Please write clearly in block capitals.

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

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

GCSE
GEOGRAPHY

Paper 1 Living with the physical environment

Friday 17 May 2024 Afternoon Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:
- the OS map key 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.
Question 3 (Coasts), Question 4 (Rivers), Question 5 (Glacial)

For Examiner's Use	
Question	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.
- If you need additional extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- 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 **01.11**.

Do not write outside the box

For the multiple-choice questions, shade the circle next to the correct 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.

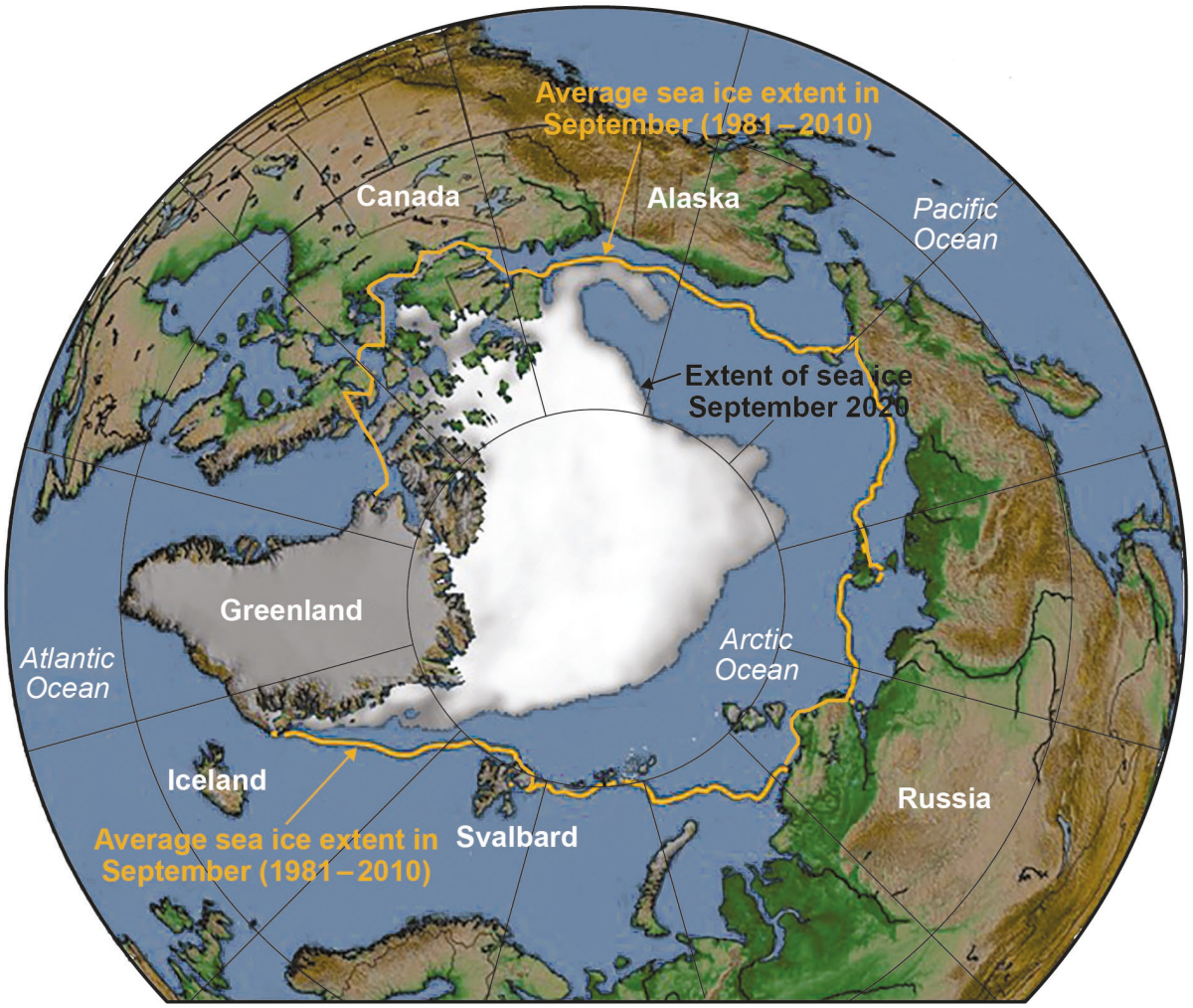
Section A The challenge of natural hazards

Answer **all** questions in this section.

