



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2012

Centre Number

71	
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Candidate Number

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Geography

Assessment Unit AS 1
assessing
 Physical Geography
[AG11]



WEDNESDAY 13 JUNE, AFTERNOON

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Section A: candidates must answer this section.

Section B: answer **all three** questions in this section.

Section C: answer any **two** questions from this section.

You should write your answers in the spaces provided in this question paper.

At the end of the examination your summary of fieldwork and table of data should be attached securely to this paper using the treasury tag supplied.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	

INFORMATION FOR CANDIDATES

The total mark for this paper is 90.

Quality of written communication will be assessed in **all** questions.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Total Marks	
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Section A

Examiner Only

Marks

Remark

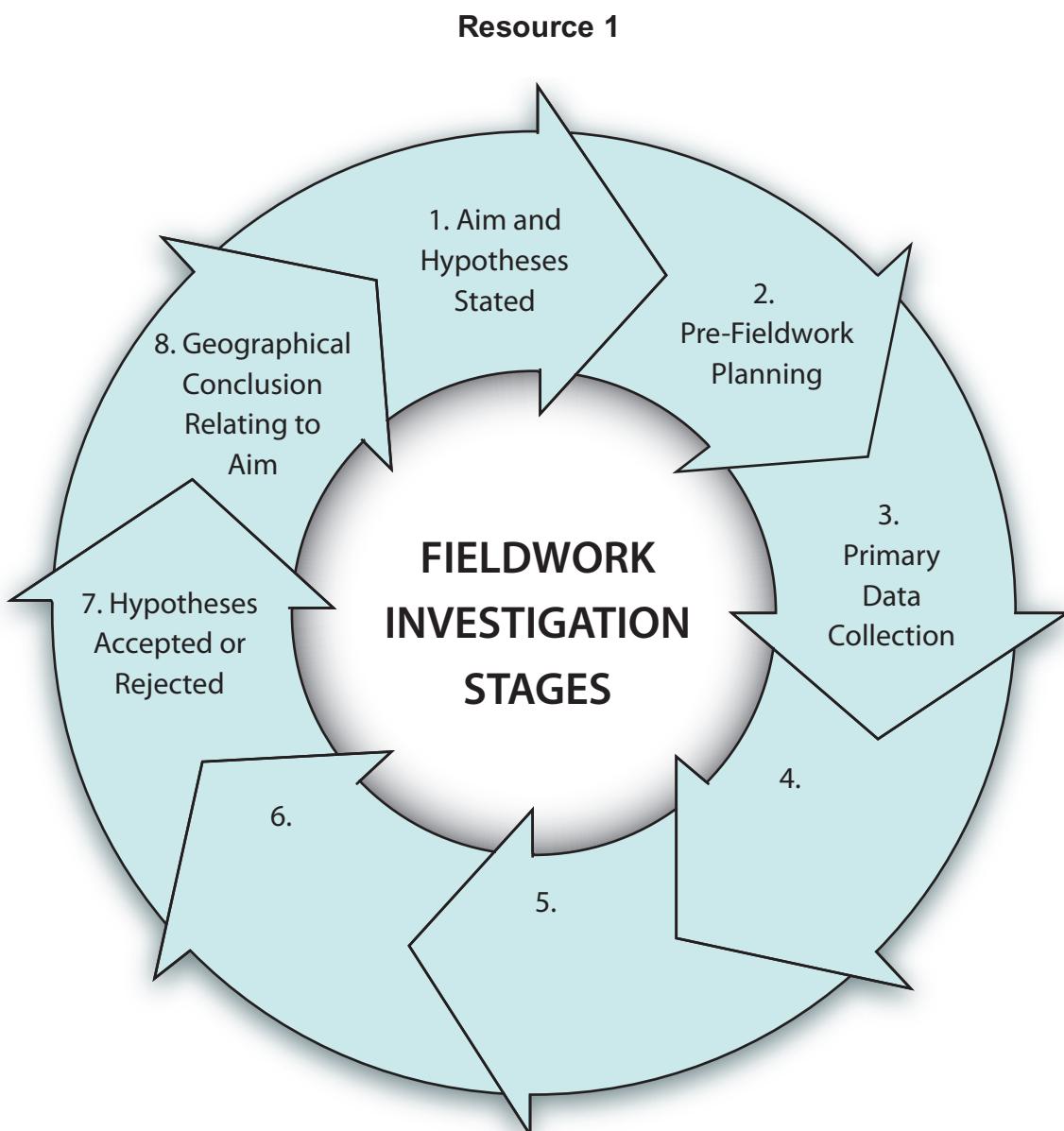
Answer this section

Submitted summary of fieldwork and table of data.

At the end of the examination these should be attached securely to this paper using the treasury tag supplied.

- 1 Study **Resource 1**, which illustrates a partially completed diagram of the stages involved in a fieldwork investigation.

- (a) (i) Complete **Resource 1** by labelling **three** additional stages which are necessary to complete the fieldwork investigation process. [3]



Source: Principal Examiner

- (ii) Sampling may be described as systematic, stratified, random or pragmatic. Describe how **three** of these methods can be carried out and assess the appropriateness of these methods for your fieldwork.

- [8]

