Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
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6	
7	
TOTAL	

AQA

General Certificate of Secondary Education
Foundation Tier
June 2014

Geography (Specification A)

90301F

F

Unit 1 Physical Geography

Tuesday 13 May 2014 1.30 pm to 3.00 pm

For this paper you must have:
- the colour insert (enclosed)
- a pencil
- a rubber
- a ruler.

You may use a calculator.

A

Time allowed
- 1 hour 30 minutes

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- **Answer THREE questions**:
  one question from **Section A** (**Questions 1 – 4)**
  one question from **Section B** (**Questions 5 – 7**)
  one other question from **either** Section A **or** Section B.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.
- Use case studies to support your answers where appropriate.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 75.
- You are reminded of the need for good English and clear presentation in your answers. Where applicable, questions should be answered in continuous prose. Quality of written communication will be assessed in all answers.

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.

Section A

Answer **one** question from Section A and **one** question from Section B and **one** other question from **either** Section A **or** Section B.

Use case studies to support your answers where appropriate.

Total for this question: 25 marks

1 The Restless Earth

1 (a) What is an earthquake?

[2 marks]

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1 (b) Study **Figure 1**, a table showing the largest and deadliest earthquakes from 2008 to 2012.

Figure 1

	Largest Earthquakes			Deadliest Earthquakes		
Year	**Location**	**Magnitude (Richter Scale)**	**Number of deaths**	**Location**	**Magnitude (Richter Scale)**	**Number of deaths**
2012	Sumatra	8.6	No data	Philippines	6.7	113
2011	Japan	9.0	20 896	Japan	9.0	20 896
2010	Chile	8.8	507	Haiti	7.0	316 000
2009	Samoa Islands	8.1	192	Sumatra	7.5	1 117
2008	China	7.9	87 587	China	7.9	87 587

1 (b) (i) Use information from **Figure 1** to complete the Fact File.

[3 marks]

Fact File	
Earthquake with the highest magnitude	Year ..... Location .....
Earthquake with the highest number of deaths	Year ..... Location .....
How many times has the largest earthquake been the deadliest?	Number of times .....

1 (b) (ii) Outline **one** reason why the largest earthquakes do not always cause the most deaths.

[2 marks]

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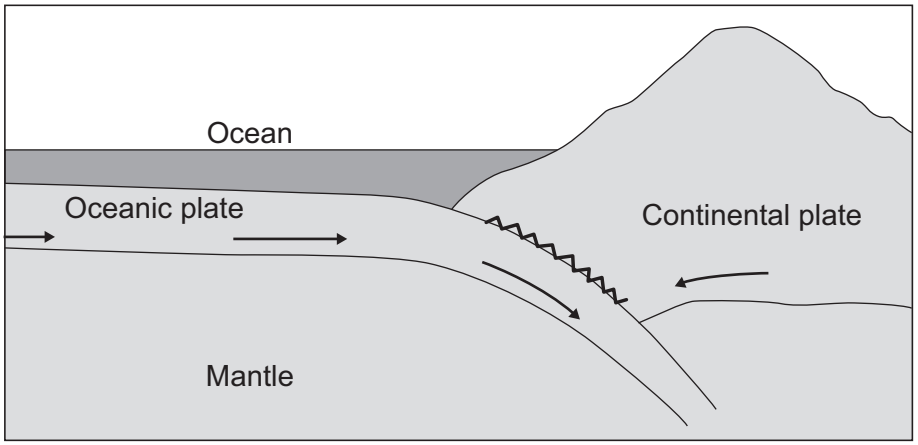
Question 1 continues on the next page

1 (c) Earthquakes occur at destructive plate margins (boundaries).
Figure 2 shows a destructive plate margin.

[4 marks]

Figure 2



With the help of **Figure 2**, explain why earthquakes occur at destructive plate margins.

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1 (d) Study **Figures 3a and 3b** on the insert, photographs showing responses to the earthquake in Christchurch, New Zealand in 2010.