Question 1 The challenge of natural hazards

Study **Figure 1**, a map showing the extent of Arctic sea ice in September 2020 and the average extent of Arctic sea ice in September from 1981 to 2010.

Figure 1



Do not write outside the box

0 1 . 1 Using **Figure 1**, compare the extent of Arctic sea ice in September 2020 with the average extent of Arctic sea ice in September from 1981 to 2010.

[2 marks]

Study **Figure 2**, data showing changes in the volume of Arctic sea ice from 1980 to 2020.

Figure 2

All figures are km^3

Year	**1980**	**1990**	**2000**	**2010**	**2020**
April	32 200	29 900	27 400	23 900	22 600
September	16 300	13 800	11 000	4 700	4 400

0 1 . 2 Using **Figure 2**, calculate the mean volume of Arctic sea ice in **April** from 1980 to 2020.

Shade **one** circle only.

[1 mark]

A 24 100 km^3

B 25 400 km^3

C 26 300 km^3

D 27 200 km^3

0 1 . 3 Using **Figure 2**, calculate the difference in the volume of Arctic sea ice from **September 1980** to **September 2020**.

[1 mark]

_____ km^3

Do not write outside the box

0 1 . 4 Suggest how changes in the extent of Arctic sea ice are evidence of climate change.

[2 marks]

Study **Figure 3**, a poster and some news headlines about the United Nations (UN) International Climate Change Conference held in Glasgow in November 2021.

Figure 3

0 1 . 5 'International agreements are essential for managing climate change.'

Do you agree?

Explain your answer. Use **Figure 3** and your own understanding.

[4 marks]

Do not write outside the box

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Question 1 continues on the next page

Do not write outside the box

Study **Figure 4**, a map showing tectonic plates and plate margins near South America.

Figure 4

Map not reproduced here due to third party copyright restrictions.

0 1 . 6 Using **Figure 4**, name the type of plate margin shown at **X**.

[1 mark]

_____

0 1 . 7 Using **Figure 4**, which statement describes the movement of plates at **X**?

Shade **one** circle only.

[1 mark]

A The Nazca Plate is moving away from the South American Plate. ⬭

B The Nazca Plate is moving under the South American Plate. ⬭

C The South American Plate is moving alongside the Nazca Plate. ⬭

D The South American Plate is moving under the Antarctic Plate. ⬭

Do not write outside the box

0 1 . 8 Using **Figure 4**, suggest **one** reason why new crust is formed at the location labelled **Y**.

[1 mark]

0 1 . 9 Explain why people continue to live in areas that are at risk from a tectonic hazard.

[6 marks]

Extra space

Question 1 continues on the next page

Do not write outside the box

Study either **Figure 5** or **Figure 6**.

Figure 5 – a photograph showing the effects of a recent volcanic eruption in La Palma

Figure 6 – a photograph showing the effects of a recent earthquake in the Philippines

Do not write outside the box

0 1 . 1 0 Using **Figure 5 or Figure 6**, give **two** primary effects of **either** volcanic eruptions **or** earthquakes.

[2 marks]

1 _____

_____

2 _____

_____

Question 1 continues on the next page

Do not write outside the box

Study **Figure 7**, showing some immediate and long-term responses to tropical storms.

Figure 7

Rescue people that are trapped	Provide medical support for injured people	Improve forecasting and early warning systems
Repair transport routes	Set up temporary shelters	Improve building regulations

0 1 . 1 1 'Both immediate and long-term responses are needed after a tropical storm.'

Discuss this statement.

Use **Figure 7** and an example of a tropical storm you have studied.

[9 marks]
[+ 3 SPaG marks]

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Extra space

33

End of Section A

Turn over for Section B

Do not write outside the box

Section B The living world

Answer **all** questions in this section.

Question 2 The living world

0 2 . 1 Outline **one** reason why there are high levels of biodiversity in the tropical rainforest.

