Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

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

General Certificate of Secondary Education
Higher Tier
June 2013

Geography (Specification A)

40301H

H

Unit 1 Physical Geography

Tuesday 4 June 2013 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.

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

You must answer **one** question from Section A and **one** question from Section B and **one** other question from **either** Section A **or** Section B.

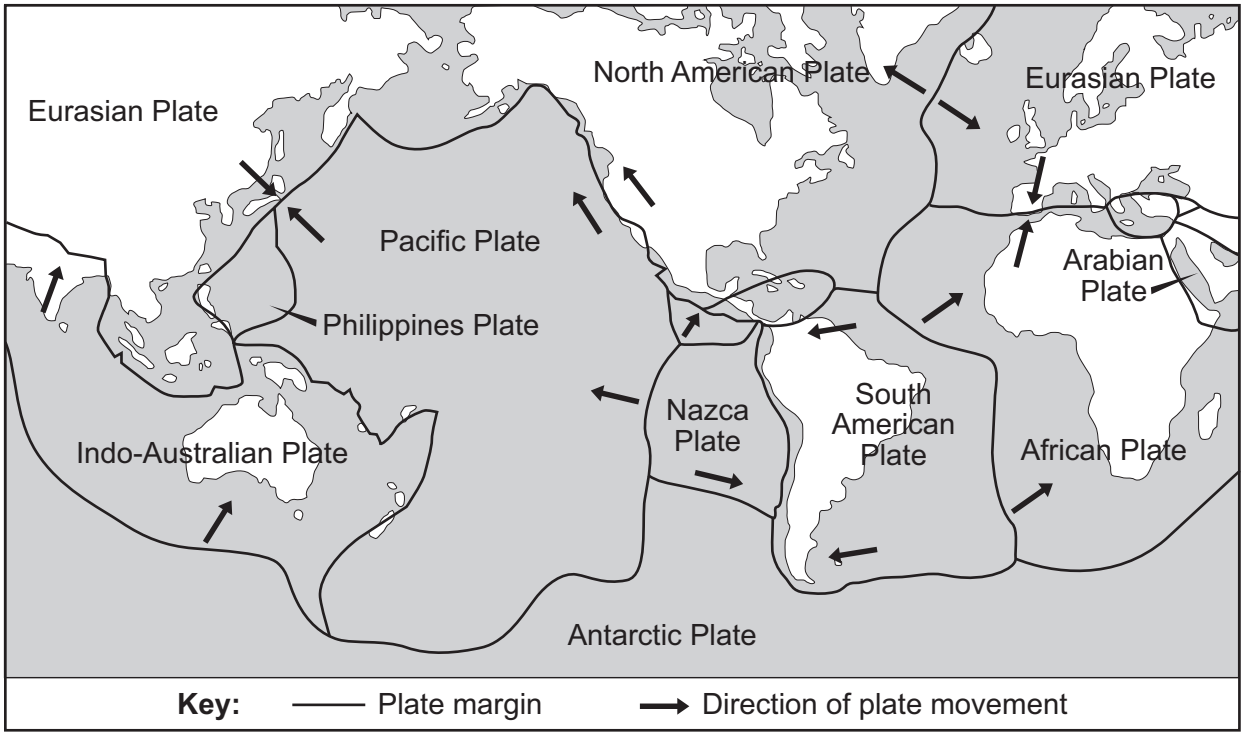
Use case studies to support your answers where appropriate.

Total for this question: 25 marks

1 The Restless Earth

1 (a) Study **Figure 1**, a map showing the earth's tectonic plates and margins (boundaries).

Figure 1



1 (a) (i) With the help of **Figure 1**, outline differences between constructive and destructive plate margins.

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(3 marks)

1 (a) (ii) Give **one** example of a conservative plate margin shown in **Figure 1**.

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(1 mark)

1 (b) Outline the characteristics of a shield volcano.

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(2 marks)

1 (c) Explain the formation of a composite volcano.

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Question 1 continues on the next page

1 (d) Describe how volcanoes are monitored so that people can prepare for an eruption.

