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.

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

Answer <u>all</u> questions in Section A and Section B.

Answer <u>two</u> questions in Section C.

- 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. 

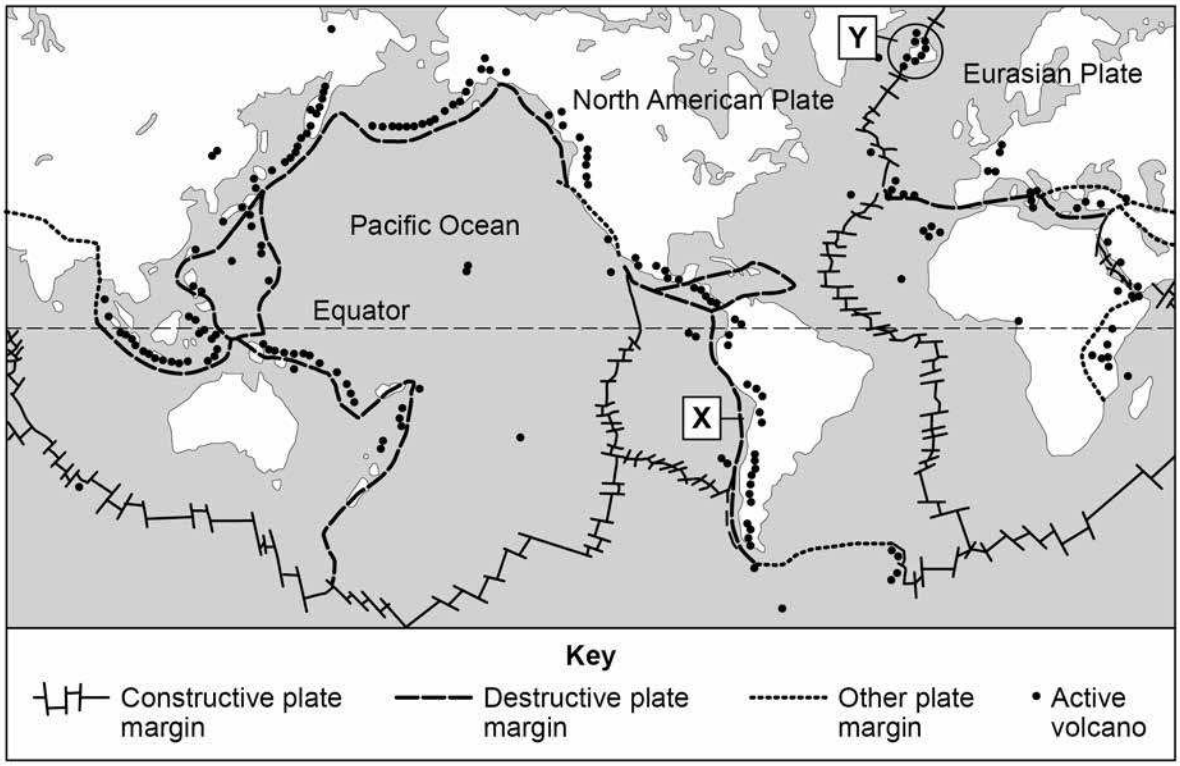
Section A The challenge of natural hazards

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.

