Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

GCSE
GEOGRAPHY

Paper 1 Living with the physical environment

Tuesday 22 May 2018 Afternoon Time allowed: 1 hour 30 minutes

Materials

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

You may use a calculator.

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.

Answer all questions in Section A and Section B.

Answer two questions in Section C.

For Examiner's Use	
Section	Mark
1	
2	
3	
4	
5	
TOTAL	

- 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.

Information
- The marks for questions are shown in brackets.
- The total number of marks available for this paper is 88.
- Spelling, punctuation, grammar and specialist terminology will be assessed in Question **01.12**.

Do not write outside the box

For the multiple-choice questions, completely fill in the circle alongside the appropriate answer.

CORRECT METHOD ● WRONG METHODS ⊗ ⊙ ≋ ✓

If you want to change your answer you must cross out your original answer as shown. ⊠

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. ⊗

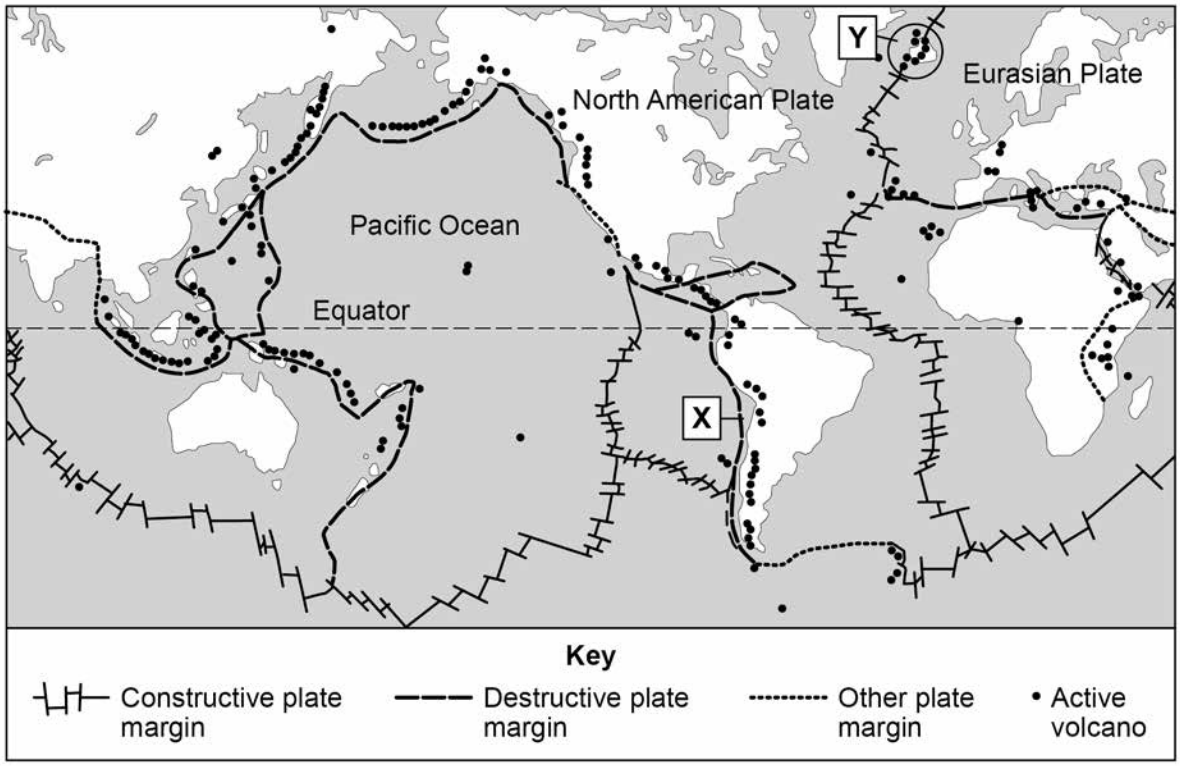
Section A The challenge of natural hazards

Answer **all** questions in this section.

Question 1 The challenge of natural hazards

Study **Figure 1**, a world map showing plate margins and active volcanoes.

Figure 1



Do not write outside the box

0 1 . 1 Using **Figure 1**, which **one** of the following statements is true?

Shade **one** circle only.

A All active volcanoes occur in lines along plate margins. ⬭

B There are more active volcanoes along constructive margins than destructive margins. ⬭

C There are many active volcanoes around the edge of the Pacific Ocean. ⬭

D Active volcanoes are found along the eastern side of North and South America. ⬭

[1 mark]

0 1 . 2 Describe the movement of plates along plate margin X.