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1 (e) Study **Figures 2a** and **2b** on the insert, information about the Japanese earthquake and tsunami on 11 March 2011.

Use **Figures 2a** and **2b** to explain the cause of the Japanese tsunami.

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(3 marks)

1 (f) Use a case study to describe the effects of a tsunami.

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Total for this question: 25 marks

2 Rocks, Resources and Scenery

2 (a) Contrast the positions of granite and chalk on the geological time scale.

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(3 marks)

2 (b) Outline the characteristics of Carboniferous limestone.

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(2 marks)

2 (c) Study **Figure 3** on the insert, a photograph of part of Stump Cross Caverns in the Yorkshire Dales.

2 (c) (i) Describe the underground features of the Carboniferous limestone area shown in **Figure 3**.

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(3 marks)

2 (c) (ii) Explain the formation of underground features **A** and **B** in **Figure 3**.

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(4 marks)

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Question 2 continues on the next page

2 (d) Study **Figures 4a** and **4b** on the insert.
Figure 4a is a 1:50 000 Ordnance Survey map extract of the Ingleton area.
Figure 4b is a photograph of Ingleton Quarry.

2 (d) (i) Give the 6 figure grid reference for the centre of the quarry marked at **X** on **Figure 4a**.

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(1 mark)

2 (d) (ii) Use **Figures 4a** and **4b** to describe the likely impact of quarrying on the area.

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(4 marks)

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2 (e) Use a case study of a quarry to describe how the impact on the environment can be reduced.

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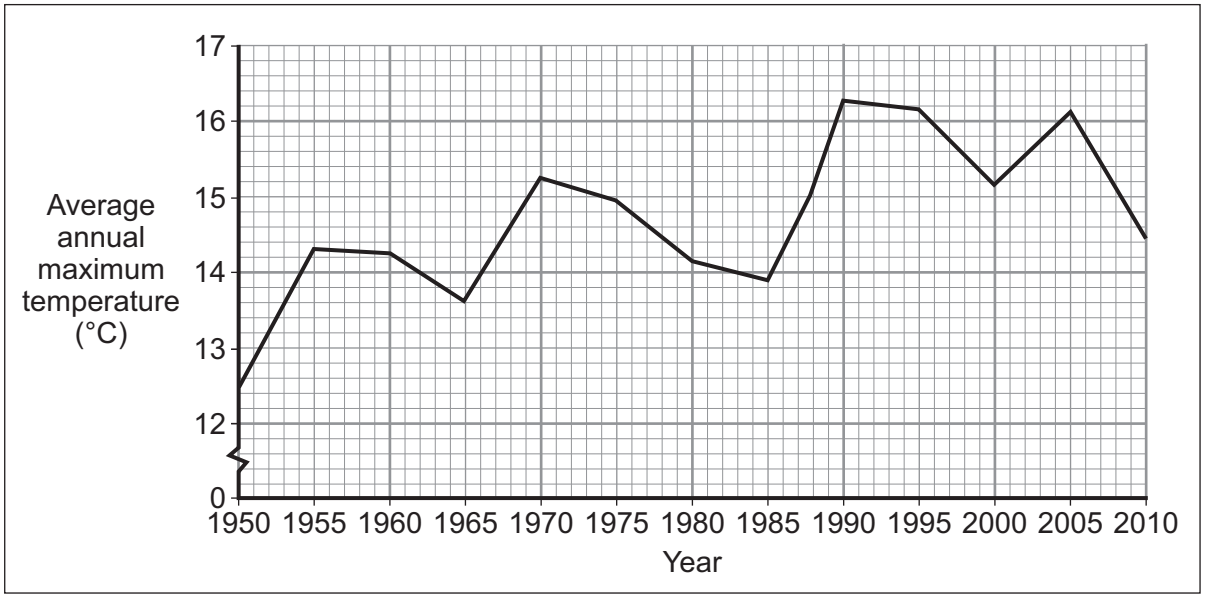
Total for this question: 25 marks

3 Challenge of Weather and Climate

3 (a) Study **Figure 5**, a graph showing average annual maximum temperatures at Heathrow Airport, London from 1950 to 2010.