[2 marks]

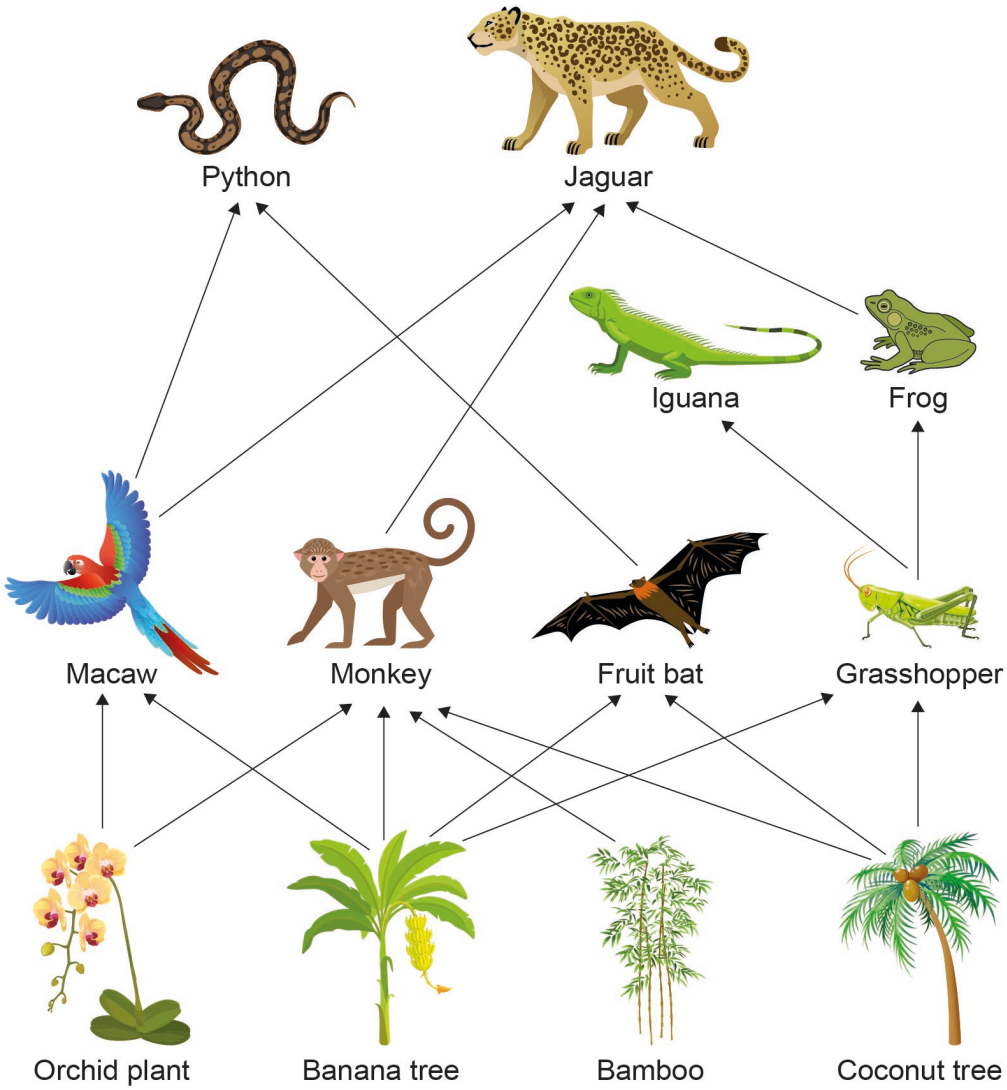
0 2 . 2 State **one** threat to biodiversity in the tropical rainforest.

[1 mark]

Do not write outside the box

Study **Figure 8**, a diagram showing how different plants and animals rely on each other as sources of food in the tropical rainforest.

Figure 8



0 2 . 3 Complete the following paragraph by choosing the correct words from the list below.

chain **consumer** **increase** **producer** **reduce** **web**

Figure 8 is an example of a food _____. Orchid plants are an example of a _____. An increase in the number of jaguars is likely to _____ the number of monkeys.