[1 mark]

_____

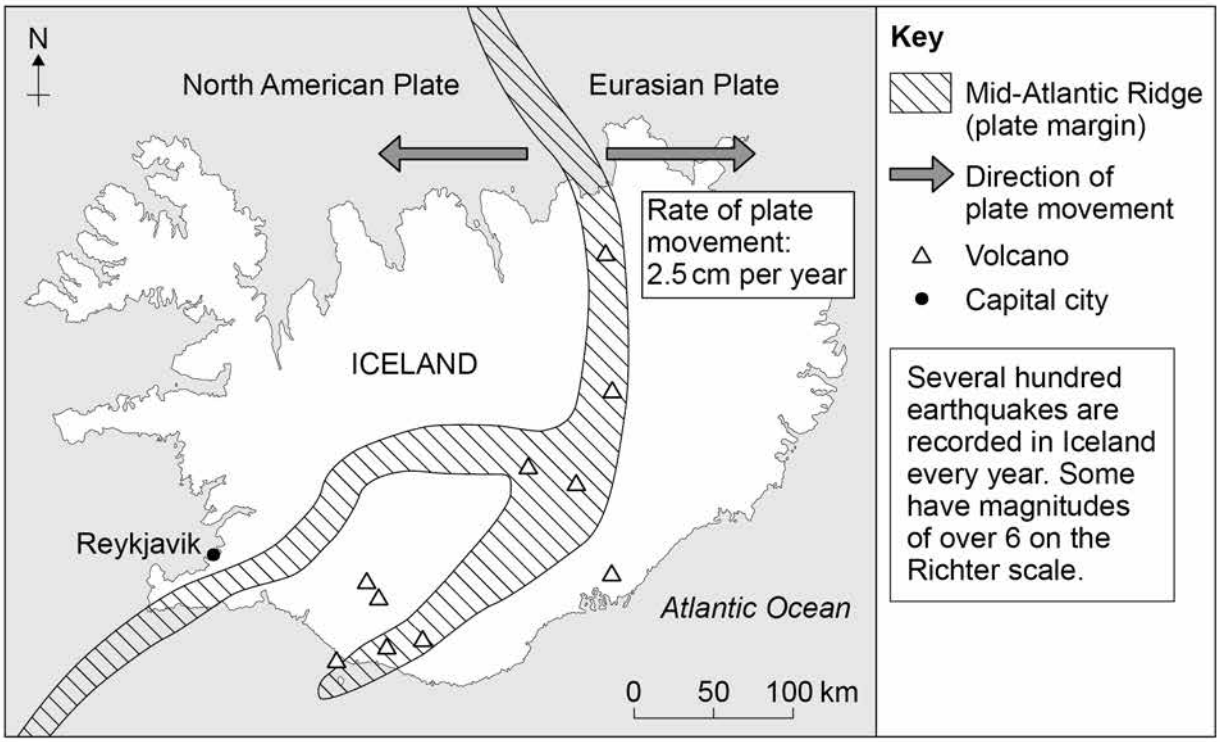
_____

Question 1 continues on the next page

Do not write outside the box

Study **Figure 2**, a map of Iceland showing the tectonic plates. The area is labelled Y on **Figure 1**.

Figure 2



0 1 . 3 Using **Figure 2**, how long will it take for the plates to move 100 metres?

Shade **one** circle only.

A 80 years ⬭

B 250 years ⬭

C 1200 years ⬭

D 4000 years ⬭

[1 mark]

Do not write outside the box

0 1 . 4 Using **Figure 2** and your own understanding, suggest how plate movements cause tectonic hazards in Iceland.

[6 marks]