Use **Figures 3a and 3b** to describe how people respond to earthquakes.

[4 marks]

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Question 1 continues on the next page

1 (e) Are the following statements about fold mountains **true** or **false**? Tick the correct boxes.

[4 marks]

Statement	True	False
Fold mountains are formed along constructive plate margins.		
Fold mountains are found along the west coast of North and South America.		
Fold mountains include the highest mountains in the world.		
Fold mountains always provide favourable environments for people to live.		

1 (f) Use a case study to describe how people use fold mountains.

[6 marks]

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Total for this question: 25 marks

2 Rocks, Resources and Scenery

2 (a) The following statements are about the different types of weathering.

Write the correct type of weathering (**mechanical**, **chemical** or **biological**) in the box next to each statement. Each answer may be used once, more than once or not at all.

[3 marks]

A change in both the appearance and the mineral composition of rock	
The effects of plant roots or burrowing animals on rock	
The breaking of rock into smaller pieces without changing its composition	

2 (b) Study **Figure 4** on the insert, a partly completed diagram of the rock cycle.

Write the labels for **boxes W and X** and **arrows Y and Z** in the spaces below.

Choose the correct labels from this list.

[4 marks]

Cooling	**Lava**	**Magma**
Sedimentary rock	**Weathering**	**Solidifying**

Box W ..... Box X .....

Arrow Y ..... Arrow Z .....

2 (c) (i) Study **Figure 5** on the insert, a photograph of limestone pavement at Malham Cove in the Yorkshire Dales.

Identify feature **X** and feature **Y** of the limestone pavement.

[2 marks]

Feature **X** .....

Feature **Y** .....

Question 2 continues on the next page

2 (c) (ii) Explain the formation of limestone pavement.

[6 marks]

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2 (d) Outline why underground features are found in areas of Carboniferous limestone.

[2 marks]

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2 (e) Complete the paragraph below to show how an aquifer provides a water supply.

[4 marks]

Circle the correct answer in each set of brackets.

A layer of [**resistant / porous**] rock is sandwiched between a layer of impermeable rock above and below it. These rock layers are found in a [**basin / V-shaped valley**]. Where a layer of rock such as [**chalk / granite**] is exposed on surface hills, water can [**evaporate / percolate**] to form a large underground store of water.

2 (f) Study **Figures 6a and 6b** on the insert.
Figure 6a is a photograph showing land use in a granite area.
Figure 6b is a photograph showing an economic use of granite.

With the help of **Figures 6a and 6b**, describe how people use areas of granite.

[4 marks]

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Turn over for the next question

Total for this question: 25 marks

3 Challenge of Weather and Climate

3 (a) (i) Study **Figure 7** on the insert, a map showing average annual sunshine hours in the UK between 1981 and 2010.

The following statements describe the pattern of average annual sunshine hours in the UK.

Tick the **three** correct statements.

[3 marks]

London receives between 1500 to 1599 sunshine hours.	
Areas on the south coast receive the highest number of sunshine hours.	
The number of sunshine hours decreases eastwards.	
Edinburgh receives fewer than 900 sunshine hours.	
The lowest amounts of sunshine are in north west Scotland.	
All areas of Northern Ireland receive fewer than 1200 sunshine hours.	

3 (a) (ii) Outline why average annual sunshine hours vary in the UK.

[2 marks]

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3 (b) (i) Study **Figure 8**, a variety of newspaper headlines about weather in the UK.

Figure 8

Explain how the newspaper headlines show that the UK experiences extreme weather.

[2 marks]

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3 (b) (ii) Describe the benefits that extreme weather can bring.

