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| Surname | | | | | | | | | | |
| Other Names | | | | | | | | | | |
| Candidate Signature | | | | | | | | | | |

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| For Examiner's Use | |
| Examiner's Initials | |
| Question | Mark |
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| 7 | |
| TOTAL | |



General Certificate of Secondary Education
Foundation Tier
June 2013

Geography (Specification A)

40301F

F

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.



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40301F

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.

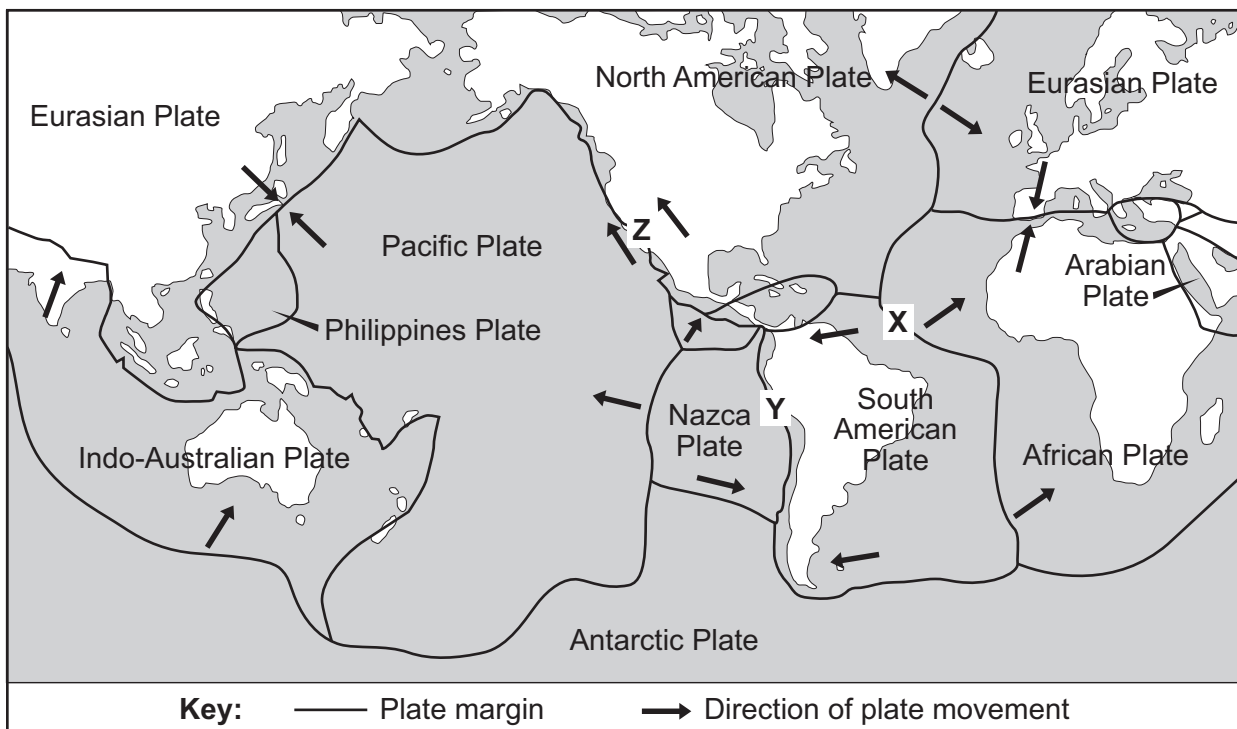
Use case studies to support your answers where appropriate.

Total for this question: 25 marks

1 The Restless Earth

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

Figure 1



Three plate margins, **X**, **Y** and **Z**, are shown in **Figure 1**.

Complete the table below by naming the types of plate margin shown at **X**, **Y** and **Z**. Choose from **destructive**, **constructive** and **conservative**.

| Location of plate margin | Type of plate margin |
|--------------------------|----------------------|
| X | |
| Y | |
| Z | |

(3 marks)



1 (b) Name **two** landforms that are found at a destructive plate margin.

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(2 marks)

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

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(2 marks)

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

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(4 marks)

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Question 1 continues on the next page

Turn over ►



1 (e) Volcanic eruptions have effects on the surrounding area.