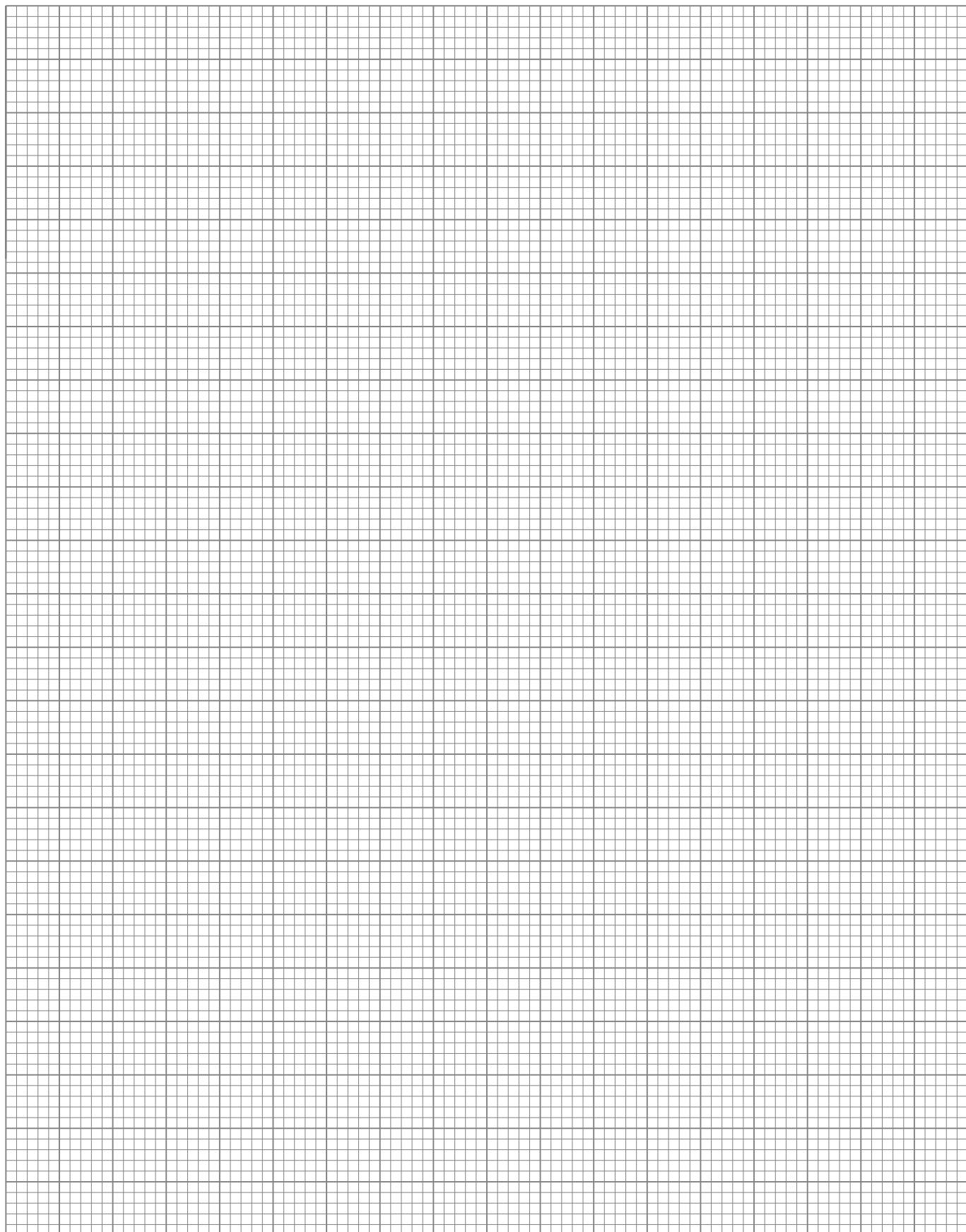
Examiner Only	
Marks	Remark

- (b) (i)** On the graph paper below, use an appropriate graphical technique to present accurately data relevant to the aim/ hypothesis of your fieldwork. (You must select this data from your table)

[7]

Examiner Only	
Marks	Remark

Title of graph: _____



- (ii) Explain what your graph shows in relation to relevant **geographical** theory or concepts.

[6]

- (c) (i) State **two** advantages of using primary data to investigate the aim of your fieldwork.

[2]

Examiner Only	
Marks	Remark

- (ii) Describe **one** of the primary data collection methods used in your fieldwork and comment on how you ensured that accurate data was collected.

[4]

Examiner Only	
Marks	Remark

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(Questions continue overleaf)