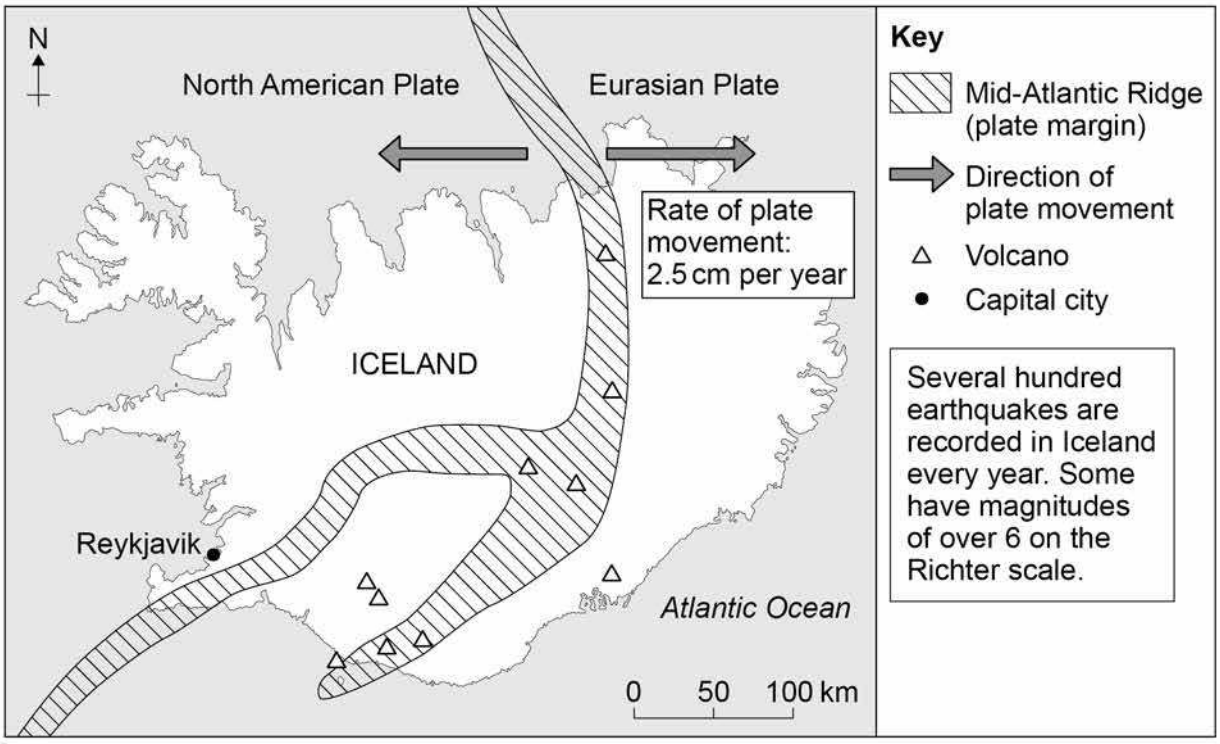
[1 mark]

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]

