Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
2018

Geography

Unit 1: Understanding Our Natural World

Foundation Tier

[GGG11]

GGG11

TUESDAY 22 MAY, AFTERNOON

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
You must answer the questions in the spaces provided.
Do not write outside the boxed area on each page or on blank pages.
Complete in black ink only. **Do not write with a gel pen.**
Answer **all three** questions.
You are provided with an O.S. map for use with **Question 1**.
Do **not** write your answers on this map.

INFORMATION FOR CANDIDATES

The total mark for this paper is 108.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
Quality of written communication will be assessed in Question **2(f)**.
Spelling, punctuation and the accurate use of grammar will be assessed in Questions **1(d)** and **1(g)**.

11277

Theme A: The Dynamic Landscape

1 **(a)** Study the Ordnance Survey map extract of part of the coast of Cornwall, England and answer the questions which follow.

(i) State the height of the land shown by the spot height at the top of Rusey Cliff, GR 128935.

_____ m [1]

(ii) State the straight line distance from the campsite near Ringford Farm GR 126926 to the bridge on the River Ottery at Trengune GR 189933.

_____ km [2]

(iii) State the direction of Pencannow Point GR 1397 from Boscastle GR 0990.

_____ [1]

(iv) Complete **Table 1** by naming a river feature found at the grid references given.

Table 1

Grid Reference	River Feature
GR 2092	
GR 0888	

[2]

(v) Much of this coastline has been shaped by destructive waves. Complete **Table 2** to give **three** correct statements about destructive waves by placing a tick (✔) in the column provided.

Table 2

Statement about destructive waves	Tick 3 correct statements
They have a strong backwash compared to their swash	
They are long in relation to their height	
They are frequent (break at a rate of 15 per minute)	
They are gentle (break at a rate of 6–9 per minute)	
They are high in relation to their length	

[3]

[Turn over

(b) Study **Fig. 1**, which shows Durdle Door, an arch located in Cornwall. Answer the questions which follow.

© Andrea Bianchi / iStock / Getty Images Plus

Fig. 1

(i) Complete **Table 3** below by placing the statements in order to show how the arch shown in **Fig. 1** was formed. One has been completed for you.

Table 3

Statement	Order
Cracks in the rock are widened by wave action to form a cave	
A line of weakness in a cliff is widened by erosion	**1**
Eventually the cave will be eroded all the way through the cliff to form an arch	
Over time the back wall of the cave is further eroded	

[3]

(ii) Name the feature which will be formed when the roof of the arch collapses.

_____ [1]

[Turn over

(c) **Fig. 2** is a photograph of a wave cut platform.

© Zinelli / iStock / Getty Images Plus

Fig. 2

Explain how a wave cut platform such as this is formed.

[5]

(d) For a named case study in the British Isles, explain how one coastal management strategy protects the coast.

Location of Coastal Management _____ [1]

Explanation _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

Spelling, punctuation and the accurate use of grammar [4]

BLANK PAGE

DO NOT WRITE ON THIS PAGE

(Questions continue overleaf)

(e) A drainage basin contains inputs, stores, transfers and outputs.

(i) Complete **Table 4** by drawing arrows to show which components of a drainage basin are stores and which are transfers. One has been completed for you.

Table 4

Store	Drainage Basin Component	Transfer
	Surface runoff	
	Infiltration	
	Interception by vegetation	
	Groundwater flow	→
	Percolation	

[4]

(ii) Discharge is an example of an output in a drainage basin. State the meaning of the term **discharge**.

_____

_____

_____ [2]

(iii) Indicate with a tick (✔) how the situations listed in **Table 5** affect the amount of surface runoff in a drainage basin. One has been completed for you.