[4 marks]

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Question 3 continues on the next page

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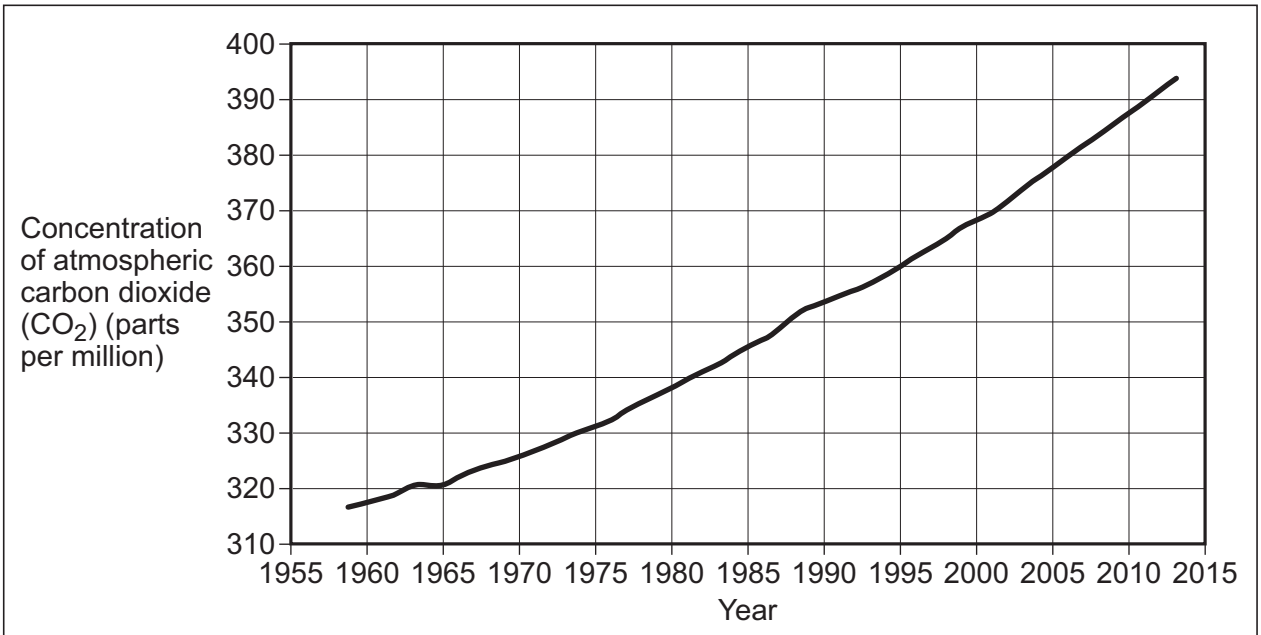
3 (c) Study **Figure 9**, information about global warming.

Figure 9



Global warming is perhaps the most serious environmental issue of our time. This is because the world's population is growing rapidly. The graph above illustrates carbon dioxide (CO_2) levels measured annually. Furthermore, methane levels have already doubled, so thickening the 'chemical blanket'.

3 (c) (i) With the help of **Figure 9**, complete the sentences below to explain why global warming might be occurring.

[4 marks]

The world's population is increasing, therefore .....

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Many poorer countries are burning more fossil fuels, so .....

.....

Between 1960 and 2000, carbon dioxide (CO_2) levels increased from about

320 parts per million to .....

.....

The thickening 'chemical blanket' means that .....

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3 (c) (ii) Global warming has many effects.

For each of the following statements, decide whether the effect is economic, social, environmental or political.

Write **economic**, **social**, **environmental** or **political** in the box next to each statement. Each answer may be used once, more than once or not at all.

[4 marks]

Sea level rise will flood low-lying islands such as the Maldives.	
Governments will need to decide whether to protect the coast.	
Malaria is likely to affect over 250 million people in Asia.	
Ski resorts in the Alps may be forced to close.	

Question 3 continues on the next page

3 (d) Describe local responses to the threat of global climate change.

[6 marks]

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Total for this question: 25 marks

4 Living World

4 (a) Study **Figure 10** on the insert, a photograph of vegetation in Death Valley, part of the Mojave Desert in the USA.