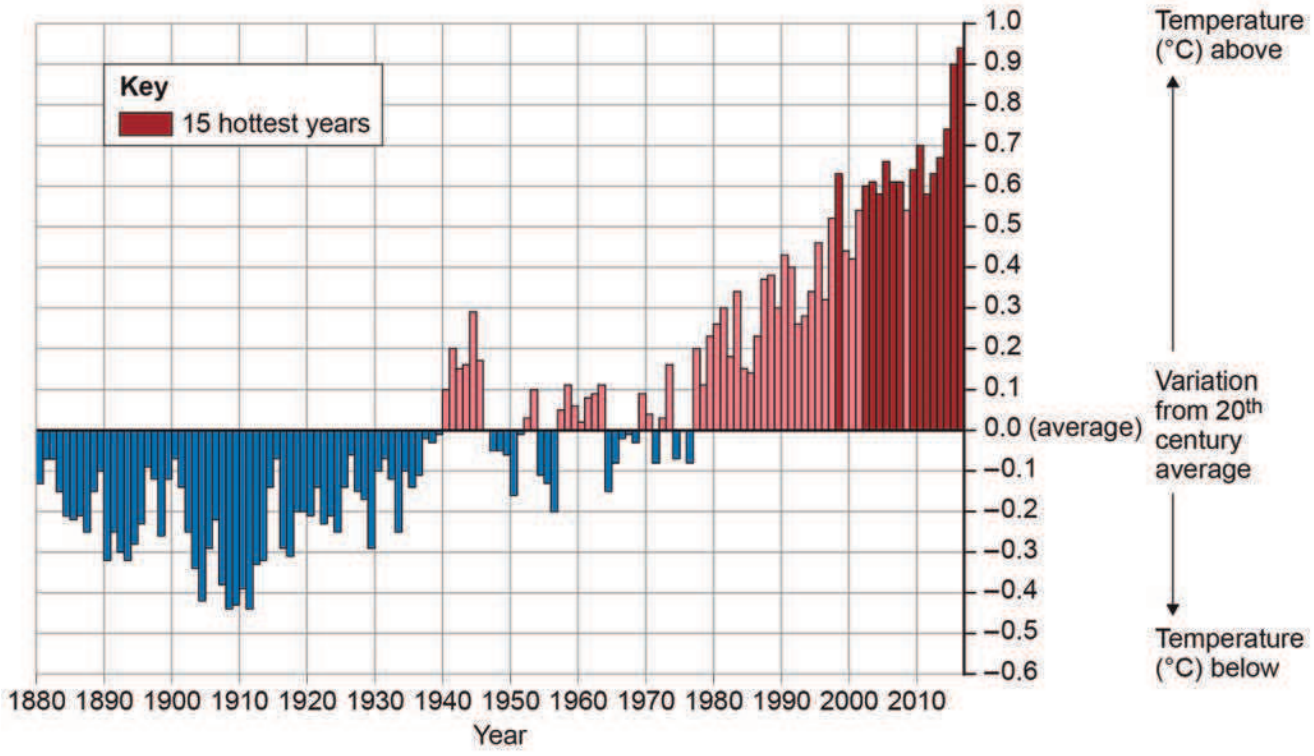
Extra space

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]

_____

_____

_____

_____

_____

_____

_____

_____

Extra space _____

_____

_____

_____

Question 1 continues on the next page

Do not write outside the box

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

End of Section A

33

Do not write outside the box

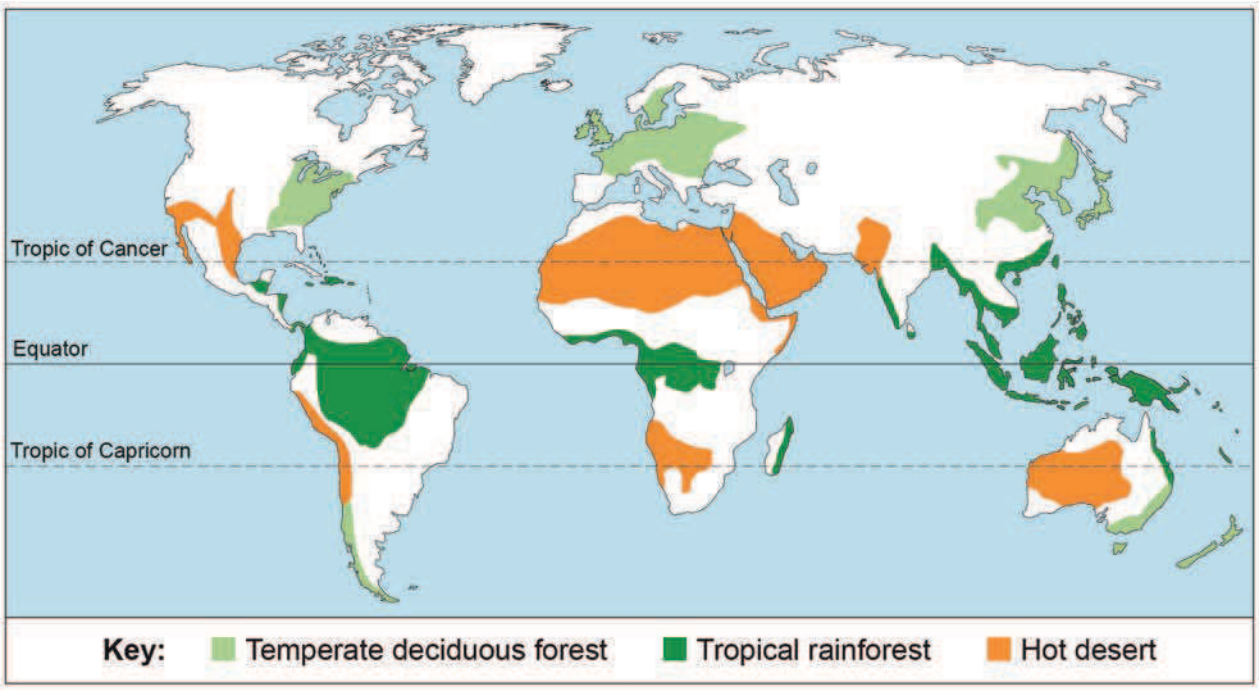
Section B The living world

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.