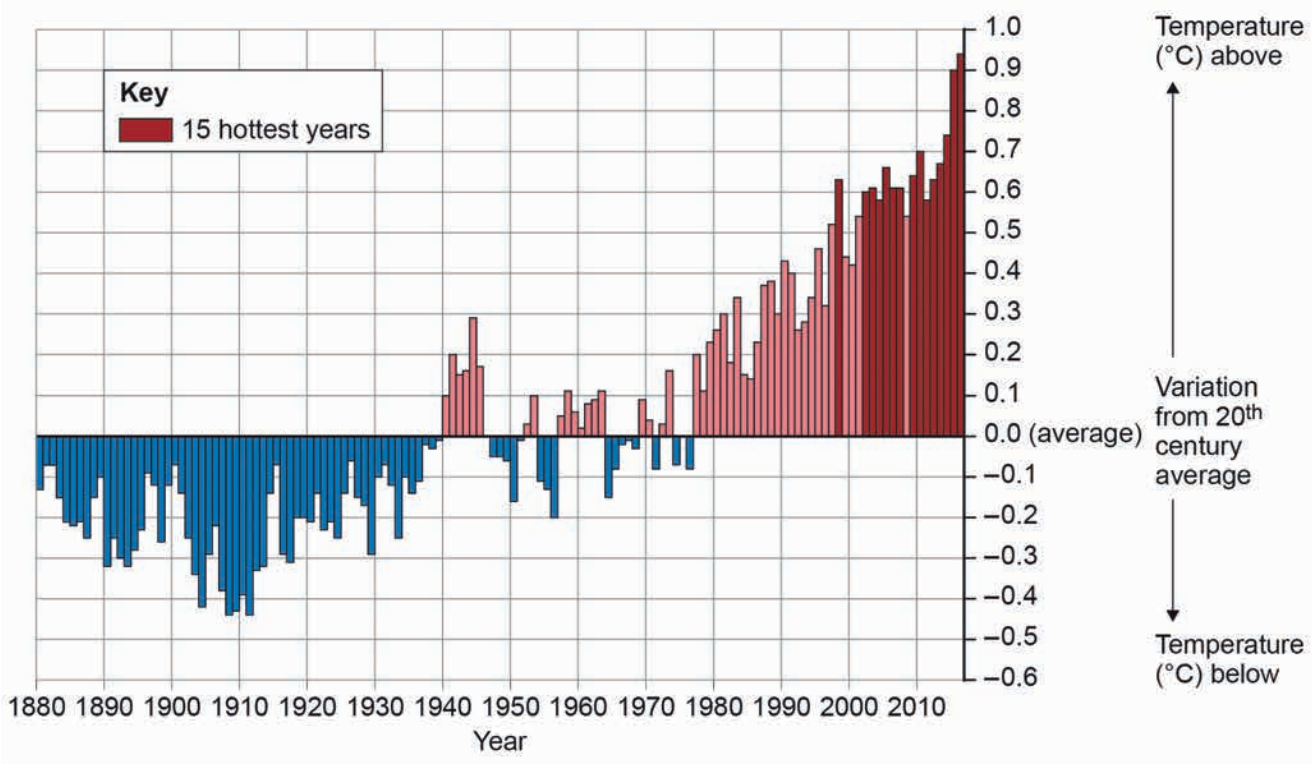
Extra space

Question 1 continues on the next page

Do not write outside the box

Study **Figure 3**, a graph showing variation in average global temperatures, 1880-2017.

Figure 3



0 1 . 5 Using **Figure 3**, which **one** of the following statements is true?

Shade **one** circle only.

A In the early 1940s global temperatures were below the 20th century average. ⬭

B Global temperatures showed a steady increase between 1940 and 1980. ⬭

C The 15 hottest years were all recorded between 1995 and 2017. ⬭

D Global temperatures have been above the 20th century average every year since 1960. ⬭

[1 mark]

0 1 . 6 Give **one** natural cause of changes in global temperatures.

[1 mark]

_____

_____

Do not write outside the box

0 1 . 7 Give **two** pieces of evidence, other than the change in global temperature, that show climate change has taken place.

[2 marks]

1. _____

_____

2. _____

_____

0 1 . 8 Explain how the increasing use of fossil fuels and changes in agriculture may have contributed to global changes in temperature.

[4 marks]

_____

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Extra space _____

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Question 1 continues on the next page