4 (a) (i) Use **Figure 10** to describe the amount of vegetation cover, the height and the number of species.

[3 marks]

The amount of vegetation cover .....

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The height .....

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The number of species .....

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4 (a) (ii) Complete the sentences below to explain how vegetation in a hot desert **adapts to the climate**.

[4 marks]

Write the correct letters in the boxes provided.
Choose the correct endings from this list.

A	catch any moisture present before it evaporates.	**B**	store water.
C	have a waxy, waterproof layer.	**D**	reduce water loss.
E	have dormant seeds that grow when it rains.	**F**	protect against predators.

Cacti have fleshy stems that ☐

Some plants die to avoid drought but ☐

Cacti have needles that ☐

Some plants have shallow roots that ☐

Question 4 continues on the next page

4 (a) (iii) Outline **one** way in which vegetation in a hot desert adapts to the soil.

[2 marks]

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4 (b) (i) Are the following statements about tropical rainforests **true** or **false**?

Tick the correct boxes.

[4 marks]

	True	False
Tropical rainforests are located near to the Equator.		
Tropical rainforests are found in South America, Africa and Australia.		
The vegetation has a number of distinct layers.		
Leaves are broad and flat.		

4 (b) (ii) Explain why deforestation occurs in tropical rainforests.

[6 marks]

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4 (b) (iii) Outline **one** effect (impact) of tropical rainforest deforestation.

[2 marks]

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Question 4 continues on the next page

4 (c) Study **Figure 11**, extracts from geography textbooks about one way to reduce tropical rainforest deforestation.

Figure 11

Many rainforest countries are in debt to the rich countries of the world. These countries can trade the conservation of their rainforests in return for having their debt reduced.

Reducing debt has helped some countries to conserve their rainforest, e.g. in 2008 the USA reduced Peru's debt by $25 million in exchange for Peru conserving its rainforest.

With the help of **Figure 11**, explain how reducing debt can reduce tropical rainforest deforestation.

[4 marks]

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End of Section A

Section B

Answer **one** question from Section A and **one** question from Section B and **one** other question from **either** Section A **or** Section B.

Use case studies to support your answers where appropriate.

Total for this question: 25 marks

5 Water on the Land

5 (a) Study **Figure 12** on the insert, a block diagram showing how river landforms change downstream.

5 (a) (i) Use **Figure 12** to complete the table below to identify an upper and middle course landform.

A lower course landform has been identified for you.

[2 marks]

Course	Upper	Middle	Lower
Landform			Levée

5 (a) (ii) With the help of **Figure 12**, describe how the shape of a river valley changes downstream.

[4 marks]

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5 (a) (iii) A levée is shown in **Figure 12**. What are levées?

[2 marks]

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5 (a) (iv) Explain the formation of a levée.

Use the key words below in your answer.

- deposition
- floods
- build-up of layers
- loss of energy

[4 marks]

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5 (b) (i) What is river flooding?

[2 marks]

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5 (b) (ii) There are a number of reasons why rivers flood.
Draw a line to link each explanation to the correct cause.

[3 marks]

Cause	Explanation
Relief	The growth of towns leads to impermeable surfaces
Deforestation	Long periods of drizzle lead to saturated ground
Building houses	Steep slopes cause rapid runoff
Prolonged rain	Chopping down trees reduces interception

5 (c) Study **Figure 13** on the insert, a photograph of an information board describing flood management in Boscastle, Cornwall.

5 (c) (i) Give **one** example of hard engineering and **one** example of soft engineering shown in **Figure 13**.

[2 marks]

Hard engineering .....

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Soft engineering .....

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Question 5 continues on the next page

5 (c) (ii) With the help of **Figure 13**, explain how different responses have reduced the risk of flooding in areas such as Boscastle.

[6 marks]

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Total for this question: 25 marks

6 Ice on the Land

6 (a) **Figure 14** on the insert is a map showing the extent of sea ice in the Arctic Ocean on 26 August 2012.