Complete the table below to show whether each effect is:

- Primary (P) or Secondary (S)
- and**
- Positive (Po) or Negative (N).

One has been done for you.

| Effect | Primary (P) / Secondary (S) effect | Positive (Po) / Negative (N) effect |
|--|------------------------------------|-------------------------------------|
| Half a million people fled when Mount Nyiragongo erupted in Africa. | S | N |
| Lava flows led to 45 deaths when Mount Nyiragongo erupted. | | |
| Tourists visit areas such as Pompeii next to Vesuvius in Italy. | | |
| Ash from Mount St Helens killed all living things up to 27 km north of the crater. | | |
| Soils around Vesuvius are very fertile. | | |

(4 marks)

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

1 (f) (i) Where was the epicentre of the earthquake? Use **Figure 2a**.

.....
 (1 mark)

1 (f) (ii) Use **Figures 2a** and **2b** to explain the cause of the Japanese tsunami.

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 (3 marks)



1 (g) Use a case study to describe how people respond to a tsunami.

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Turn over for the next question

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Total for this question: 25 marks

2 Rocks, Resources and Scenery

2 (a) Are the following statements about the geological time scale **true** or **false**?
Tick the correct boxes.

| Statement | True | False |
|--|------|-------|
| Chalk was formed during the Cretaceous period. | | |
| A period is longer than an era. | | |
| Granite is older than chalk. | | |

(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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2 (d) (i) Study **Figure 4a** on the insert, a 1:50 000 Ordnance Survey map extract of the Ingleton area.

Give a 4 figure grid reference for the quarry marked at **X** on **Figure 4a**.

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(1 mark)

2 (d) (ii) There is evidence on the map that the area is used for tourism.

Give **one** natural attraction for tourists and **one** amenity (facility) that has been developed for tourists.

Natural attraction

Amenity

(2 marks)

Question 2 continues on the next page

Turn over ►



2 (d) (iii) Study **Figure 4b** on the insert, a photograph of Ingleton Quarry. **Figure 5** is a black and white copy of **Figure 4b**.

On **Figure 5**, mark with an arrow and label **four** characteristics of the quarry.

Figure 5

Figure 5 is not reproduced here due to third-party copyright constraints.

(4 marks)



2 (e) Use a case study to describe how a quarry may be used for recreation and tourism after extraction.

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Turn over for the next question

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Total for this question: 25 marks

3 Challenge of Weather and Climate

3 (a) What is 'global climate change'?

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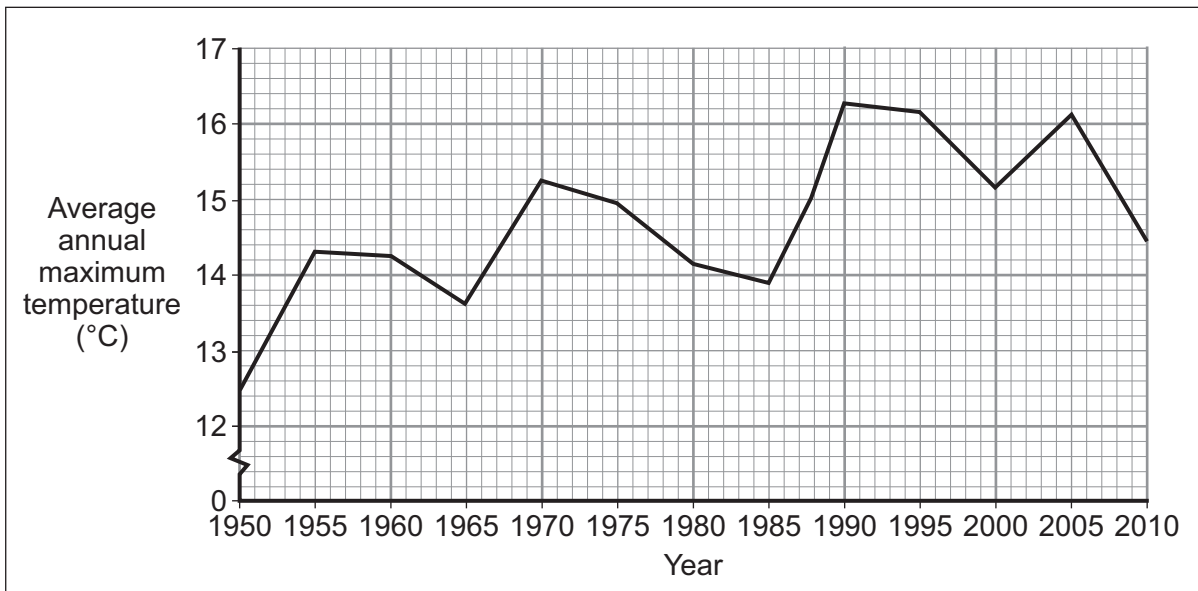
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(2 marks)