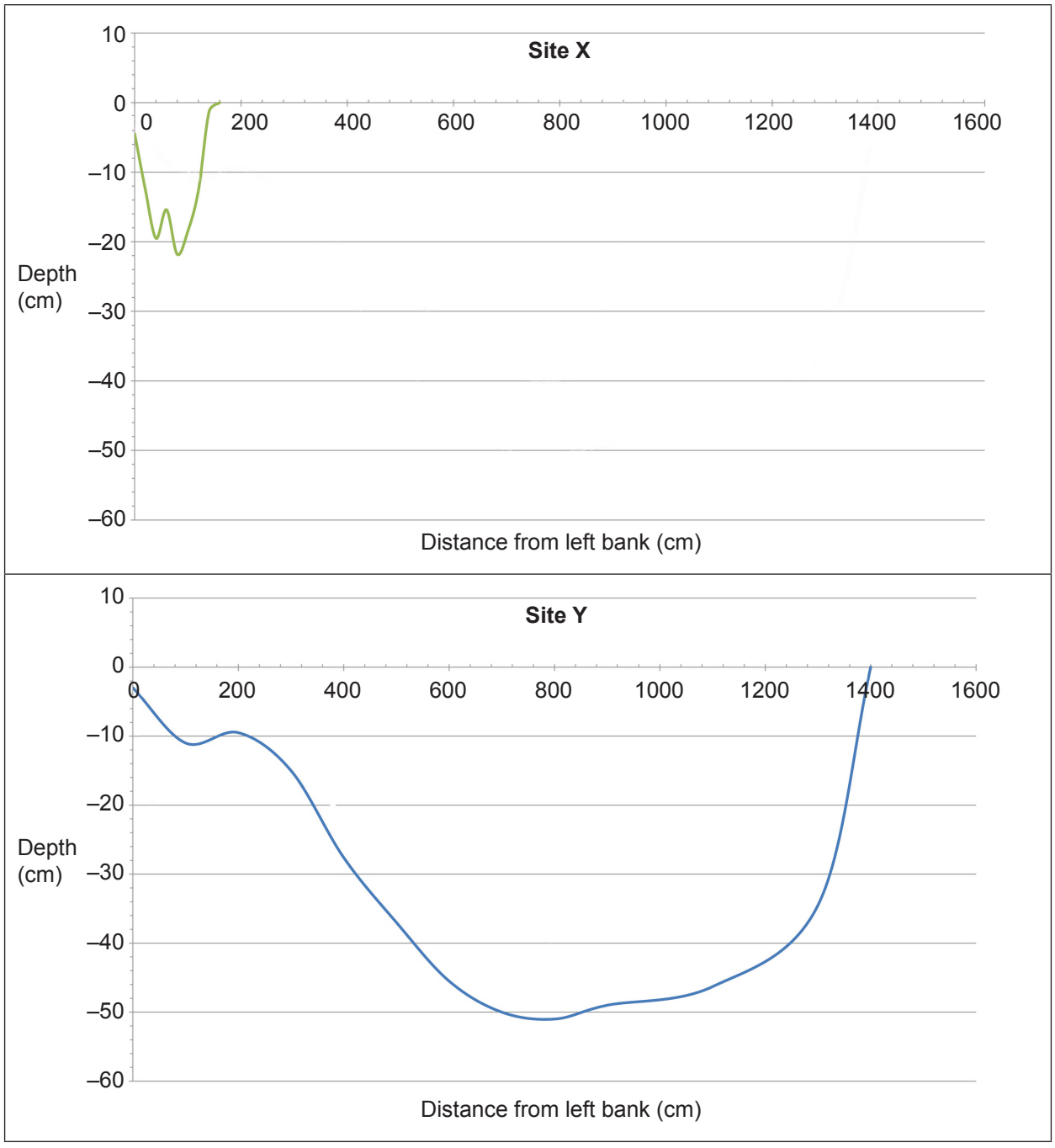
Table 5

Situation	Less surface runoff	More surface runoff
Lots of tarmac and concrete surfaces		
Heavy rainfall on steep slopes		✔
Light rain falling on dry ground		
Lots of trees		

[3]

[Turn over

(f) Study **Fig. 3** which shows two river channel cross sections drawn by GCSE students using data collected on a field trip. Answer the questions which follow.



Source: Chief Examiner

Fig. 3

(i) Describe the change in channel shape between Site X and Site Y as shown in **Fig. 3**.

[4]

(ii) State which site, X or Y, is likely to be close to the source of the river.