Figure 5



Describe the trends shown in **Figure 5**.

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3 (b) Describe the possible effects of climate change on the UK.

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3 (c) Describe the characteristics of extreme weather.

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(3 marks)

Question 3 continues on the next page

3 (d) Study **Figures 6a** and **6b** on the insert.
Figure 6a is a satellite image of the British Isles taken on 2 December 2010.
Figure 6b is a newspaper extract.

3 (d) (i) Describe the extent of snow cover shown in **Figure 6a**.

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(2 marks)

3 (d) (ii) Use **Figure 6b** to complete the Fact File below about the snowy weather in December 2010.

Fact File

Coldest temperature ..... °C

Snowfall at Gatwick Airport ..... cm

Summary of weather outlook .....

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(3 marks)

3 (d) (iii) Which type of weather system led to the large amount of snow?

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(1 mark)

3 (e) Discuss issues raised in preparing for and dealing with the impacts of extreme weather such as that shown in **Figures 6a** and **6b**.

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Total for this question: 25 marks

4 Living World

4 (a) Describe the global distribution of the tropical rainforest ecosystem.

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(3 marks)

4 (b) Study **Figure 7** on the insert, a photograph of a tropical rainforest.
Describe the characteristics of the vegetation shown in **Figure 7**.

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(3 marks)

4 (c) Explain how tropical rainforest vegetation adapts to the climate.

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Question 4 continues on the next page

4 (d) Study **Figures 8a** and **8b** on the insert.
Figure 8a is a map of Dubai City showing actual and proposed tourism developments.
Figure 8b gives information about tourism in Dubai, a hot desert area.

4 (d) (i) What is the straight line distance between **A** and **B** on the map?

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(1 mark)

4 (d) (ii) Suggest reasons for the location of the tourism areas (actual and proposed) in Dubai shown in **Figure 8a**.

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4 (d) (iii) Use **Figure 8b** to provide evidence of the importance of tourism to Dubai.

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(2 marks)

4 (e) Use a case study of a hot desert area in a richer part of the world to discuss whether economic development is sustainable.

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End of Section A

Turn over for Section B

Section B

You must 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) (i) Study **Figure 9** on the insert, a photograph of the Rio Grande Gorge. **Figure 10** is a black and white copy of **Figure 9**.

On **Figure 10**, mark with an arrow and label **three** characteristics of the channel and valley.

Figure 10

(3 marks)

5 (a) (ii) Explain the formation of a gorge.

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(4 marks)

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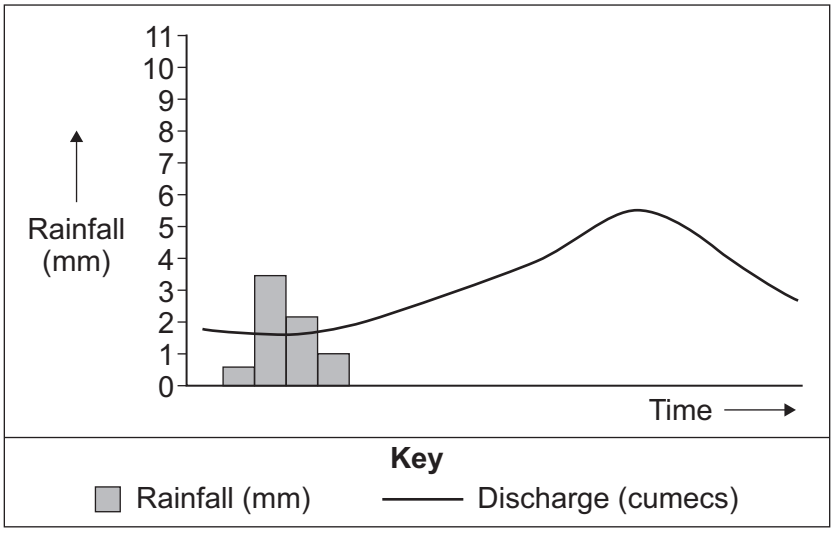
Question 5 continues on the next page

5 (b) (i) Study **Figure 11**, a sketch hydrograph of a river flowing through a forest after a period of rain.