3 (b) Study **Figure 6**, a graph showing average annual maximum temperatures at Heathrow Airport, London from 1950 to 2010.

Figure 6



Are the following statements about the changes in average annual maximum temperatures **true** or **false**?

Tick the correct boxes.

| | True | False |
|---|------|-------|
| The lowest temperature was in 1950. | | |
| Temperatures have increased steadily. | | |
| The difference between the highest and lowest temperatures is 2 °C. | | |
| The highest temperatures were in the 1990s. | | |

(4 marks)

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

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(4 marks)

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Question 3 continues on the next page

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3 (d) Complete the paragraph below to describe extreme weather.

Choose the correct words from this list.

normal

light rain

exceptional

often

rarely

gales

Extreme weather occurs in conditions. It happens
..... . Examples of extreme weather include thick fog and
..... .

(3 marks)

3 (e) Study **Figures 7a** and **7b** on the insert.
Figure 7a is a satellite image of the British Isles taken on 2 December 2010.
Figure 7b is a newspaper extract.

3 (e) (i) Describe the extent of snow cover shown in **Figure 7a**.

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(2 marks)

3 (e) (ii) Use **Figure 7b** to complete the Fact File below about the snowy weather in December 2010.

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|--------------------------------------|
| Fact File |
| Coldest temperature °C |
| Snowfall at Gatwick Airport cm |
| Summary of weather outlook |
| |

(3 marks)



3 (e) (iii) Which type of weather system led to so much snow falling?

Circle the correct answer.

Depression

Anticyclone

(1 mark)

3 (f) Use examples to describe the impacts (effects) of extreme weather such as that shown in **Figures 7a** and **7b**.

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Total for this question: 25 marks

4 Living World

4 (a) The following statements are about the distribution of three ecosystems:
temperate deciduous forest, tropical rainforest and hot desert.

Write the correct ecosystem in the box next to each statement.

This ecosystem is found within 5 degrees north and south of the Equator.

This ecosystem is found along the tropics, mainly on the western side of continents.

This ecosystem is found on the eastern side of the USA and in European countries such as the UK and France.

The largest extent of this ecosystem is found in Amazonia.

(4 marks)

4 (b) Give an example of a small-scale ecosystem.

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(1 mark)

4 (c) Study **Figure 8** on the insert, a photograph of a tropical rainforest. Describe the characteristics of the vegetation shown in **Figure 8**.

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(3 marks)



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

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(4 marks)

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4 (e) Deciduous woodlands are often sustainably managed.

Draw a line to link each of the statements below to the correct sustainable management strategy.

Sustainable management strategy

Statement

Controlled felling is

allowing woodlands to be used for leisure.

Replanting is

limiting the number of trees that can be cut down.

Planning for recreational use is

looking after the area so that it remains for the future.

Conservation is

replacing trees that are cut down with young ones.

(3 marks)

Question 4 continues on the next page

Turn over ►



4 (f) Study **Figures 9a** and **9b** on the insert.
Figure 9a is a map of Dubai City showing actual and proposed tourism developments.
Figure 9b gives information about tourism in Dubai, a hot desert area.

4 (f) (i) Briefly describe the location of tourism areas (actual and proposed) in Dubai City shown in **Figure 9a**.

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(2 marks)

4 (f) (ii) Use **Figure 9b** to provide evidence of the importance of tourism to Dubai.

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(2 marks)



4 (g) Use a case study of a hot desert area in a richer part of the world to describe how people use the area for commercial farming and irrigation.