6 (a) (i) Use **Figure 14** to complete the following sentences.

[2 marks]

Sea ice has been lost from some seas in the Arctic, including the

..... Sea. Arctic sea ice along line A–B was about 2600 km on

average between 1979–2000. On 26 August 2012, Arctic sea ice along the

same line was ..... km.

6 (a) (ii) Suggest reasons for the changes in the extent of Arctic sea ice shown in **Figure 14**.

[4 marks]

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Question 6 continues on the next page

6 (b) (i) **Figure 15** on the insert is a photograph of Tal-y-Llyn in mid-Wales.

Identify landforms **X** and **Y** on **Figure 15**.

[2 marks]

Landform **X** .....

Landform **Y** .....

6 (b) (ii) A truncated spur is identified in **Figure 15** on the insert.
Describe a truncated spur.

[2 marks]

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6 (b) (iii) Complete the paragraph below to describe the formation of a truncated spur.

Circle the correct answer in each set of brackets.

[4 marks]

Ice moves from deepened hollows at the start of the valley called

[**corries / hanging valleys**]. The ice then occupies a former

[**V-shaped / U-shaped**] valley. Ice erodes the valley sides mainly by

[**bulldozing / abrasion**]. The [**interconnecting / interlocking**] spurs

are removed to form truncated spurs.

6 (c) (i) What is an avalanche?

[2 marks]

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6 (c) (ii) Explain why avalanches occur.

[3 marks]

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Question 6 continues on the next page

6 (d) **Figure 16** is a newspaper extract about an avalanche in the French Alps in July 2012.

Figure 16

Nine people, including two British climbers and their guide, were killed in an avalanche in the French Alps on Thursday. They were swept to their deaths as they attempted to reach the summit of Mont Blanc. One Danish survivor told of the moment that he and his friend were swept 250 m down the mountainside by tonnes of snow and ice. It was on the northern slopes of Mont Maudit at about 5.25 am that disaster struck: "I tried to hold on with the ice axe but the power was so heavy it pulled me backwards. I lost my ice axe, my glasses and my head torch. It was terrifying." When they came to a halt they found their lower halves buried in snow. Despite being injured they were able to dig themselves out. Then they helped to dig people out of the hard snow with their hands and mountaineering equipment. They rescued four climbers but two others were pulled out dead.

With the help of **Figure 16**, describe the attractions and hazards of using areas covered in snow and ice.

[6 marks]

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Total for this question: 25 marks

7 The Coastal Zone

7 (a) The following statements are about processes that affect the coast.

Write the correct process (**weathering**, **mass movement**, **erosion** or **transportation**) in the box next to each statement. Each answer may be used once, more than once or not at all.

[3 marks]

Material slides down a slope	
Particles of sand are bounced along the beach	
Temperatures rise above and fall below 0 °C causing ice to thaw and water to freeze	

7 (b) **Figure 17** on the insert is a photograph of the coast in Cornwall.

7 (b) (i) Identify landforms **X** and **Y** on **Figure 17**.

[2 marks]

Landform **X** .....

Landform **Y** .....

7 (b) (ii) A beach is shown in **Figure 17**.

Describe this beach.

[2 marks]

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Question 7 continues on the next page

7 (b) (iii) Complete the following sentences to explain the formation of a beach.

[4 marks]

There is a supply of material for the beach from .....

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Beaches are formed by the process of deposition. This means .....

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Beaches are found in bays because .....

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Constructive waves lead to the formation of beaches because .....

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7 (c) (i) What is cliff collapse?

[2 marks]

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7 (c) (ii) Explain why cliffs collapse.

[4 marks]

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7 (c) (iii) Give **one** effect of cliff collapse on people and **one** effect of cliff collapse on the environment.

[2 marks]

People .....

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Environment .....