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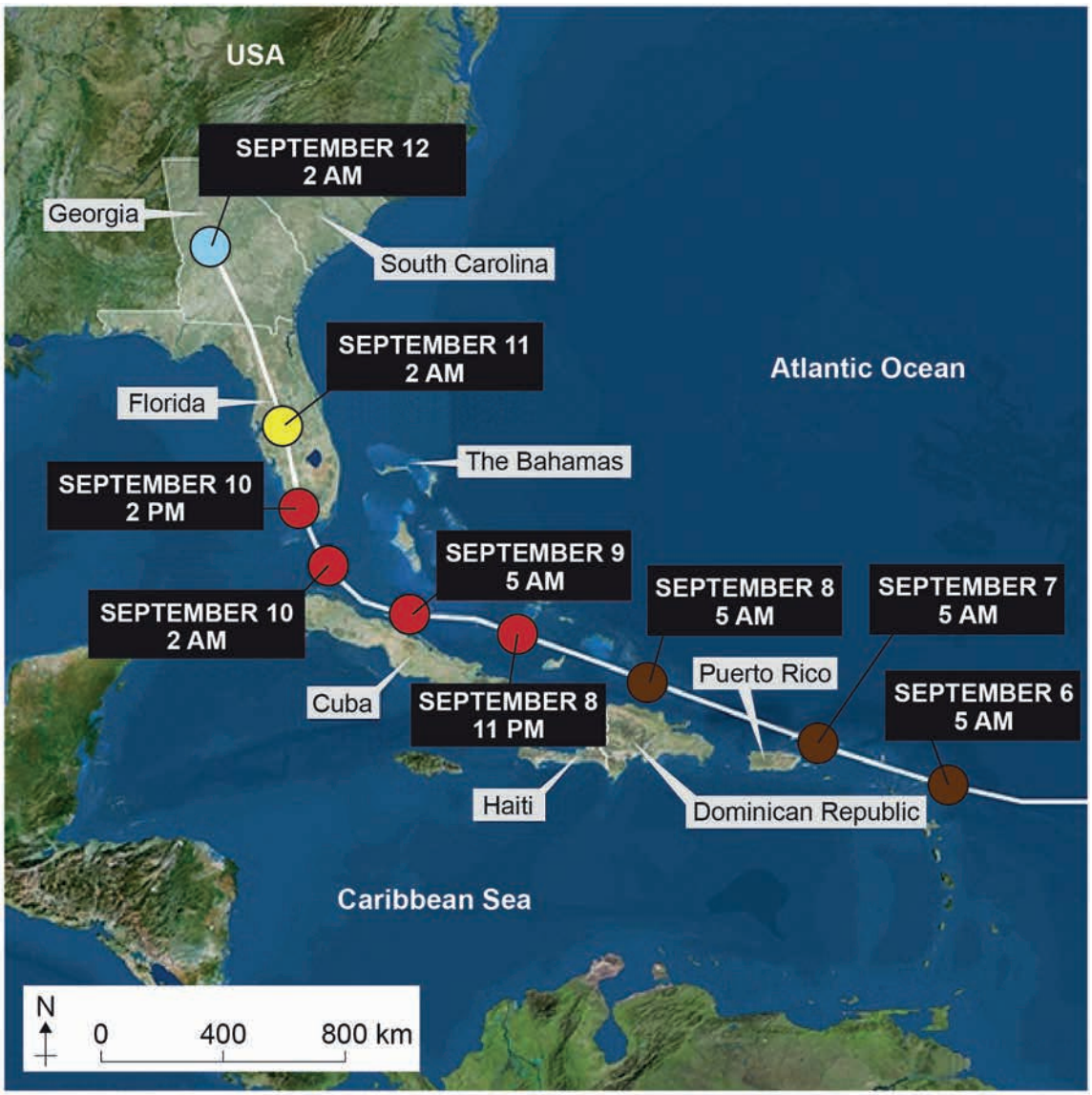
Study **Figure 4**, a map showing the track of Hurricane Irma in September 2017.

Figure 4



Saffir-Simpson Hurricane Wind Scale

Category	**Wind speed** (km/hour)	
1	119 – 153	
2	154 – 177	
3	178 – 208	
4	209 – 251	
5	252 or higher	

Do not write outside the box

0 1 . 9 Using **Figure 4**, describe the track of Hurricane Irma between 6 September 2017 and 12 September 2017.

[2 marks]

0 1 . 1 0 Using **Figure 4**, what happened to the wind speed of Hurricane Irma between 8 and 12 September 2017?

[1 mark]

0 1 . 1 1 Give **one** reason why the wind speed of a tropical storm (hurricane) may change as it reaches land.

[1 mark]

Question 1 continues on the next page

Do not write outside the box

Study **Figure 5**, a news report and photograph showing the effects of Hurricane Irma on the Dutch island of Sint Maarten.

Figure 5

'Hurricane Irma hit several islands in the Caribbean on 6 September 2017, with devastating consequences for the local population. On Sint Maarten, it has so far resulted in eight deaths. Officials say that 95% of the island has been destroyed and the international airport and harbour have been seriously damaged. Power, running water and most communications have been knocked out by this powerful storm.'

Photo: Overturned shipping containers in Sint Maarten

0 1 . 1 2 Assess the extent to which tropical storms have effects on people and the environment.

Use **Figure 5** and an example you have studied.

[9 marks]
[+ 3 SPaG marks]