Section B

Examiner Only

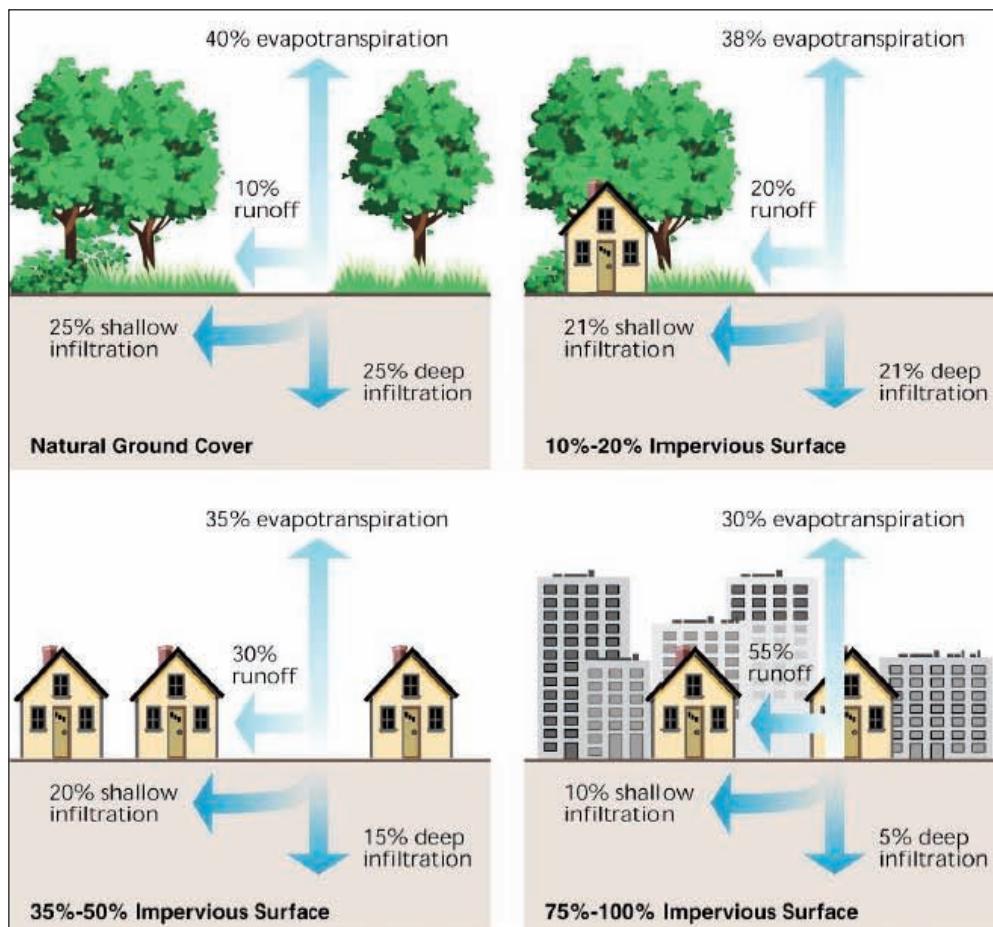
Marks

Remark

Answer all three questions in this section

- 2 (a) Study **Resource 2A** which shows the effect of land-use change in a drainage basin.

Resource 2A



© Urban Flood Risk Management, Associated Programme on Flood Management, page 5,