[3 marks]

Turn over ►

Do not write outside the box

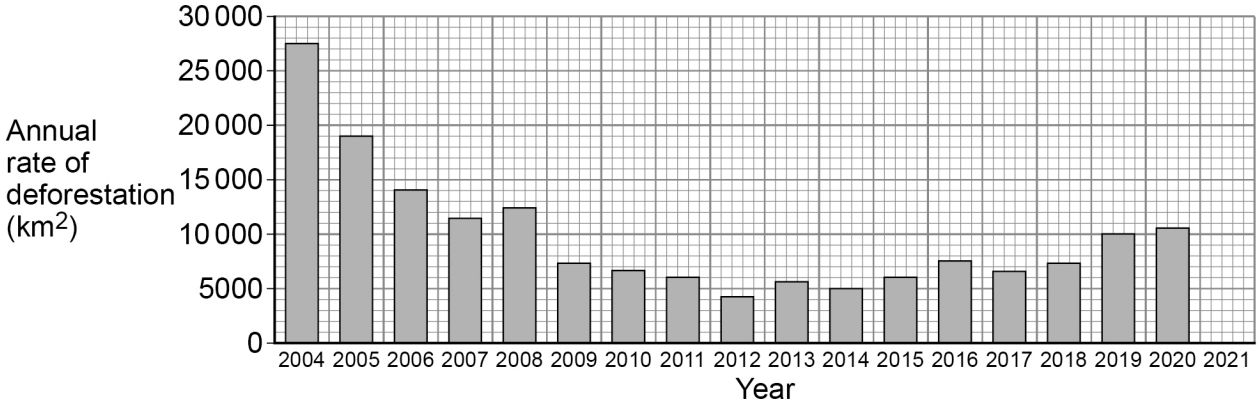
Figure 9 is a graph showing annual rates of deforestation in the Amazon rainforest, 2004–2021.

0 2 . 4 Complete **Figure 9** below using the following data.

[1 mark]

Year	**Annual rate of deforestation (km^2)**
2021	13 000

Figure 9



0 2 . 5 Using **Figure 9**, which of the following statements is true?

Shade **one** circle only.

[1 mark]

A Annual rate of deforestation has increased every year since 2010. ⬭

B Annual rate of deforestation was highest in 2020. ⬭

C Annual rate of deforestation was lowest in 2012. ⬭

D Annual rate of deforestation was twice as high in 2005 as it was in 2020. ⬭

Do not write outside the box

0 2 . 6 Suggest how deforestation in the tropical rainforest can be caused by a range of different activities. Use a case study.

[6 marks]

Extra space

0 2 . 7 Outline **one** way selective logging can be used to manage the rainforest sustainably.

[1 mark]

Question 2 continues on the next page

Do not write outside the box

Study either **Figure 10** or **Figure 11**, photographs showing soils in a hot desert and cold environment.

Figure 10 – hot desert

Figure 11 – cold environment

0 2 . 8 Using **either Figure 10** or **Figure 11**, suggest **one** way the soil can be affected by the climate in **either** a hot desert **or** a cold environment.

[1 mark]

Study **either Figure 12** or **Figure 13**, photographs showing plants and animals in hot desert and cold environments.

Figure 12 – hot desert

Figure 13 – cold environment

Do not write outside the box

0 2 . 9 'Plants and animals need to have special adaptations to cope with extreme environments.'

Discuss this statement.

Use either **Figure 12** or **Figure 13** and your own understanding.

[9 marks]

Tick (✓) the box to show which environment you have chosen.

Hot desert ☐ Cold environment ☐

Extra space

Do not write outside the box

25

End of Section B

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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

0 3 . 1 What does 'managed retreat' mean?

Shade **one** circle only.

[1 mark]