[1]

(iii) Name and explain **one** type of erosion which causes the river channel shape to change.

Type of erosion [1]

Explanation

[3]

[Turn over

(g) For a named river within the British Isles, explain why it flooded giving a human and a physical reason in your answer.

Name of river _____ [1]

Why it flooded _____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

Spelling, punctuation and the accurate use of grammar [4]

BLANK PAGE

DO NOT WRITE ON THIS PAGE

(Questions continue overleaf)

Theme B: Our Changing Weather and Climate

2 (a) (i) Study **Fig. 4** which shows three sources of data used to create a weather forecast. Name the sources of data shown in **Fig. 4**. Write your answers in the boxes below. One has been completed for you.

© Gwenvidig / iStock / Thinkstock

© PaulFleet / iStock / Thinkstock

© Pogli / iStock / Thinkstock

A:	B:	C:
Weather balloon		

Fig. 4

[2]

(ii) State the difference between weather and climate.

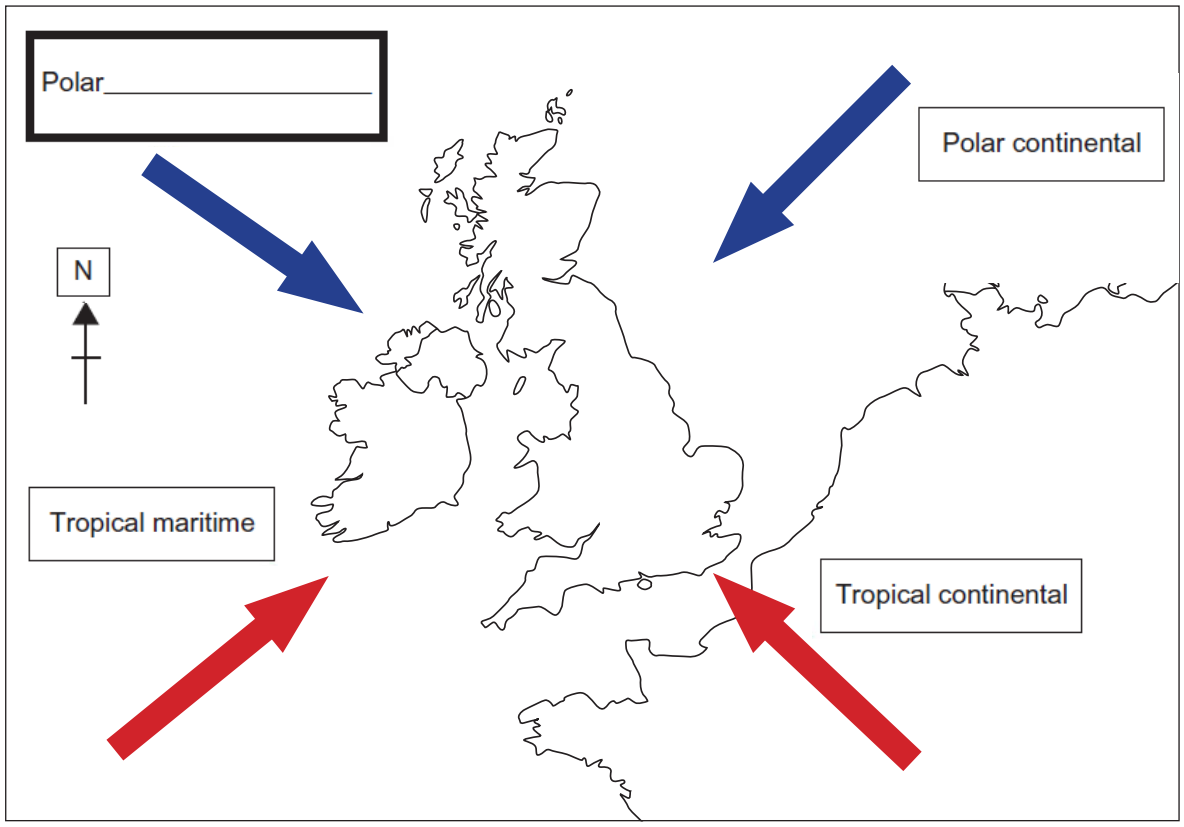
_____

_____

_____

_____ [3]

(b) Study **Fig. 5** which shows the different air masses that affect the British Isles. Answer the questions which follow.