published by the World Meteorological Organisation, March 2008

- (i) Describe how land-use change has altered the **storage** and **transfer** of water in this drainage basin.

[4]

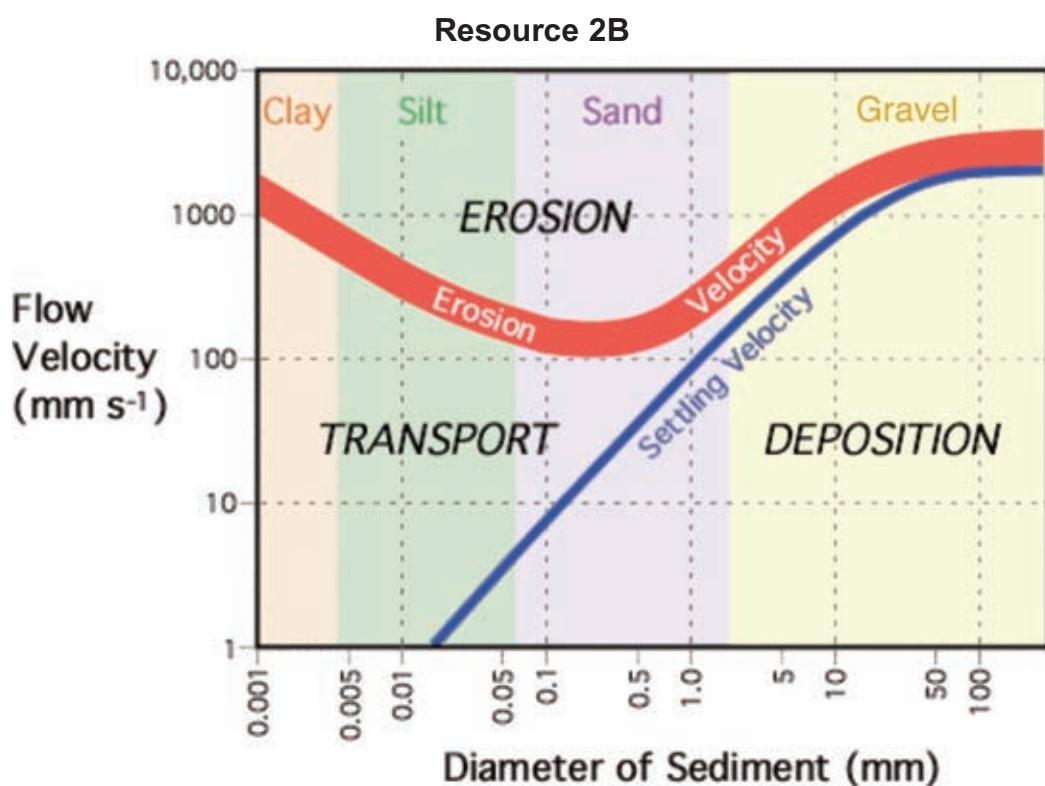
- (ii) Discuss the likely impact of **this** land-use change on river discharge and the storm hydrograph.