A Allowing the sea to flood or erode an area of low-value land. ⬭

B Building up dunes and increasing vegetation. ⬭

C Using concrete or artificial structures to defend against natural processes. ⬭

D Working with natural processes to restore beaches. ⬭

Question 3 continues on the next page

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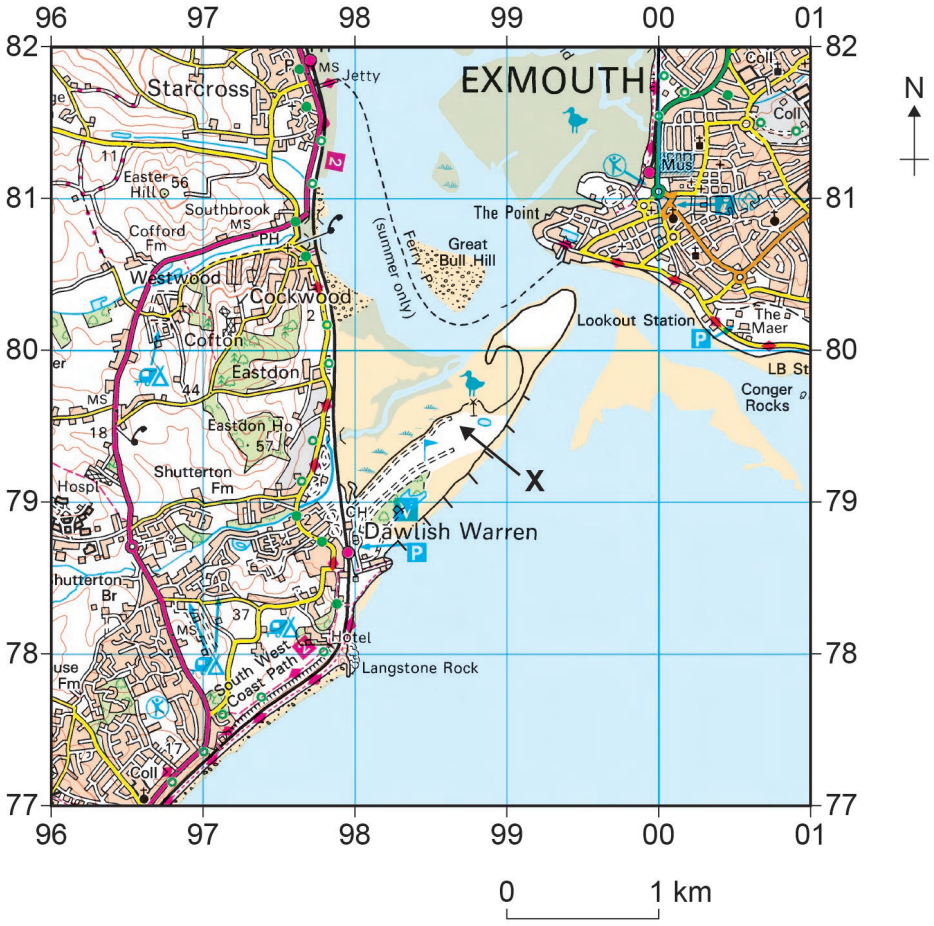
Study **Figure 14**, a 1:50 000 Ordnance Survey map of Dawlish Warren, Devon.

Figure 14



0 3 . 2 Using **Figure 14**, which **one** of the following grid squares shows a shingle beach?

Shade **one** circle only.

[1 mark]

A 9779 ⬭

B 0079 ⬭

C 9777 ⬭

D 9980 ⬭

0 3 . 3 Using **Figure 14**, identify **one** method of hard engineering shown in grid square 9879.

[1 mark]

_____

Do not write outside the box

0 3 . 4 The area labelled **X** shows a coastal spit.

Using **Figure 14**, describe the size and shape of the spit.

[2 marks]

Size _____

_____

Shape _____

_____

0 3 . 5 You have studied a coastal management scheme in the UK.

Explain the effects of the scheme.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

Extra space _____

_____

_____

_____

Question 3 continues on the next page

Do not write outside the box

Study **Figure 15**, a photograph showing features of a coastal landscape.

Figure 15

0 3 . 6 Explain how coastal landscapes are formed by different processes.

Use **Figure 15** and your own understanding.

[6 marks]

Do not write outside the box

Extra space

15

End of Question 3

Turn over for Question 4

Do not write outside the box

Question 4 River landscapes in the UK

0 4 . 1 Which **one** of the following factors is most likely to cause river levels to rise quickly after heavy rainfall?

Shade **one** circle only.

[1 mark]