A hydrograph shows the link between rainfall and discharge in a river.

On **Figure 11**, draw a sketch hydrograph for a river flowing through an area without vegetation after the same period of rain.

Figure 11



(2 marks)

5 (b) (ii) Explain the factors affecting river discharge.

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5 (c) (i) Study **Figure 12** on the insert, an atlas map of north Wales.

Suggest why this area is suitable for dams and reservoirs.

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(2 marks)

Question 5 continues on the next page

5 (c) (ii) Discuss issues which result from building dams and reservoirs.

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Total for this question: 25 marks

6 Ice on the Land

6 (a) Study **Figure 13** on the insert, a photograph of a drumlin.

6 (a) (i) Draw a labelled sketch to show the characteristics of this drumlin.

(3 marks)

6 (a) (ii) Explain the formation of a drumlin.

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(4 marks)

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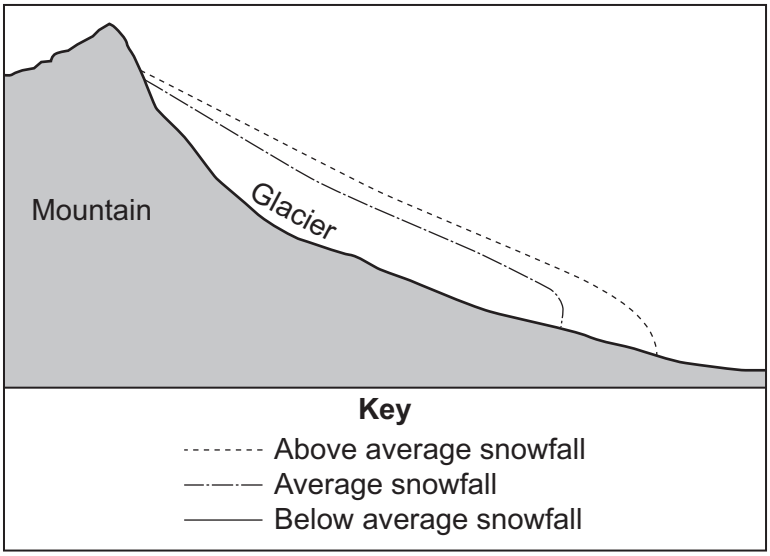
Question 6 continues on the next page

6 (b) Study **Figure 14**, a diagram showing profiles of a glacier after many years of above average snowfall and average snowfall.

6 (b) (i) On **Figure 14**, add a line to show a profile of a glacier after many years of below average snowfall.

Figure 14



(2 marks)

6 (b) (ii) Explain why glaciers advance and retreat.

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6 (c) Study **Figure 15** on the insert, an atlas map of Switzerland and surrounding countries.

Suggest why Switzerland is popular for winter sports.

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(2 marks)

Question 6 continues on the next page

6 (d) Explain how tourism can damage fragile Alpine environments.

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Total for this question: 25 marks