Do not write outside the box

Extra space

33

End of Section A

Do not write outside the box

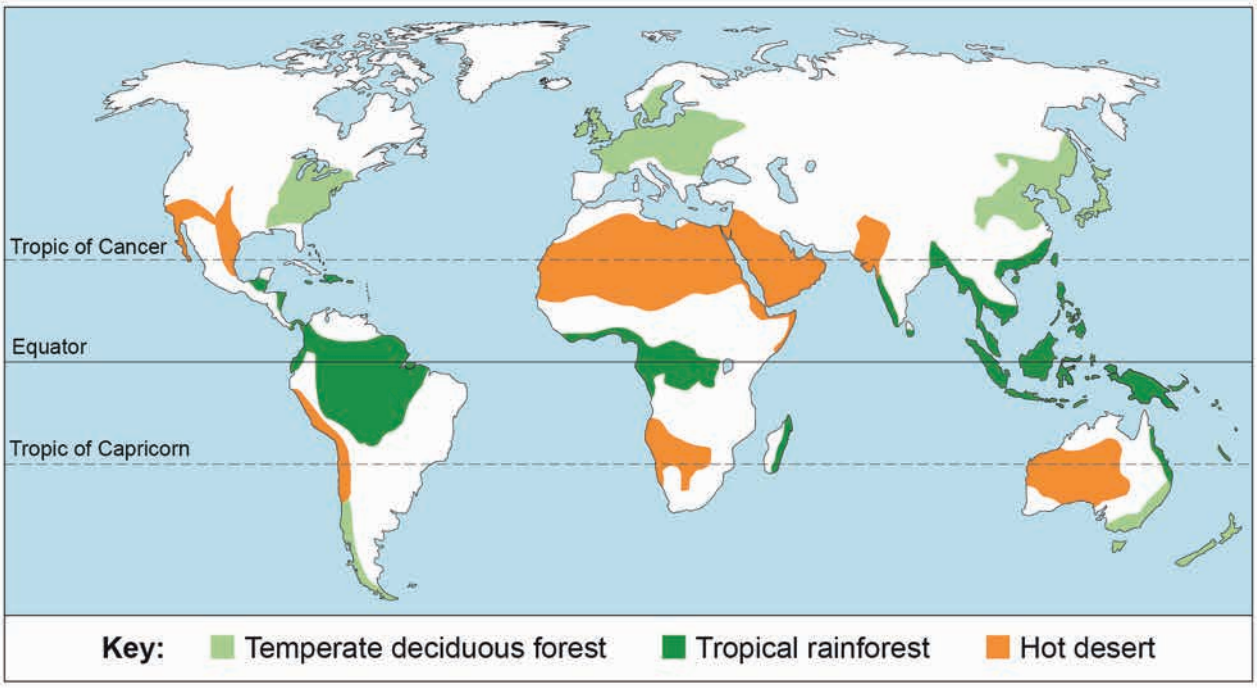
Section B The living world

Answer **all** questions in this section.

Question 2 The living world

Study **Figure 6**, a world map showing some global ecosystems.

Figure 6



0 2 . 1 Using **Figure 6**, which **one** of the following statements is true?

Shade **one** circle only.

A There is a greater area of hot desert in the Southern Hemisphere than the Northern Hemisphere. ⬭

B The largest single area of tropical rainforest is in South America. ⬭

C Temperate deciduous forests are all found on the western side of continents. ⬭

D Hot desert areas are all found between the two tropics. ⬭

[1 mark]

Do not write outside the box

0 2 . 2 Outline **one** reason for the distribution of tropical rainforest.

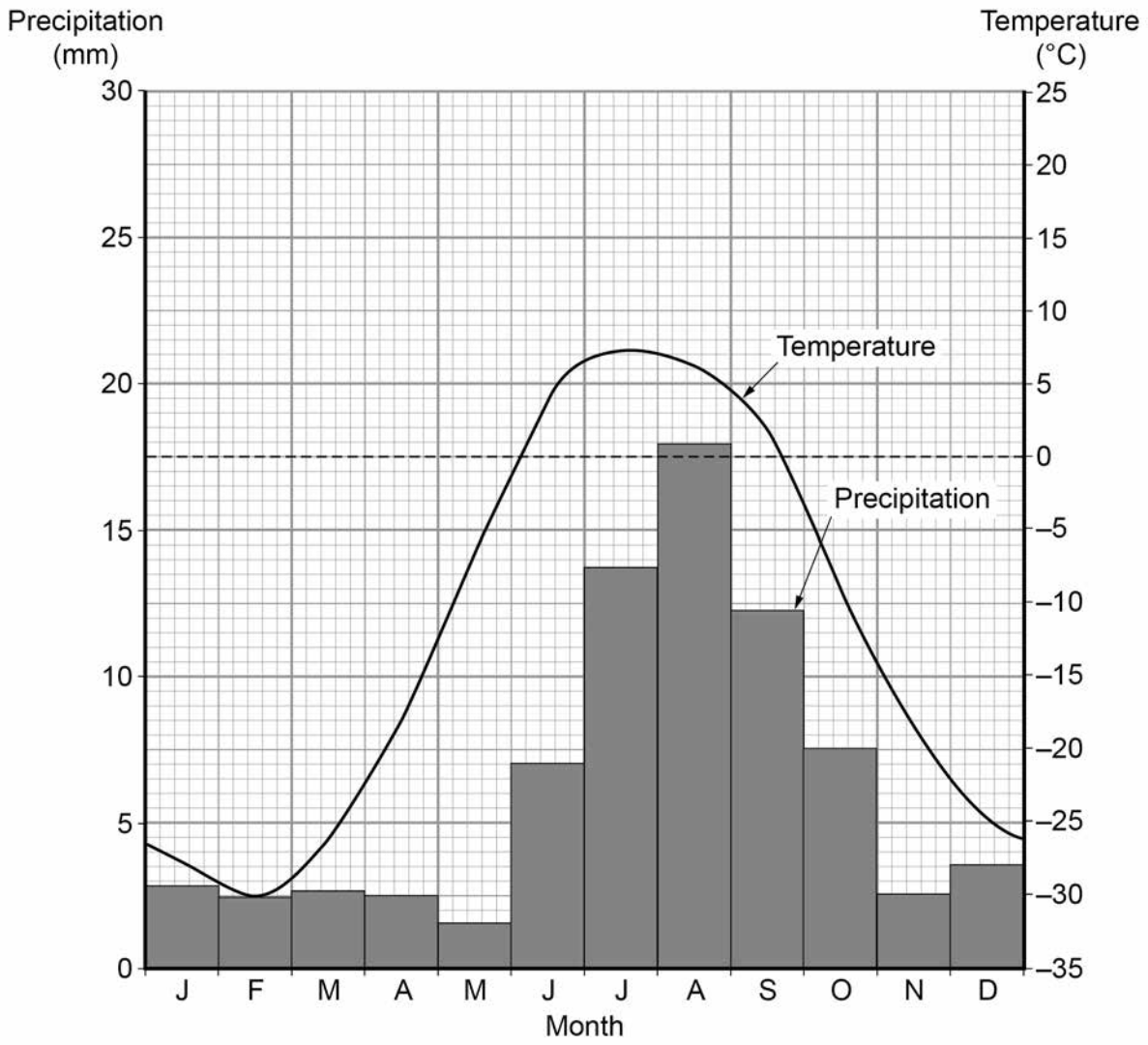
[2 marks]