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(6 marks)

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End of Section A
Turn over for Section B

Turn over ▶



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

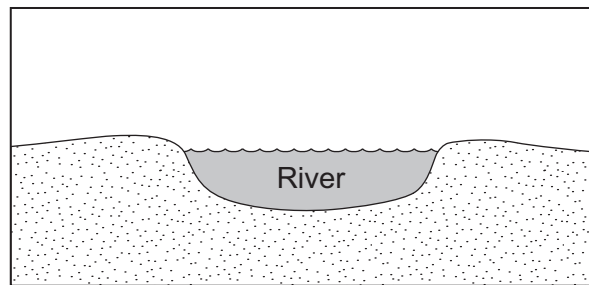
5 Water on the Land

5 (a) Study **Figure 10**, a cross profile of a river.

Mark with an arrow and label:

- **one** part of the cross profile where **vertical erosion** takes place
- **one** part of the cross profile where **lateral erosion** takes place.

Figure 10



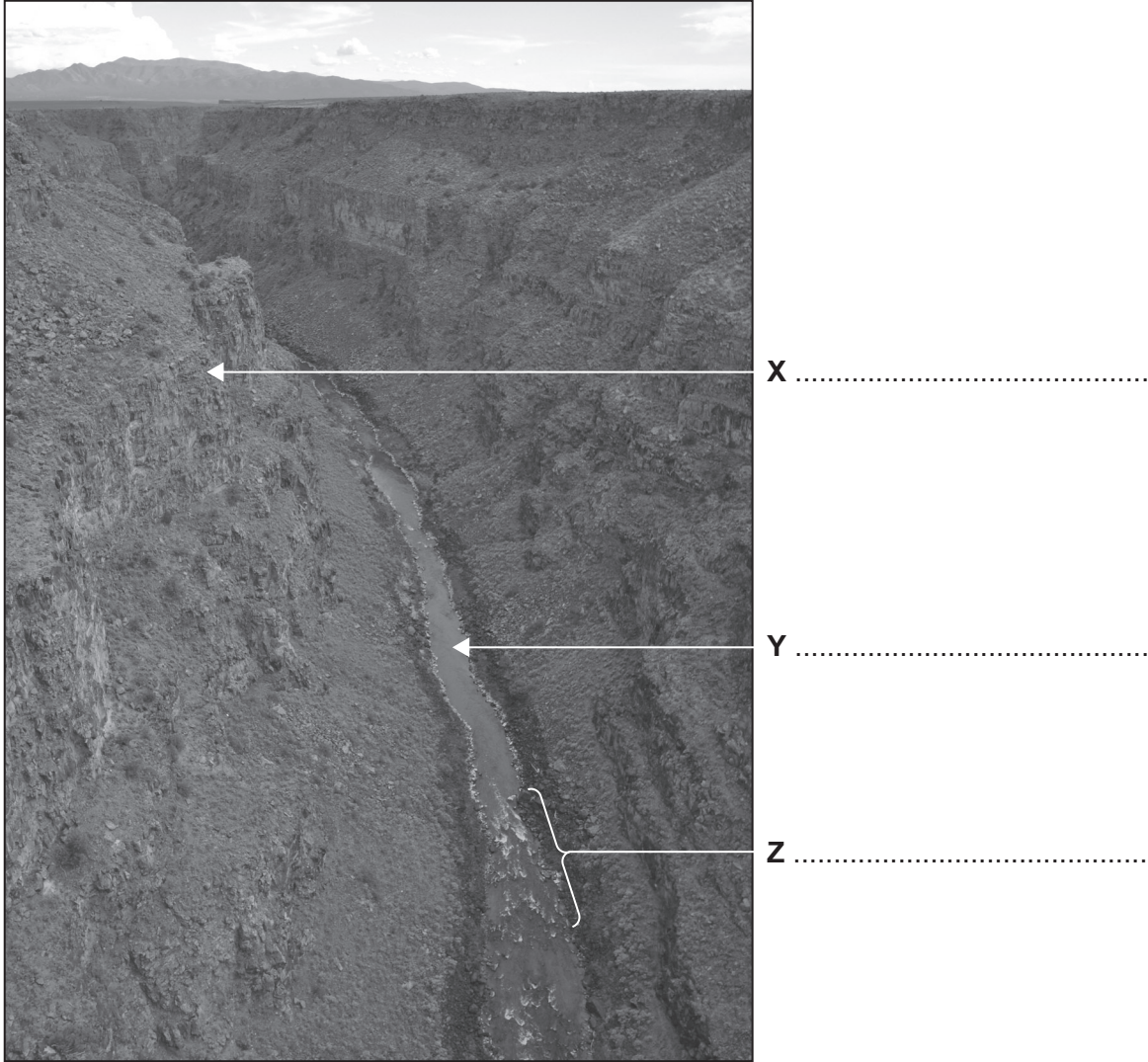
(2 marks)