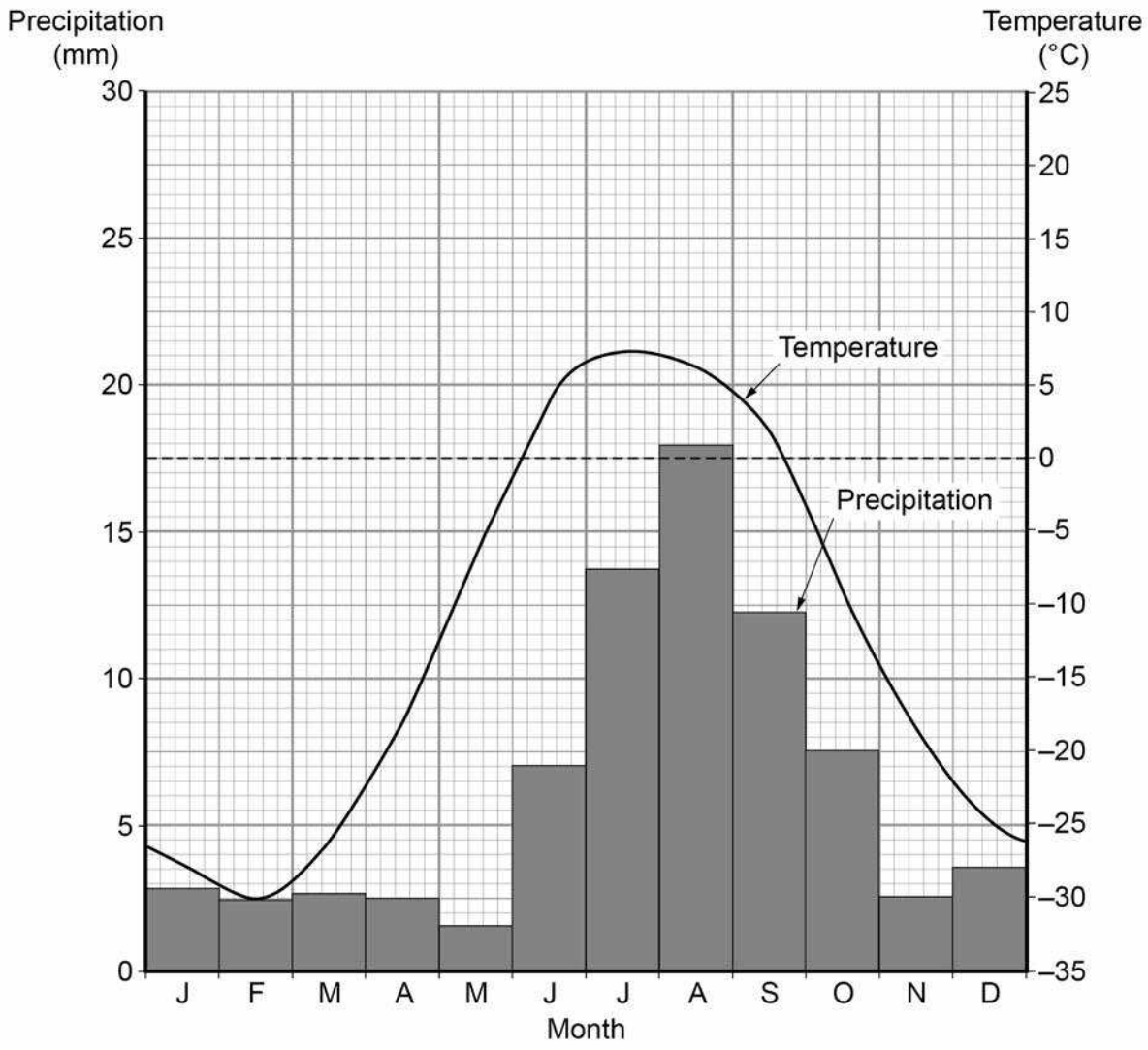
[2 marks]

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]