Question 2 continues on the next page

Do not write outside the box

Study **Figure 7**, a typical climate graph for one global ecosystem.

Figure 7



0 2 . 3 Which global ecosystem is most likely to have the temperature and precipitation pattern shown in **Figure 7**?

Shade **one** circle only.

A temperate deciduous forest ⬭

B tundra ⬭

C hot desert ⬭

D savanna ⬭

[1 mark]

Do not write outside the box

0 2 . 4 State the minimum temperature shown in **Figure 7**.

Shade **one** circle only.

A –26°C ⬭

B –28°C ⬭

C –30°C ⬭

D –32°C ⬭

[1 mark]

0 2 . 5 Give **one** reason why polar regions have low temperatures throughout the year.

[1 mark]

_____

_____

Question 2 continues on the next page

Do not write outside the box

Study **Figure 8**, two photographs showing different parts of a tropical rainforest.

Figure 8

Do not write outside the box

0 2 . 6 Using **Figure 8** and your own understanding, explain how development in tropical rainforests creates economic advantages but at a cost to the environment.

[6 marks]

Extra space

Question 2 continues on the next page

Do not write outside the box

Study **Figure 9**, a photograph of part of an ecotourism scheme in the Amazon rainforest, Brazil.

Figure 9

0 2 . 7 Using **Figure 9**, suggest how ecotourism can help in managing tropical rainforests sustainably.

[2 marks]

0 2 . 8 Explain how **either** international hardwood agreements **or** selective logging can encourage the sustainable management of tropical rainforests.

[2 marks]

Do not write outside the box

0 2 . 9 Choose **one** of the following environments.

Hot desert environment ☐

Cold environment ☐

Tick the box to show which environment you have chosen.

Using a case study, to what extent have opportunities for economic activity been developed in your chosen environment?

[9 marks]

Extra space

Do not write outside the box

25

End of Section B

Do not write outside the box

Section C Physical landscapes in the UK

Answer **two** questions from the following:

Question 3 (Coasts), Question 4 (Rivers), Question 5 (Glacial).

Question 3 Coastal landscapes in the UK

Study **Figure 10** on the insert, a 1:50 000 Ordnance Survey map of the Woolacombe area in North Devon.

0 3 . 1 Using **Figure 10**, give the four-figure grid reference for a headland with cliffs.

Shade **one** circle only.

A 4542 ⬭

B 4643 ⬭

C 4240 ⬭

D 4441 ⬭

[1 mark]

0 3 . 2 Using **Figure 10**, which of the following coastal features is **not** shown in grid square 4339?

Shade **one** circle only.

A An area of sand dunes ⬭

B A rocky wave cut platform ⬭

C A wide sandy beach ⬭

D A coastal spit ⬭

[1 mark]

Question 3 continues on the next page

Do not write outside the box

0 3 . 3 Using **Figure 10**, what is the length and average width of Woolacombe beach between 456438 (labelled X) and 445407 (labelled Y)?

Shade **one** circle only.

