitney U test to the mean size of the material collected. The expected hypothesis is that 'the mean size of beach material will be larger in September than in May'.

Complete **Figure 4** to calculate the value of U*x*.

Site number	**Mean particle size (using phi scale) in September (*x*)**	**Rank (*rx*)**	**Mean particle size (using phi scale) in May (*y*)**	**Rank (*ry*)**
1	–2.506	5	–1.567	1
2	–2.483	4	–2.286	3
3	–2.612	7	–2.562	6
4	–2.726		–3.368	11
5	–3.281		–1.772	2
6	–3.394		–2.727	9
		$\Sigma rx =$		$\Sigma ry = 32$

$$Ux = n_x n_y + \frac{nx(nx+1)}{2} - \Sigma rx =$$

$$Uy = n_x n_y + \frac{ny(ny+1)}{2} - \Sigma ry = 36 + \frac{42}{2} - 32 = 25$$

Where *nx*, *ny* = sample size
$\Sigma rx/ry$ = sum of rank values *rx* and *ry*

Figure 4

(5 marks)

(iv) Using the table of critical values below, interpret the value of U you have calculated.

		Significance Level	
Sample size		0.05	0.01
nx 6	*ny* 6	7	3

Reject H_0 (null hypothesis) if the calculated value of U is less than or equal to the critical value at the chosen significance level.

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(3 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

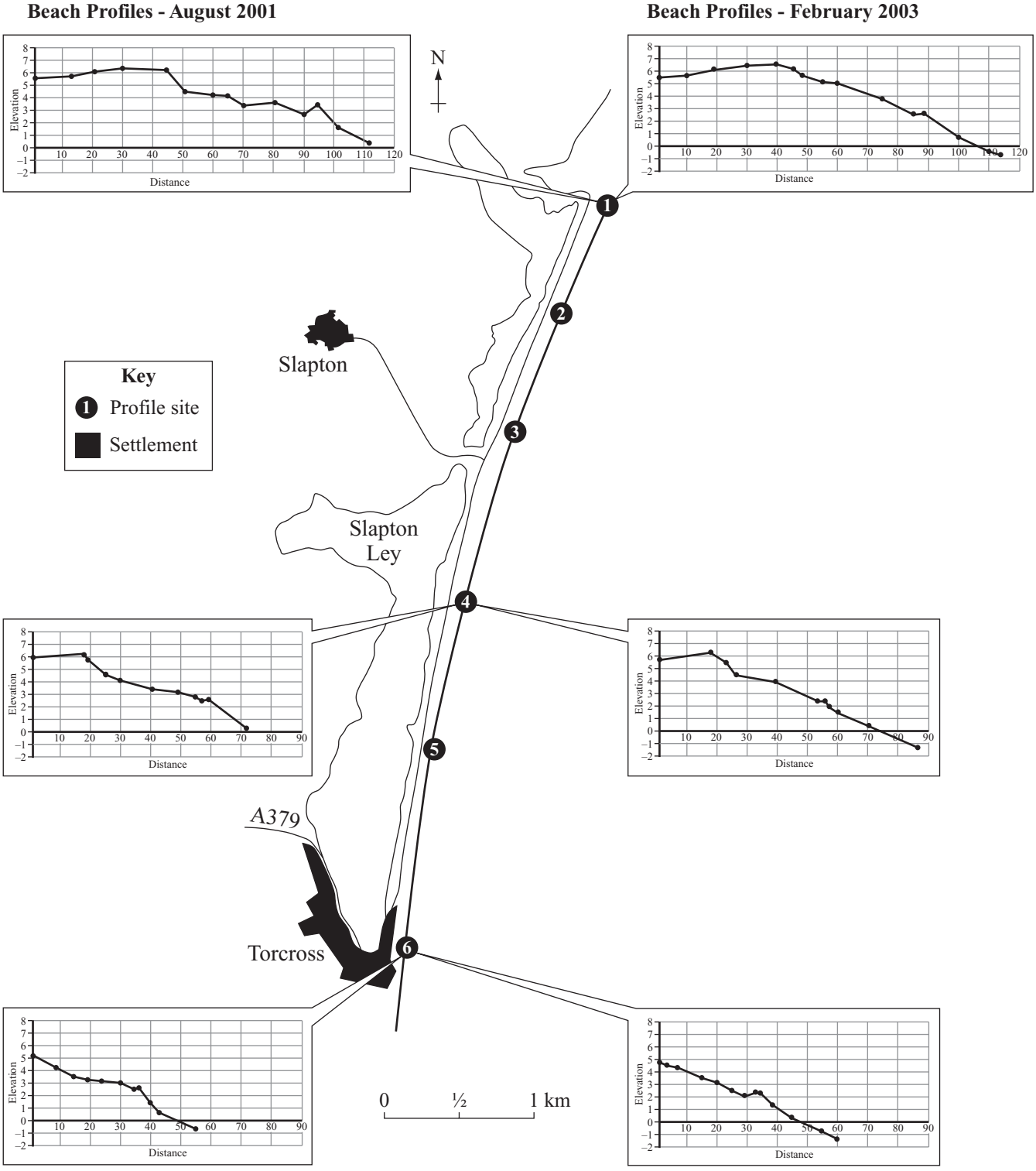

Figure 5

(d) The results of the short-term changes in beach profiles are shown in **Figure 5**, whilst the long-term changes are shown in **Figures P8a-c**.

Summarise and comment on the short-term and long-term changes in the beach profiles at Slapton.

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(12 marks)

4 Conclusion

Write a summary of your findings for this enquiry with specific reference to the aim and objectives given on page **P2**. Using your own experience of conducting an enquiry, you should, in addition, consider the reliability of these findings and suggest how this enquiry could be extended and improved.

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(10 marks)

10

TURN OVER FOR THE NEXT QUESTION

5 Enquiry Related Issues

Two important variables have not been investigated in this enquiry. These are the shape of the beach material and the process of longshore drift.

Select **one** of these variables.

Clearly state which one you have chosen.

Variable chosen .....

(a) Suggest a hypothesis, question or problem that could be investigated in relation to your chosen variable.

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(2 marks)

(b) Describe how you would collect data relating to your chosen variable and hypothesis. Incorporate in your answer an awareness of the risks to your safety and how you would minimise these.

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(7 marks)

(c) The closure of the A379 in January 2001 brought to the fore the issue of coastal protection in the eyes of local residents. Identify **two** questions that could be put to local residents in order to assess public opinion on the issue of coastal protection in the area.

Question 1: .....

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Question 2: .....

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(4 marks)

13

END OF QUESTIONS

NO QUESTIONS APPEAR ON THIS PAGE