A Gentle slopes ⬭

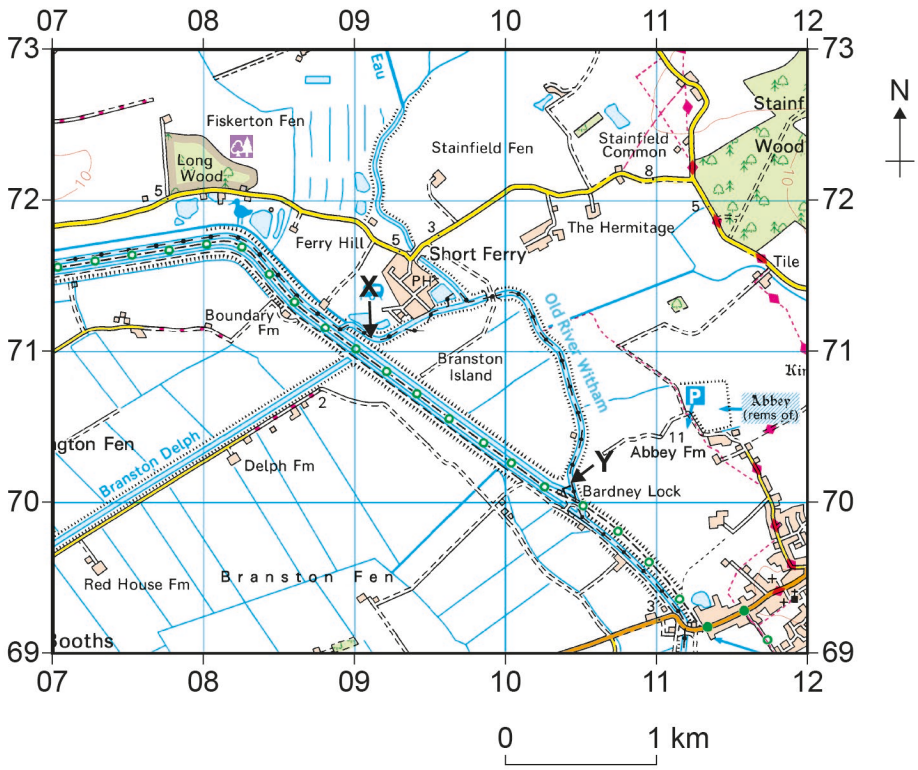
B Forested land ⬭

C Permeable rocks ⬭

D Steep slopes ⬭

Study **Figure 16**, a 1:50 000 Ordnance Survey map showing part of the River Witham in Lincolnshire.

Figure 16



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0 4 . 2 Using **Figure 16**, measure the distance **along the Old River Witham** between point **X** and point **Y**.

Shade **one** circle only.

[1 mark]

A 1.2 km ⬭

B 2.0 km ⬭

C 2.8 km ⬭

D 3.6 km ⬭

0 4 . 3 Using **Figure 16**, identify **one** method of hard engineering shown in grid square 0970.

[1 mark]

_____

_____

0 4 . 4 Using **Figure 16**, describe the relief and drainage shown in grid square 0870.

[2 marks]

Relief (height and shape of the land) _____

_____

Drainage (water features) _____

_____

Question 4 continues on the next page

Do not write outside the box

0 4 . 5 You have studied a flood management scheme in the UK.

Explain why the scheme was needed and how it works.

[4 marks]

Extra space

Study **Figure 17**, a photograph showing features of a floodplain.

Figure 17

Do not write outside the box

0 4 . 6 Explain how river features are created by erosion and deposition.

Use **Figure 17** and your own understanding.

[6 marks]

Extra space

15

End of Question 4

Turn over for Question 5

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Question 5 Glacial landscapes in the UK

0 5 . 1 What does abrasion mean?

Shade **one** circle only.

[1 mark]

A Glacial ice moves in a circular motion causing hollows to form in the landscape. ⬭

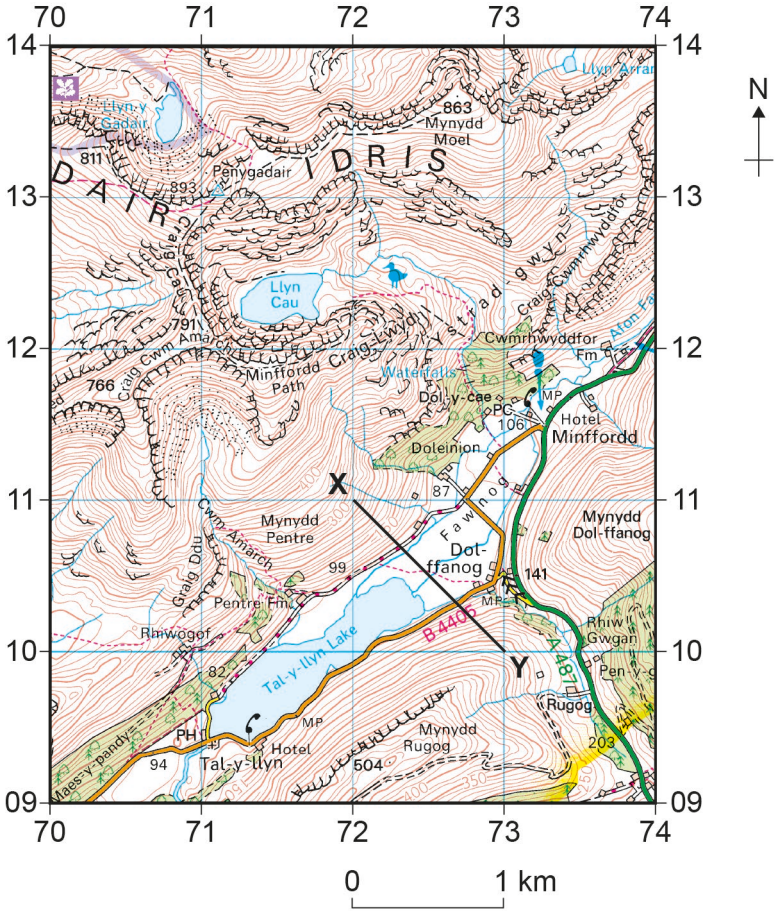
B Meltwater freezes beneath the ice and tears away pieces of loose rock. ⬭