A Beach length 3.8 km, average width 0.7 km

B Beach length 4.1 km, average width 0.2 km

C Beach length 3.3 km, average width 0.4 km

D Beach length 3.0 km, average width 0.9 km

[1 mark]

0 3 . 4 Using **Figure 10**, suggest **one** reason why this coastline has suitable conditions for the formation of sand dunes.

[1 mark]

Study **Figure 11**, a photograph of part of the coastline shown in **Figure 10**.

Figure 11

Do not write outside the box

0 3 . 5 Using **Figure 11**, identify the landform marked Z.

[1 mark]

0 3 . 6 Explain how a coastline of headlands and bays forms and changes over time.

[4 marks]

Extra space

Question 3 continues on the next page

Do not write outside the box

0 3 . 7 'Coastal management schemes are effective in protecting the coastline from physical processes.'

Do you agree?

Using an example, explain your answer.

[6 marks]

Extra space

15

End of Question 3

Do not write outside the box

Question 4 River landscapes in the UK

Study **Figure 12** on the insert, a 1:50 000 Ordnance Survey map of the River Severn in Shropshire.

0 4 . 1 Using **Figure 12**, give the four-figure grid reference for a river floodplain.

Shade **one** circle only.

A 6407 ⬭

B 6304 ⬭

C 6205 ⬭

D 6005 ⬭

[1 mark]

0 4 . 2 Using **Figure 12**, which of the following statements best describes the features of grid square 6205?

Shade **one** circle only.

A A steeply sloping wooded area rising to over 250 metres in the north. ⬭

B A gently sloping river valley with a small tributary entering from the north. ⬭

C A south facing slope with a stream and small tributary flowing through woodland. ⬭

D A wide flat river valley with a steeper slope in the north, rising from 50 to 80 metres. ⬭

[1 mark]

0 4 . 3 Suggest **one** way the upper course of the River Severn may be different from that shown in **Figure 12**.

[1 mark]

_____

_____

Question 4 continues on the next page

Do not write outside the box

Study **Figure 13**, a photograph of the River Severn and its valley. The photographer was looking north east.

Figure 13

0 4 . 4 Using **Figures 12** and **13**, what is the height of the land (in metres) at the point marked X on **Figure 13**?

[1 mark]

0 4 . 5 Describe **one** feature of the meander at Y on **Figure 13**.

[1 mark]

Do not write outside the box

0 4 . 6 Explain how river meanders may change over time.

[4 marks]

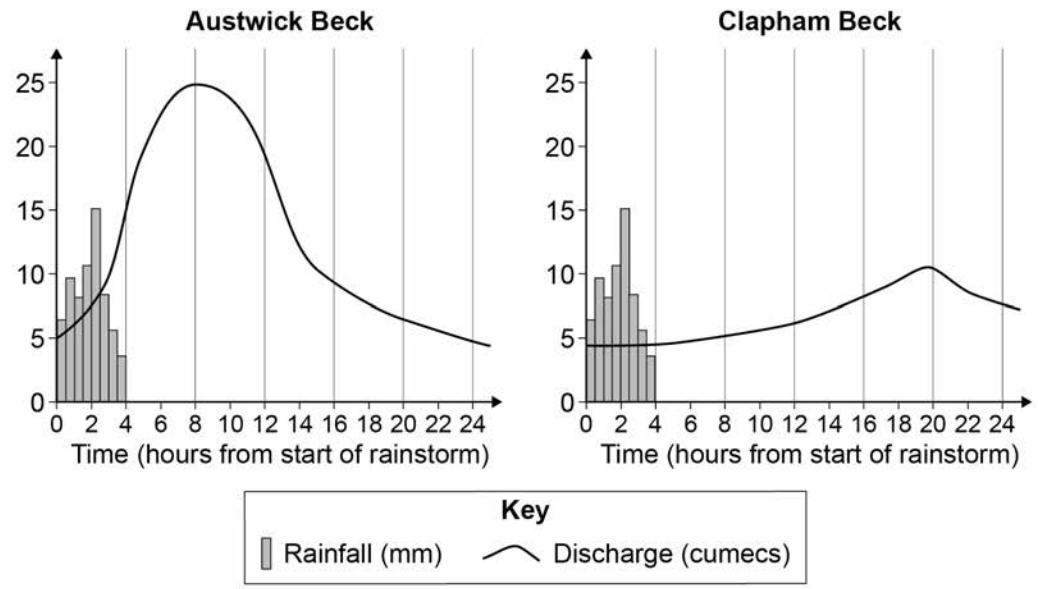
Extra space

Question 4 continues on the next page

Do not write outside the box

Study **Figure 14**, flood hydrographs for two different streams after the same storm.

Figure 14



0 4 . 7 'Differences in the shape of flood hydrographs are caused by **both** human **and** physical factors.'