[3]

Examiner Only	
Marks	Remark

- (b) Study **Resource 2B**, (the Hjulstrom Curves) which shows the relationship between the flow velocity of a river, sediment size and the processes operating in a river.

Examiner Only	
Marks	Remark



© <http://www.physicalgeography.net/fundamentals/10w.html> Reproduced with kind permission.

- (i) What is the minimum flow velocity required to transport sediment with a diameter of 1 mm?

_____ mm s⁻¹ [1]

- (ii) Describe and explain the relationship between the erosion velocity and sediment size.

[4]

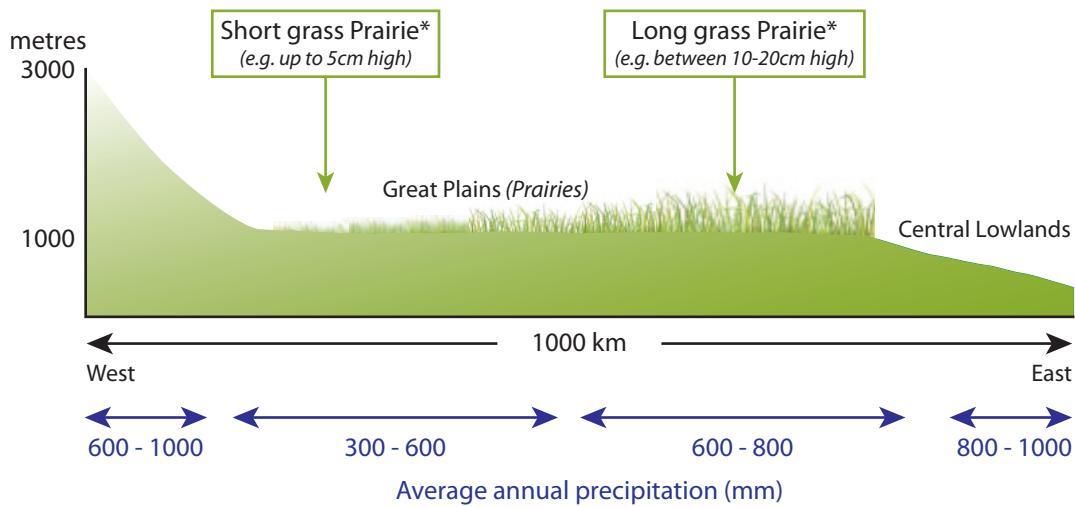
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(Questions continue overleaf)

- 3 (a) Study **Resource 3**, which shows a cross-sectional view of the North American mid-latitude Prairie Grasslands.

Examiner Only	
Marks	Remark

Resource 3



* Height of grass is not to scale

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- (i) Use **Resource 3** to help you describe how the vegetation of mid-latitude grasslands is adapted to the climate.

[3]

- (ii) Define the term monoculture and explain its impact on the chernozem (mollisol) soils of the mid-latitude grasslands.

[6]

- (b) Define the term plagioclimax and describe **one** factor which may produce this type of vegetation community.