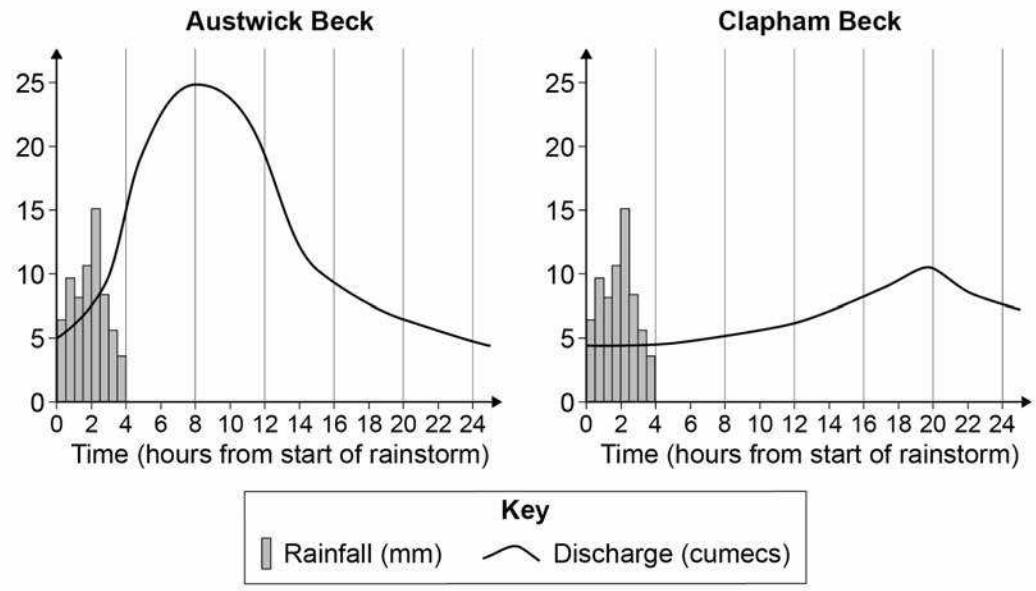
Extra space

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]

Do not write outside the box

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

Do not write outside the box

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

[4 marks]

Extra space

Do not write outside the box

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

GCSE
GEOGRAPHY

Paper 1 Living with the physical environment

Insert

This insert contains OS map extracts plus a key:

- Figure 10 for use with Question 3
- Figure 12 for use with Question 4
- Figure 15 for use with Question 5.

Page 5 is a perforated sheet showing the key for the OS map extracts.

Detach page 5 and use when referring to the OS map extracts.

Figure 10


241000m
247000m
146000m
139000m
42
43
44
45
46
Morte Stone
Morte Point
North Morte Fm
Easewell Fm
Mortehoe
Cemy
Heritage Centre
Twitcher
Grunta Beach
Grunta Pool
Barricane Beach
Hotel
Seymour Villas
X
Woolacombe
B 3343
Wks
Mill Rock
Potter's Hill
Dunes
Sand
Woolacombe Down
Morte Bay
Wheeler's Stone
Y
Black Rock
Putsborough Sand
Long Bar
Whiting Hole
Baggy Point
Croydhoe Fm
Vention
Pickwell
Pickwell Down
Oxford Cross
Manor Ho
Putsborough
Incledon Fm
Middleborough Hill
Holiday Park
Croyde Bay
Ora Hill
Croyde
North Hole
Crowborough
Forda
Cross
Dunes
Scale 1: 50 000
2 centimetres to 1 kilometre (one grid square)
2 1 0 Kilometres 1 2 3
1 0 Miles 1 2
1 kilometre = 0·6214 mile
1 mile = 1·6093 kilometres