C Rocks trapped beneath the glacier scratch and smooth the bedrock underneath. ⬭

D Water freezes in cracks and expands, causing the rock to break down. ⬭

Study **Figure 18**, a 1:50 000 Ordnance Survey map extract of part of Snowdonia.

Figure 18



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0 5 . 2 Using **Figure 18**, which grid square shows part of a ribbon lake?

Shade **one** circle only.

[1 mark]

A 7013 ⬭

B 7310 ⬭

C 7109 ⬭

D 7212 ⬭

0 5 . 3 Using **Figure 18**, name **one** landform of glacial erosion shown in grid square 7112.

[1 mark]

_____

0 5 . 4 Using **Figure 18**, describe the shape of the valley and measure the width of the valley floor between points **X** and **Y**.

[2 marks]

Shape of valley _____

_____

Width of valley floor _____ m

Question 5 continues on the next page

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0 5 . 5 You have studied a glaciated upland area in the UK.

Explain why this area attracts tourists.

[4 marks]

Extra space

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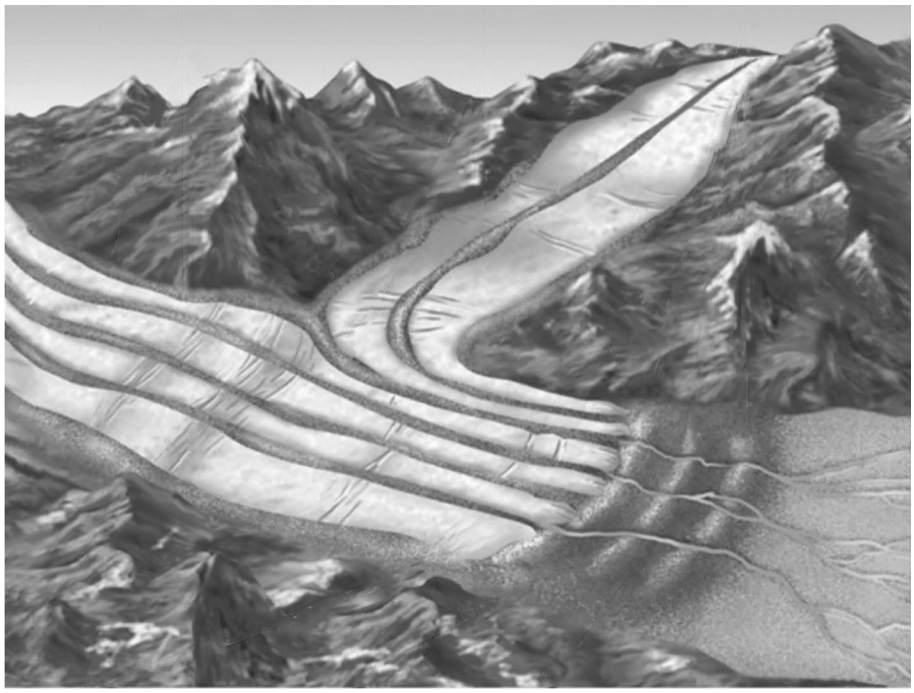
Study **Figure 19**, a diagram showing some features of glacial deposition.

Figure 19



0 5 . 6 Explain the different ways that glacial material is transported and deposited.

Use **Figure 19** and your own understanding.

[6 marks]

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15

END OF QUESTIONS

There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED

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Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

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