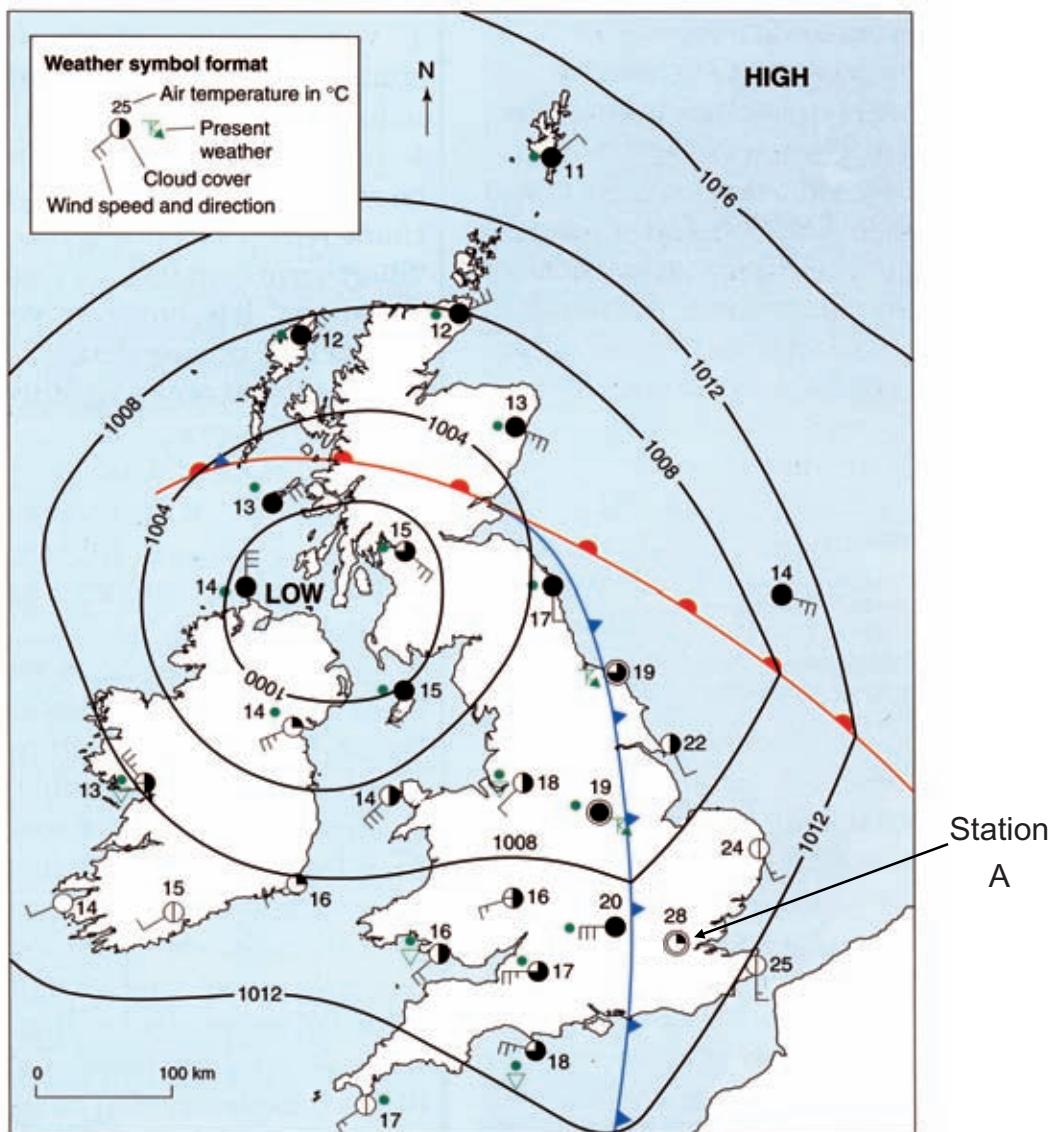
[3]

Examiner Only	
Marks	Remark

- 4 (a) Study **Resource 4A**, showing the atmospheric pressure and weather experienced in the British Isles with the passage of a depression.

Examiner Only	
Marks	Remark

Resource 4A



Key

— Isobar (line joining places with the same air pressure, measured in millibars)

Cloud cover symbols
(1 okta = one-eighth of sky covered)

○ 0 okta	● 5 oktas
○ 1 okta, or less	● 6 oktas
● 2 oktas	● 7 oktas, or more
● 3 oktas	● 8 oktas
● 4 oktas	⊗ Sky obscured

Weather symbols

— Mist	▼ Rain shower	○ Calm
≡ Fog	* Snow shower	—○ 1 or 2
, Drizzle	▽ Hail shower	—○ 3–7
; Rain and drizzle	◆ Thunderstorm	—○ 8–12
· Rain		—○ 13–17
* Snow		Add a half-feather for every 5 knots up to 48–52, then —○ 48–52, then —○ 53–57

- (i) Complete the table below, **Resource 4B**, to show some aspects of the weather being experienced at Station A. The temperature has been completed for you.