Figure 12

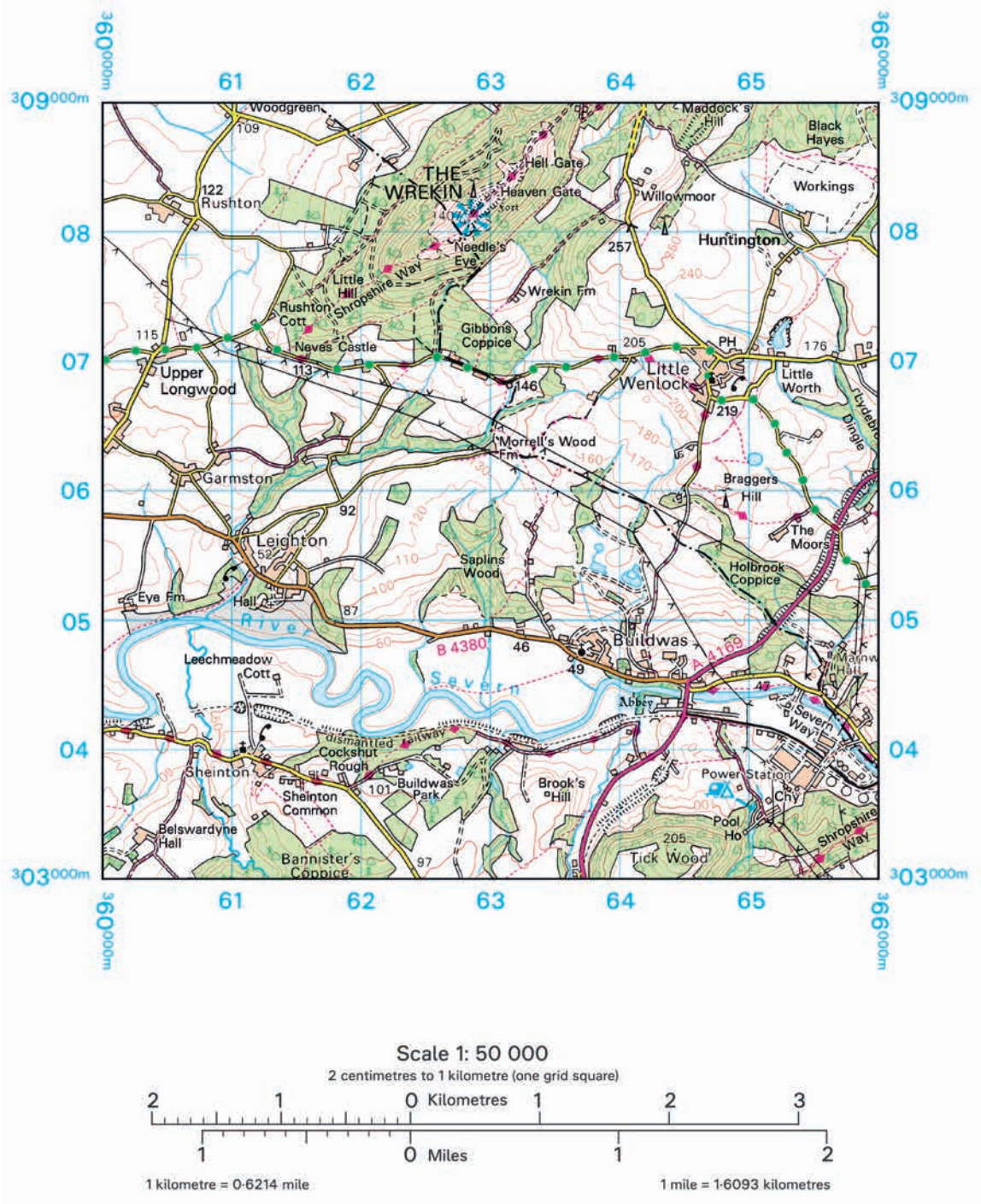
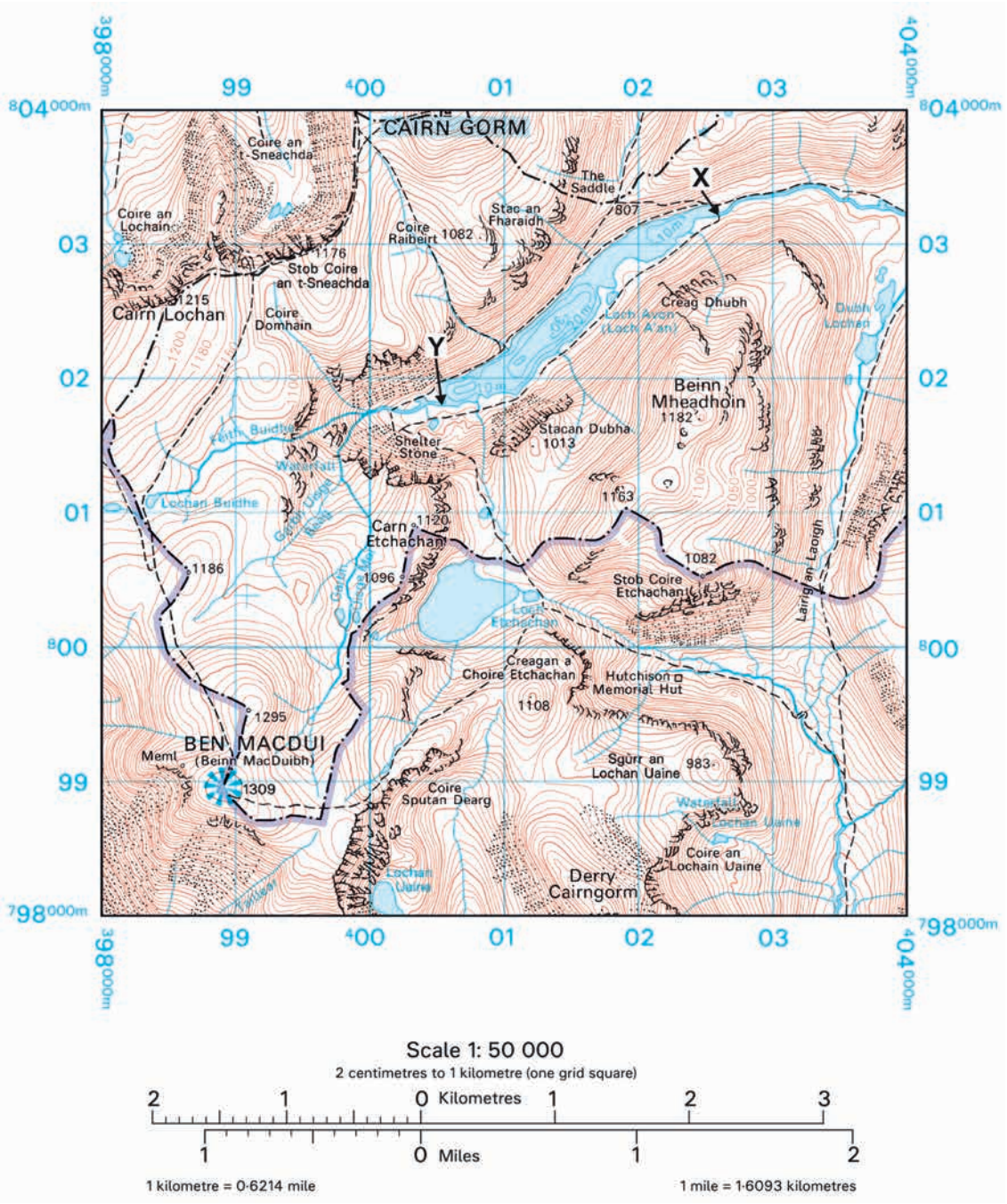