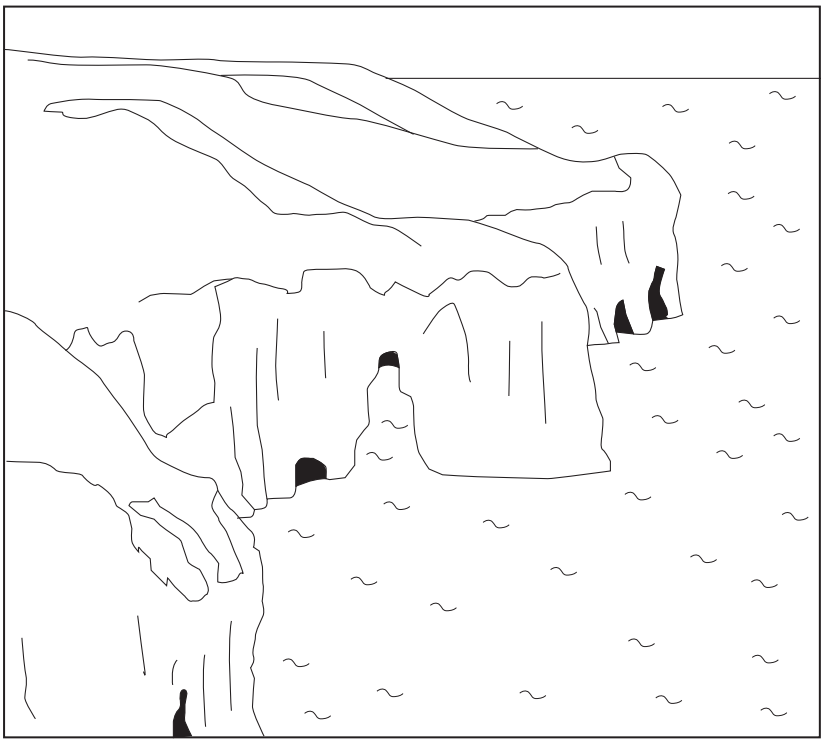
7 The Coastal Zone

7 (a) (i) Study **Figure 16** on the insert, a photograph of North Landing, Flamborough Head.

Figure 17 is a sketch of **Figure 16.**

On **Figure 17**, mark with an arrow and label **three** coastal landforms.

Figure 17



(3 marks)

Question 7 continues on the next page

7 (a) (ii) Explain the formation of a sea stack.

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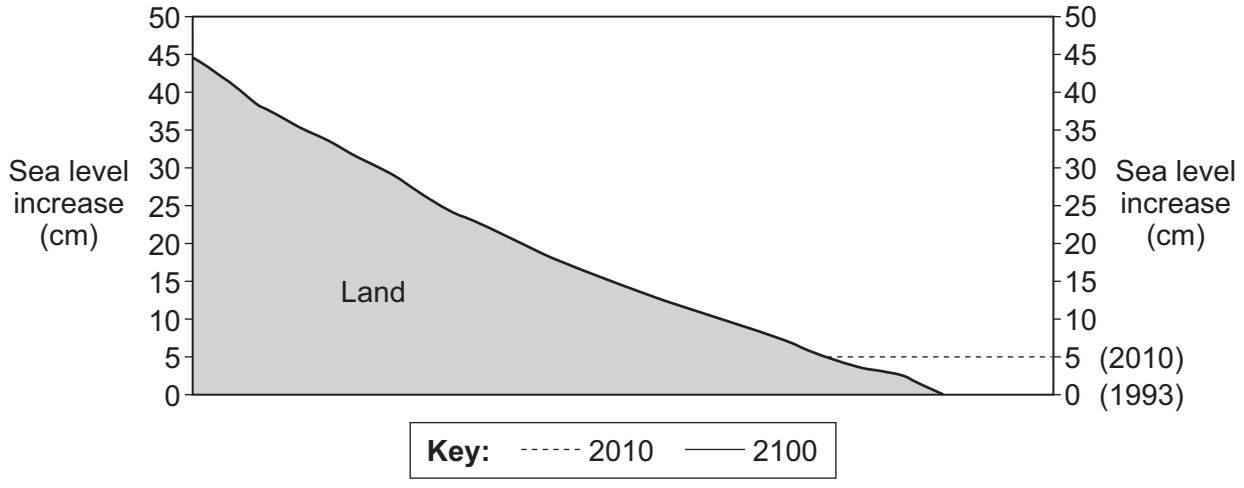
7 (b) (i) Study **Figure 18**, a diagram showing changing sea levels between 1993 and 2010.

On **Figure 18**, show the predicted sea level increase of a further 35 cm between 2010 and 2100.

Figure 18



(2 marks)

7 (b) (ii) Describe the possible economic and environmental effects of rising sea level.

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Question 7 continues on the next page

7 (c) Study **Figure 19** on the insert, an atlas map of the French coast.

How is the shape of coastal zone **X** different from the shape of coastal zone **Y**?

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(2 marks)

7 (d) Hard and soft engineering strategies are used to manage the coast.
Choose **either** hard engineering **or** soft engineering and explain why it is the better strategy.

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END OF QUESTIONS

There are no questions printed on this page

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