Resource 4B

Weather Element	Station A
Temperature	28 °C
Pressure	
Cloud Cover	

[2]

- (ii) Identify **and** describe the **type of air mass** affecting Station A.

[2]

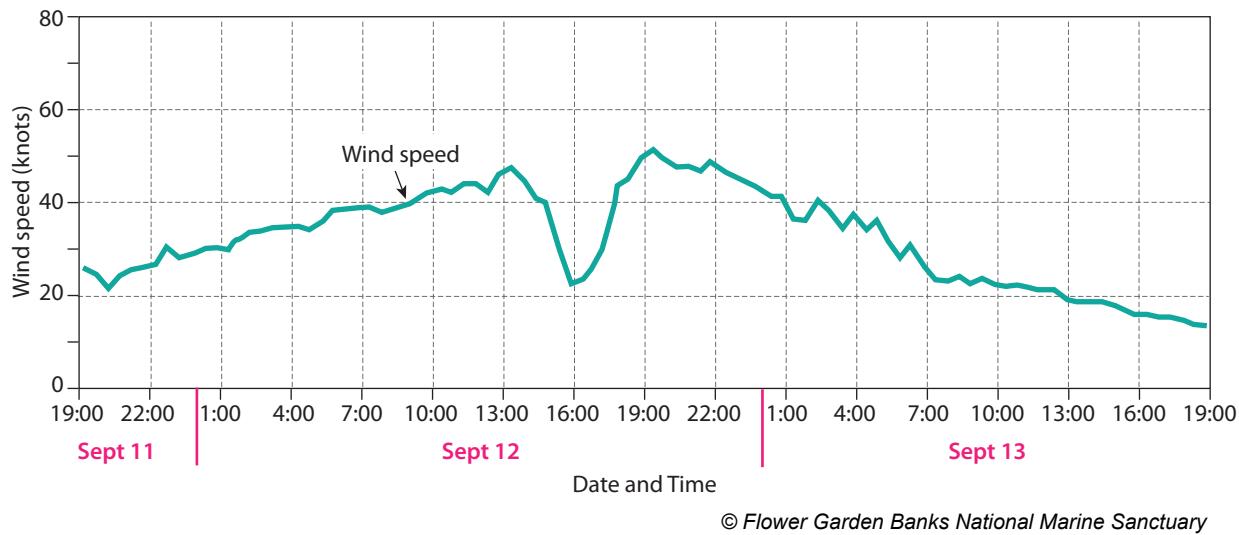
- (iii) With reference to **Resource 4A**, describe and explain how the weather experienced at Station A is likely to change over the next few hours.

[5]

- (b) Study **Resource 4C**, which shows the change in wind speed in the north-western Gulf of Mexico with the passage of Hurricane Ike in 2008.

Examiner Only	
Marks	Remark

Resource 4C



Describe the changes experienced in wind speed and explain them in relation to the structure of a hurricane.

[3]

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(Questions continue overleaf)

Section C

Section C		Examiner Only
Marks	Remark	
<p>Answer any two questions in this section</p>		
5	With reference to a large scale drainage basin or its delta, describe both the beneficial and detrimental effects of flooding on people and property.	[12]
6	Describe how energy is transferred and nutrients are cycled in a small scale ecosystem you have studied.	[12]
7	Describe and explain the contrasting weather associated with summer and winter anticyclones. With reference to your case studies, discuss their human effects.	[12]

Question
Number

Number your answers clearly

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THIS IS THE END OF THE QUESTION PAPER

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