360000m
366000m
309000m
303000m
61
62
63
64
65
08
07
06
05
04
THE WREKIN
Hell Gate
Heaven Gate
Needle's Eye
Little Hill
Shropshire Way
Rushton Cott
Neves Castle
Gibbons Coppice
Wrekin Fm
Maddock's Hill
Black Hayes
Workings
Willowmoor
Huntington
Little Wenlock
PH
Little Worth
Upper Longwood
Garmston
Morrell's Wood Fm
Braggers Hill
The Moors
Holbrook Coppice
Leighton
Saplins Wood
Eye Fm
Hall
River Severn
B 4380
A 4169
Buildwas
Abbey
Leechmeadow Cott
Severn Way
Power Station
Chy
Pool Ho
Shropshire Way
Tick Wood
Brook's Hill
Buildwas Park
Sheinton
Sheinton Common
Belswardyne Hall
Bannister's Coppice
Scale 1: 50 000
2 centimetres to 1 kilometre (one grid square)
2 1 0 Kilometres 1 2 3
1 0 Miles 1 2
1 kilometre = 0·6214 mile
1 mile = 1·6093 kilometres

Figure 15


CAIRN GORM
Coire an t-Sneachda
Coire an Lochain
The Saddle
807
X
Stac an Fharaidh
Coire Raibeirt
1082
1176
Stob Coire an t-Sneachda
1215
Cairn Lochan
Coire Domhain
Y
Creag Dhubh
Loch Avon (Loch A'an)
Beinn Mheadhoin
1182
Stacan Dubha
1013
Shelter Stone
Allt Buidhe
Waterfall
Lochan Buidhe
1163
Carn Etchachan
1120
1186
1096
1082
Stob Coire Etchachan
Lairig an Laoigh
Loch Etchachan
Creagan a' Choire Etchachan
Hutchison Memorial Hut
1108
1295
BEN MACDUI
(Beinn MacDuibh)
Meml
1309
Sgurr an Lochan Uaine
983
Coire Sputan Dearg
Waterfall
Lochan Uaine
Coire an Lochain Uaine
Derry Cairngorm
Lochan Uaine
399000m
404000m
804000m
798000m
99
400
01
02
03
00
Scale 1: 50 000
2 centimetres to 1 kilometre (one grid square)
2 1 0 Kilometres 1 2 3
1 0 Miles 1 2
1 kilometre = 0·6214 mile
1 mile = 1·6093 kilometres

OS map extract key

ROADS AND PATHS

Not necessarily rights of way

Junction number
Service area
Elevated
M1
Motorway (dual carriageway)