5 (b) (i) Study **Figure 11** on the insert, a photograph of the Rio Grande Gorge.
Figure 12 is a black and white copy of **Figure 11**.

On **Figure 12**, label the characteristics of the river and the valley shown at **X**, **Y** and **Z**.

Figure 12



(3 marks)

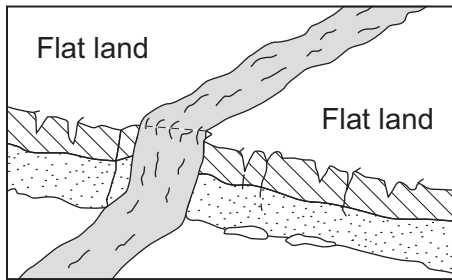
Question 5 continues on the next page

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5 (b) (ii) **Figure 13** shows the formation of a gorge.
Add a sentence to each box to explain the formation of a gorge.

Figure 13

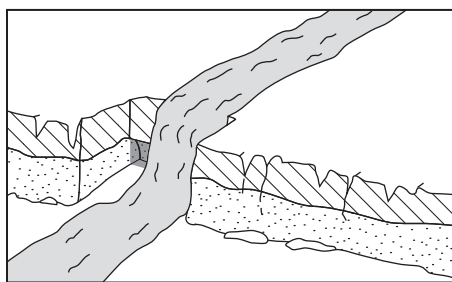


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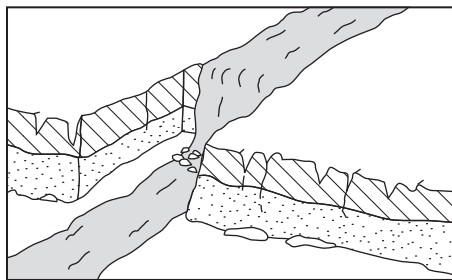


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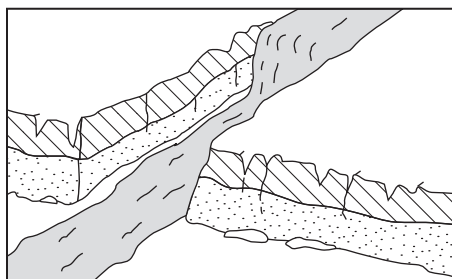


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Key

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|---|---|
|  Hard rock |  Soft rock |
|---|---|

(4 marks)

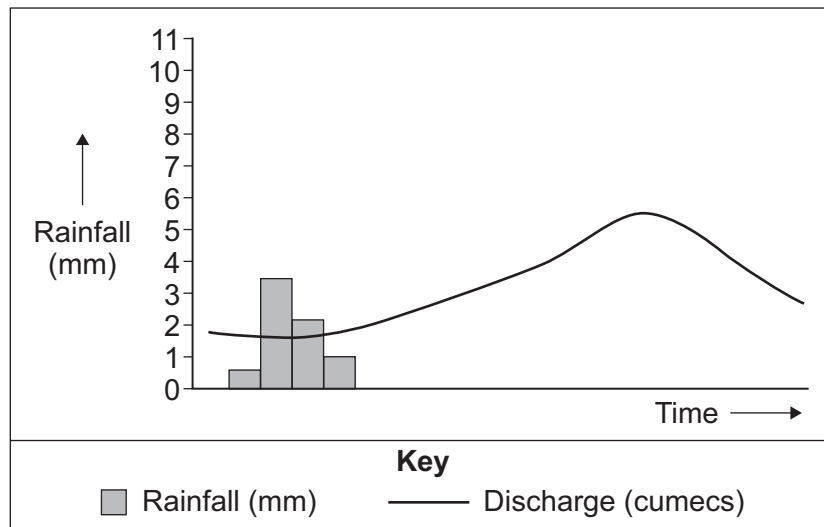


5 (c) (i) Study **Figure 14**, a sketch hydrograph of a river flowing through a forest after a period of rain.