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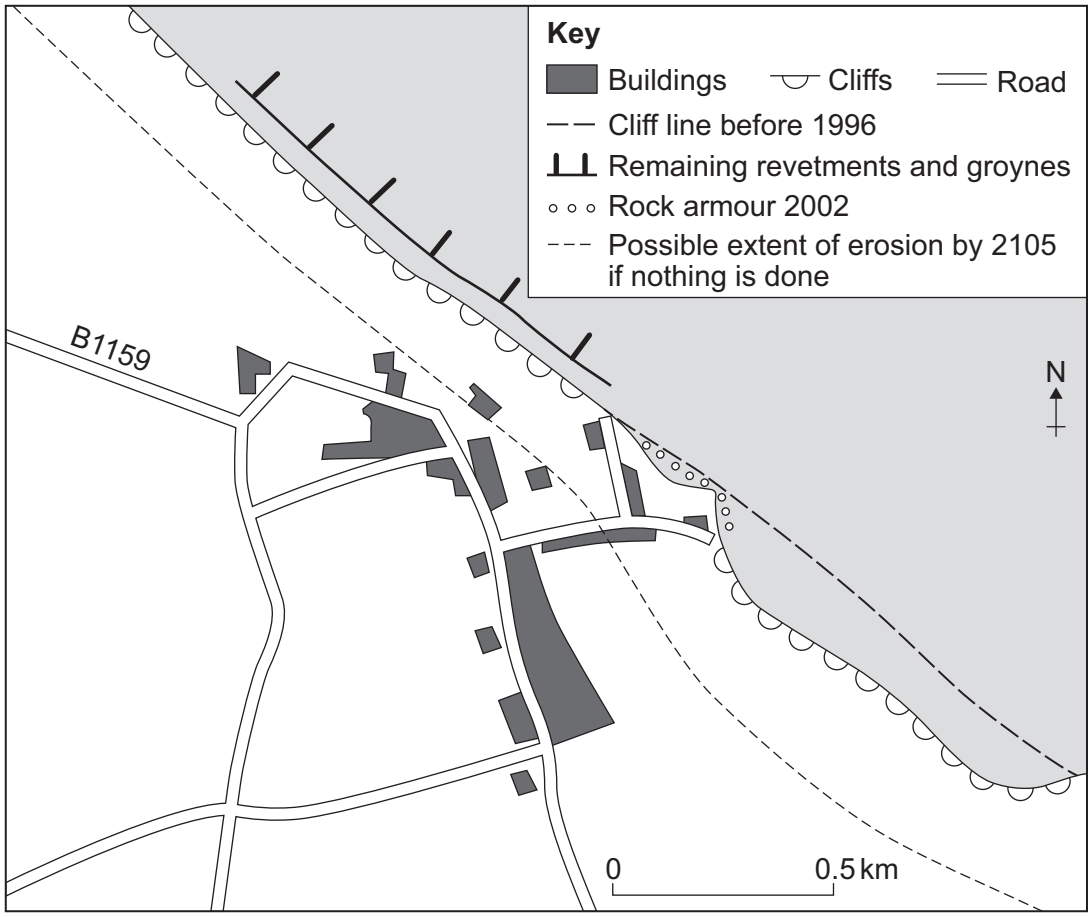
Question 7 continues on the next page

7 (d) **Figure 18** shows hard engineering strategies at Happisburgh in Norfolk.

[6 marks]

Figure 18



With the help of **Figure 18**, explain how hard engineering can reduce the risk of cliff collapse.

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END OF QUESTIONS

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Figure 9 (graph): NOAA
Figure 11 (top): Jane Ferretti & Brian Greasley, AQA A GCSE Geography Revision Guide, Philip Allan Updates, 2011. Reproduced by permission of Philip Allan (for Hodder Education)
Figure 16: © The Times 07 2012
Figure 18: Coastal diagram taken from Lucy Prentice's 'Geofile Online 537 Happisburgh: North Norfolk Coast Shoreline Management Plan DME', published by Nelson Thornes in January 2007.