Source: Principal Examiner

Fig. 5

(i) Complete **Fig. 5** by completing the name of the polar air mass. [1]

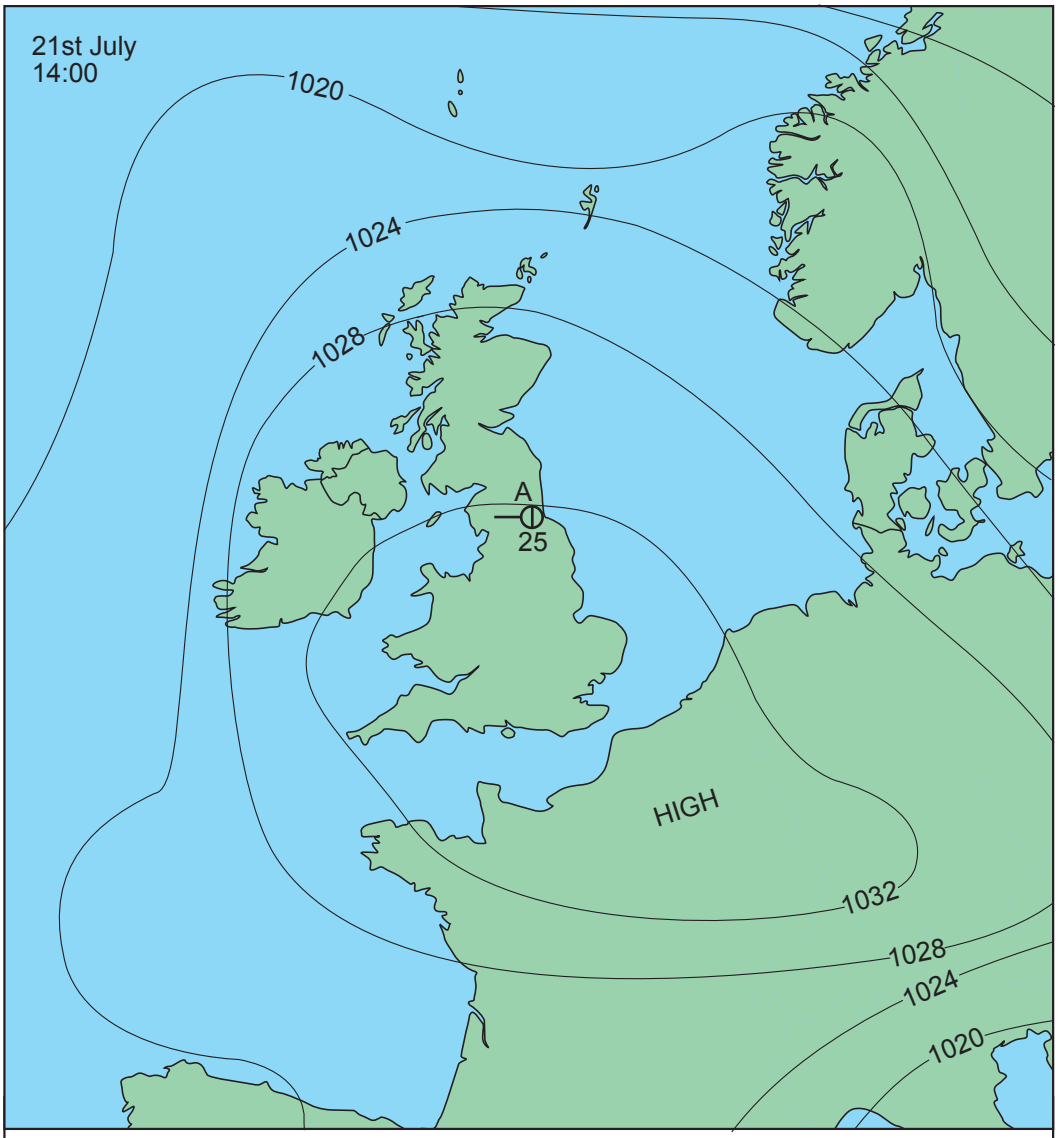
(ii) Underline the correct word in each of the following sentences about air masses that affect the British Isles.