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

On **Figure 14**, draw a sketch hydrograph for a river flowing through an area without vegetation after the same period of rain.

Figure 14



(2 marks)

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

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5 (d) (i) Study **Figure 15** on the insert, an atlas map of north Wales.

What is the direction from Bala Lake (in grid square C4) to Lake Vyrnwy?

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 (1 mark)

5 (d) (ii) **Figure 15** shows many lakes and reservoirs.

The following statements are reasons why there are many lakes and reservoirs in the area shown in **Figure 15**.

Using evidence from **Figure 15 only**, tick the **three** correct reasons.

| | |
|---|--------------------------|
| The area is mountainous. | <input type="checkbox"/> |
| The area receives little rainfall. | <input type="checkbox"/> |
| There are cities, such as Liverpool, nearby. | <input type="checkbox"/> |
| There are valleys between the highland areas. | <input type="checkbox"/> |
| The area is densely populated. | <input type="checkbox"/> |
| The area is forested. | <input type="checkbox"/> |

(3 marks)



5 (d) (iii) Explain how dams and reservoirs help to provide a reliable water supply.

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Turn over for the next question

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Total for this question: 25 marks**6 Ice on the Land****6 (a)** Many physical processes take place in areas covered by ice.

For each of the following processes, decide whether the process is one of erosion, movement or transportation.

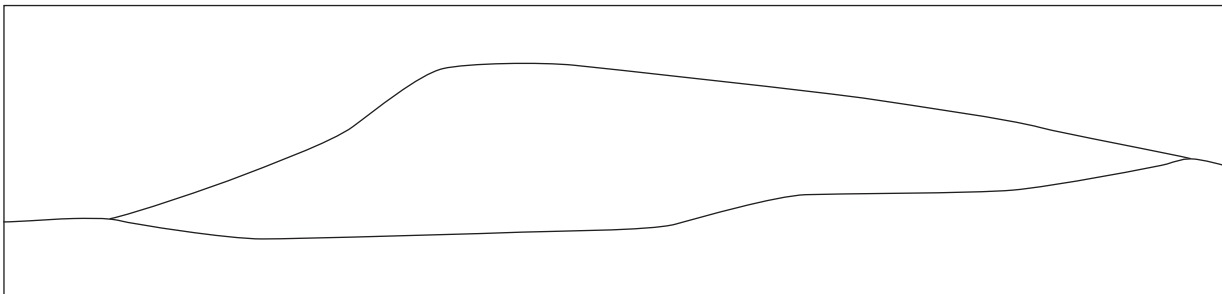
Write **erosion**, **movement** or **transportation** in the box next to each process.

| | |
|------------|--|
| Bulldozing | |
| Abrasion | |

*(2 marks)***6 (b) (i)** Study **Figure 16**, a sketch of a drumlin.

On **Figure 16**, mark with an arrow and label:

- the blunt end
- the tapered end
- the direction of ice flow/movement.

Figure 16*(3 marks)*

6 (b) (ii) Explain the formation of a drumlin. Use the key words below in your answer.

- moraine
- obstacle
- deposited
- shaped

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(4 marks)

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Question 6 continues on the next page