Do you agree?

Use **Figure 14** and your own understanding to explain your answer.

[6 marks]

Do not write outside the box

Extra space

15

End of Question 4

Do not write outside the box

Question 5 Glacial landscapes in the UK

Study **Figure 15** on the insert, a 1:50 000 Ordnance Survey map of part of the Cairngorm Mountains in Scotland.

0 5 . 1 Using **Figure 15**, which grid square matches the following description?

'There is a valley with a stream in the north. The land rises steeply southwards. It becomes more gentle towards the summit in the south, reaching a height of almost 1000 metres.'

Shade **one** circle only.

A 0201 ⬭

B 0299 ⬭

C 9900 ⬭

D 9902 ⬭

[1 mark]

0 5 . 2 Locate Loch Avon centred in grid square 0102. What is the length (between points X and Y) and maximum depth of Loch Avon?

Shade **one** circle only.

A Length 2.5 km, maximum depth over 30 metres ⬭

B Length 4.6 km, maximum depth 30 metres ⬭

C Length 2.1 km, maximum depth 40 metres ⬭

D Length 4.8 km, maximum depth over 40 metres ⬭

[1 mark]

0 5 . 3 Suggest **one** reason for the shape of Loch Avon.

[1 mark]

_____

_____

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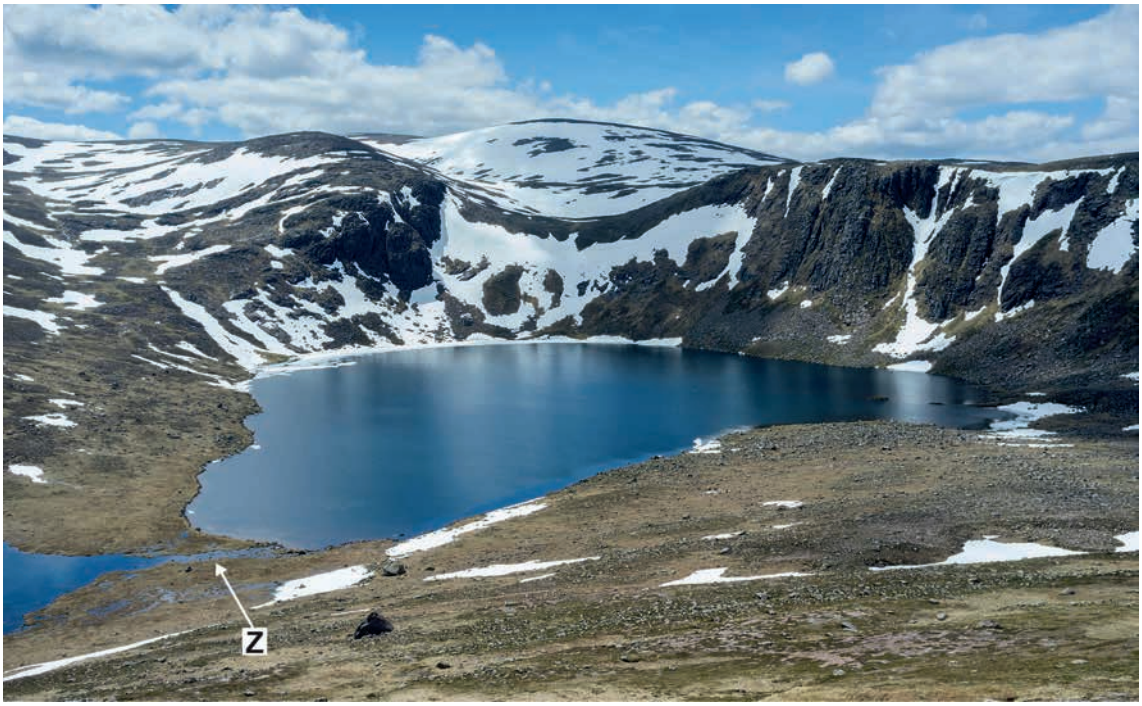
Study **Figure 16**, a photograph of Loch Etchachan, with Ben Macdui (989989) in the background.

Figure 16



0 5 . 4 Using **Figures 15** and **16**, in which direction was the photographer facing when the picture was taken?

Shade **one** circle only.

A South east ⬭

B South west ⬭

C North west ⬭

D North east ⬭

[1 mark]

0 5 . 5 Describe **one** feature of the corrie at Z on **Figure 16**.

[1 mark]

_____

_____

Question 5 continues on the next page

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0 5 . 6 Explain how a corrie forms and changes over time.

[4 marks]

Extra space

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0 5 . 7 'The growing number of visitors to glaciated upland areas in the UK can only bring advantages.'

Do you agree?

Use an example to explain your answer.

[6 marks]

Extra space

15

END OF QUESTIONS

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