Unfenced
A 470
Dual carriageway
Primary Route (recommended through route)

A 493
Footbridge
Main road

Road under construction

B 4518
Secondary road

A 855
Bridge
B 885
Narrow road with passing places

Road generally more than 4m wide

Road generally less than 4m wide

Path / Other road, drive or track

Gradient: steeper than 20% (1 in 5), 14% to 20% (1 in 7 to 1 in 5)

Gates, Road tunnel

Ferry P
Ferry V
Ferry (passenger), Ferry (vehicle)

TOURIST INFORMATION

- Camp site / caravan site
- Garden
- Golf course or links
- Information centre (all year / seasonal)
- Nature reserve
- Parking, Park and ride (all year / seasonal)
- Picnic site
- Recreation / leisure / sports centre
- Selected places of tourist interest
- Telephone, public / roadside assistance
- Viewpoint
- Visitor centre
- Walks / Trails
- World Heritage site or area
- Youth hostel

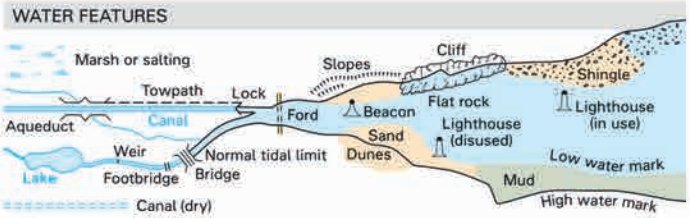
RAILWAYS

- Track multiple or single
- Track under construction
- Siding
- Tunnel, cuttings
- Light rapid transit system, narrow gauge or tramway
- Bridges, footbridge
- Level crossing (LC)
- Viaduct, embankment
- Station, (a) principal
- Light rapid transit system station

LAND FEATURES

- Electricity transmission line (pylons shown at standard spacing)
- Pipe line (arrow indicates direction of flow)
- Buildings (ruin)
- Important building (selected)
- Bus or coach station
- Current or former place of worship: with tower / with spire, minaret or dome
- Place of worship
- Glass structure
- Heliport
- Triangulation pillar
- Mast
- Wind pump, wind turbine
- Windmill with or without sails
- Graticule intersection at 5' intervals
- Cutting, embankment
- Landfill site or slag/spoil heap
- Coniferous wood
- Non-coniferous wood
- Mixed wood
- Orchard
- Park or ornamental ground
- Forestry Commission land
- National Trust (always open / limited access, observe local signs)
- National Trust for Scotland (always open / limited access, observe local signs)

WATER FEATURES



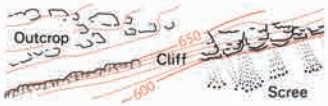
HEIGHTS

1 metre = 3·2808 feet

- 50 — Contours are at 10 metres vertical interval
- ·144 — Heights are to the nearest metre above mean sea level

Where two heights are shown the first height is to the base of the triangulation pillar and the second (in brackets) to the highest natural point of the hill

ROCK FEATURES



PUBLIC RIGHTS OF WAY

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic

The symbols show the defined route so far as the scale of mapping will allow.

The representation on this map of any other road, track or path is no evidence of the existence of a right of way. Not shown on maps of Scotland

Danger Area — Firing and Test Ranges in the area. Danger! Observe warning notices.

OTHER PUBLIC ACCESS

- Other route with public access (not normally shown in urban areas). Alignments are based on the best information available. These routes are not shown on maps of Scotland.
- On-road cycle route
- Traffic-free cycle route
- 4 — National Cycle Network number
- 8 — Regional Cycle Network number
- National Trail, European Long Distance Path, Long Distance Route, selected Recreational Routes

BOUNDARIES

- National
- District
- County, Unitary Authority, Metropolitan District or London Borough
- National Park

ANTIQUITIES

- Site of antiquity
- Battlefield (with date)
- Visible earthwork
- VILLA — Roman
- Castle — Non-Roman

ABBREVIATIONS

Br	Bridge	MS	Milestone
Cemy	Cemetery	Mus	Museum
CG	Cattle grid	P	Post office
CH	Clubhouse	PC	Public convenience (in rural areas)
Fm	Farm	PH	Public house
Ho	House	Sch	School
MP	Milepost	TH	Town Hall, Guildhall or equivalent

Turn over ►