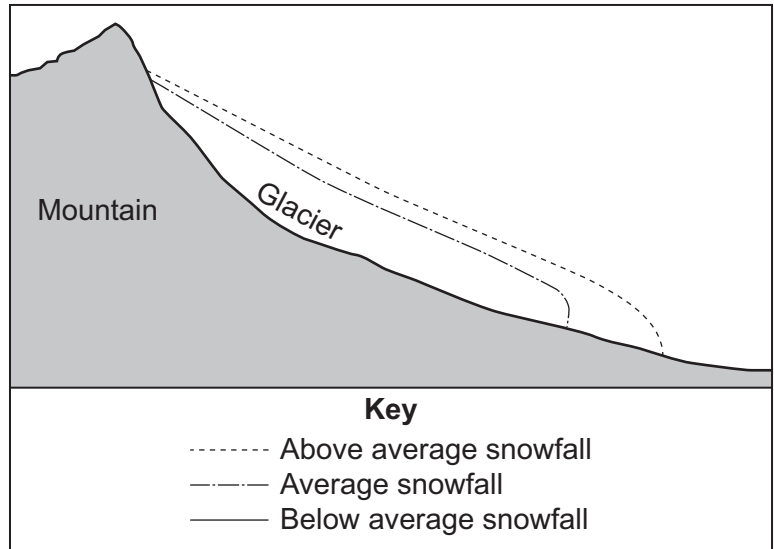
Turn over ▶



6 (c) (i) Study **Figure 17**, a diagram showing profiles of a glacier after many years of above average snowfall and average snowfall.

On **Figure 17**, add a line to show a profile of a glacier after many years of below average snowfall.

Figure 17



(2 marks)

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

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6 (d) (i) Study **Figure 18** on the insert, an atlas map of Switzerland and surrounding countries.
Name the main mountain range in Switzerland.

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(1 mark)

6 (d) (ii) Use **Figure 18** to identify **three** different physical features that make Switzerland attractive for tourists.

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(3 marks)

6 (d) (iii) Explain how unreliable snowfall can have negative economic impacts in some resorts.

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(4 marks)

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Total for this question: 25 marks

7 The Coastal Zone

7 (a) A number of transportation processes affect the coastal zone.

Draw a line to link each transportation process to the correct statement.

Traction

occurs when small particles are carried within the sea water.

Saltation

occurs when large pebbles are rolled along the sea bed.

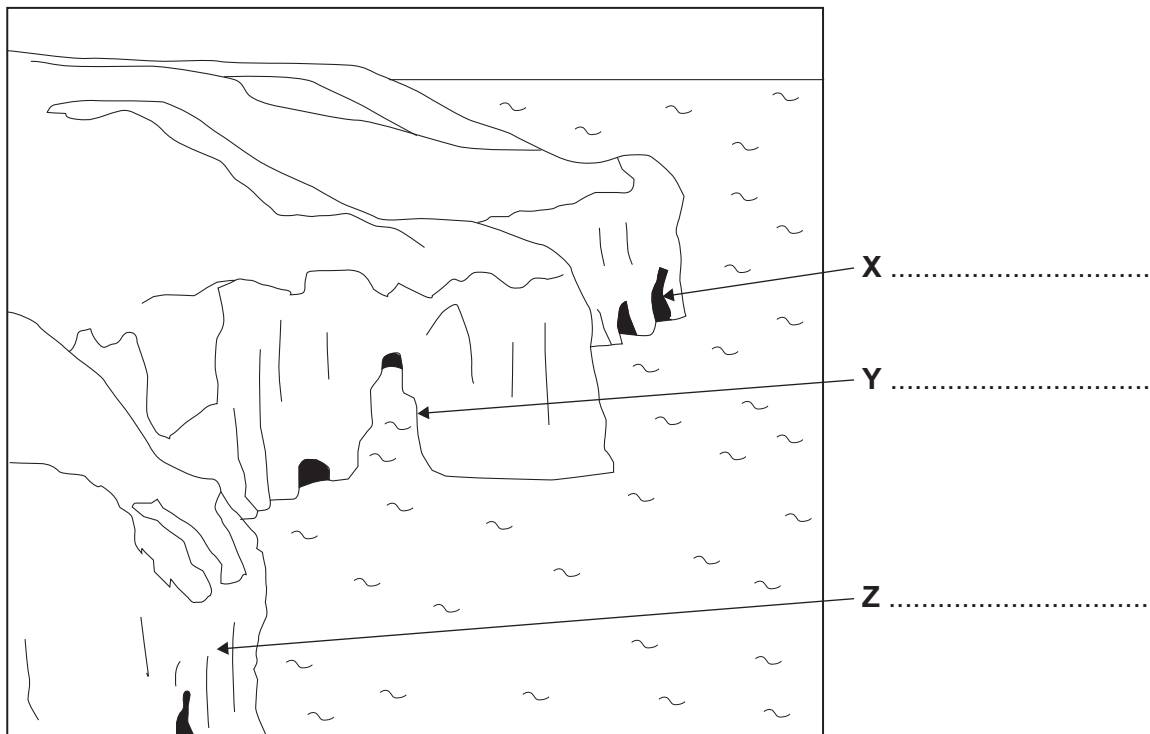
Suspension

occurs when small pebbles hop along the sea bed.

(2 marks)

7 (b) (i) Study **Figure 19** on the insert, a photograph of North Landing, Flamborough Head. **Figure 20** is a sketch of **Figure 19**.On **Figure 20**, label landforms **X**, **Y** and **Z**.

Figure 20



(3 marks)



7 (b) (ii) Complete the paragraph below to explain the formation of a sea stack.

Circle the correct answer in each set of brackets.

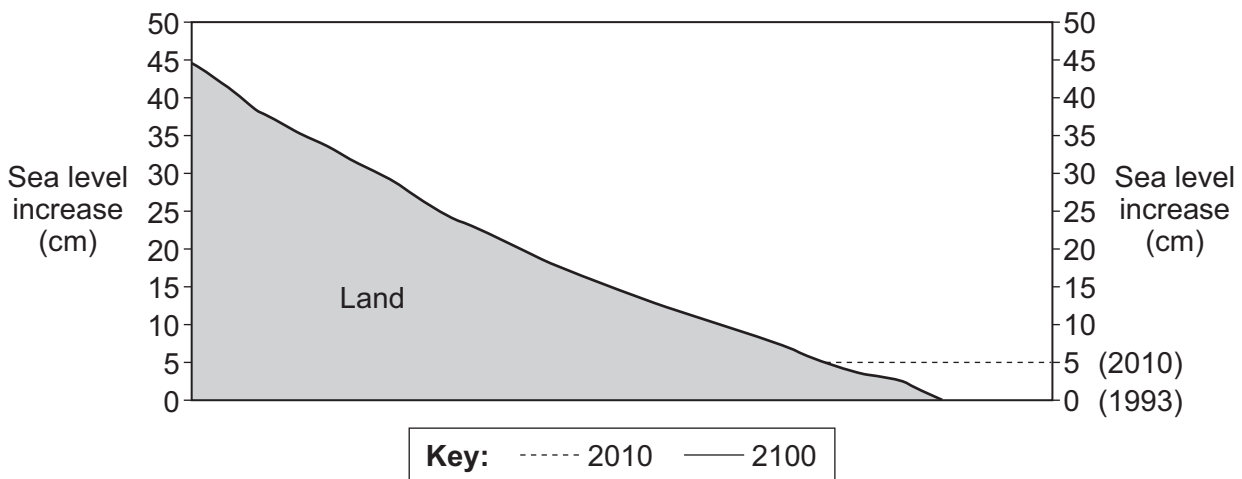
Waves erode the [**base** / **face**] of the cliff. An important erosion process is [**longshore drift** / **abrasion**]. A [**cave** / **bay**] is formed. Continued erosion causes an arch to form. This [**retreats** / **collapses**] to leave a sea stack.

(4 marks)

7 (c) (i) Study **Figure 21**, a diagram showing changing sea levels between 1993 and 2010.

On **Figure 21**, show the predicted sea level increase of a further 35 cm between 2010 and 2100.

Figure 21



(2 marks)

Question 7 continues on the next page

Turn over ►



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

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7 (d) Study **Figure 22** on the insert, an atlas map of the French coast.

7 (d) (i) What is the depth of the sea off the French coast in grid square C4?

..... metres

(1 mark)

7 (d) (ii) Write a sentence to describe the shape of the coast in each area, **X**, **Y** and **Z**.

X

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Y

.....

Z

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(3 marks)

7 (e) Explain how soft engineering might be used to manage the coastal zone.

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(4 marks)

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END OF QUESTIONS



There are no questions printed on this page

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Figure 5: www.wainwright-wanderings.co.uk/o0022-0063.jpg

Figure 6: © Crown Copyright 2011, the Met Office. Contains public sector information licensed under the Open Government Licence v1.0

Figure 12: J. Canavan