- A tropical maritime air mass comes from a **southeast / southwest** direction.
- Tropical continental air masses are **wet / dry** in character.
- Polar maritime is associated with bringing **cold / hot** weather to the British Isles.
- Tropical maritime air is **more / less** common than Tropical continental air.

[4]

[Turn over

(c) Study **Fig. 6** which shows an anticyclone over the British Isles on a day in July. Answer the questions which follow.



Source: Principal Examiner

Fig. 6

(i) Complete **Table 6** to show the weather being experienced at weather station **A** (Newcastle upon Tyne) on **Fig. 6**. One has been completed for you.

Table 6

Weather Element	Weather conditions
Temperature	25 °C
Wind Speed	knots
Wind Direction	

[2]

(ii) State fully **one** reason why the weather system in **Fig. 6** brings high temperatures.

_____

_____

_____

_____

_____

_____ [3]

[Turn over

(d) State the meaning of the term **global warming**.

_____

_____

_____

_____ [2]

(e) Volcanic activity such as the eruption shown in **Fig. 7** is a cause of climate change.

© PatricioHidalgoP / iStock / Thinkstock

Fig. 7

Explain **one** way in which a volcanic eruption may change the climate.

[3]

(f) Explain **one** negative effect of climate change in a country that you have studied.

Name of country [1]

Negative effect

[4]

Theme C: The Restless Earth

3 **(a)** Study **Fig. 8** which shows the structure of the Earth. Answer the questions which follow.

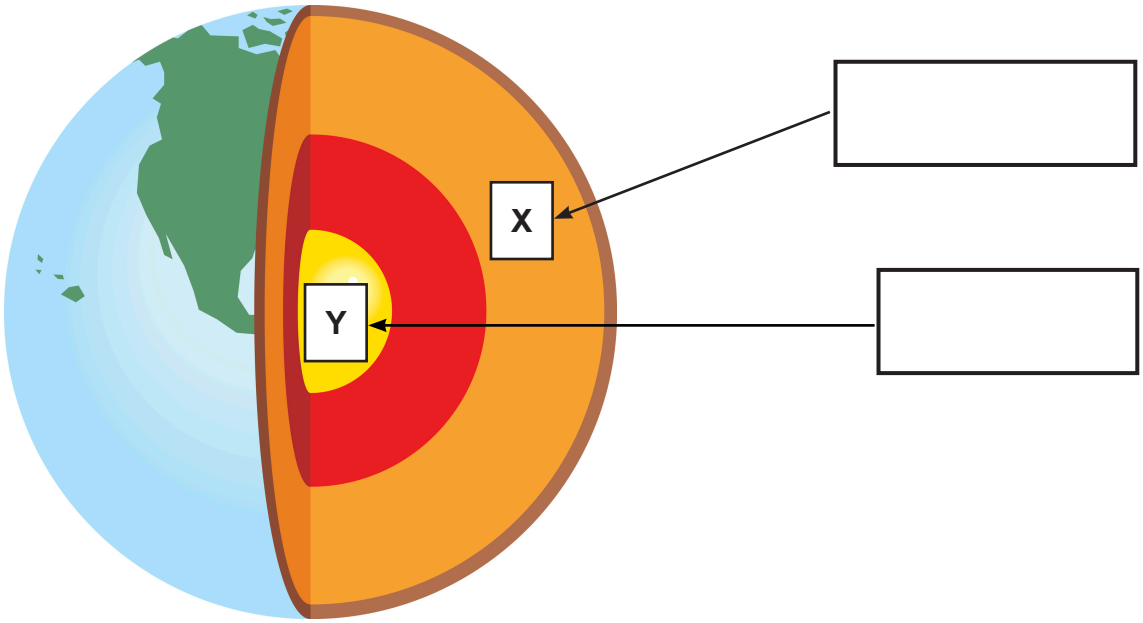


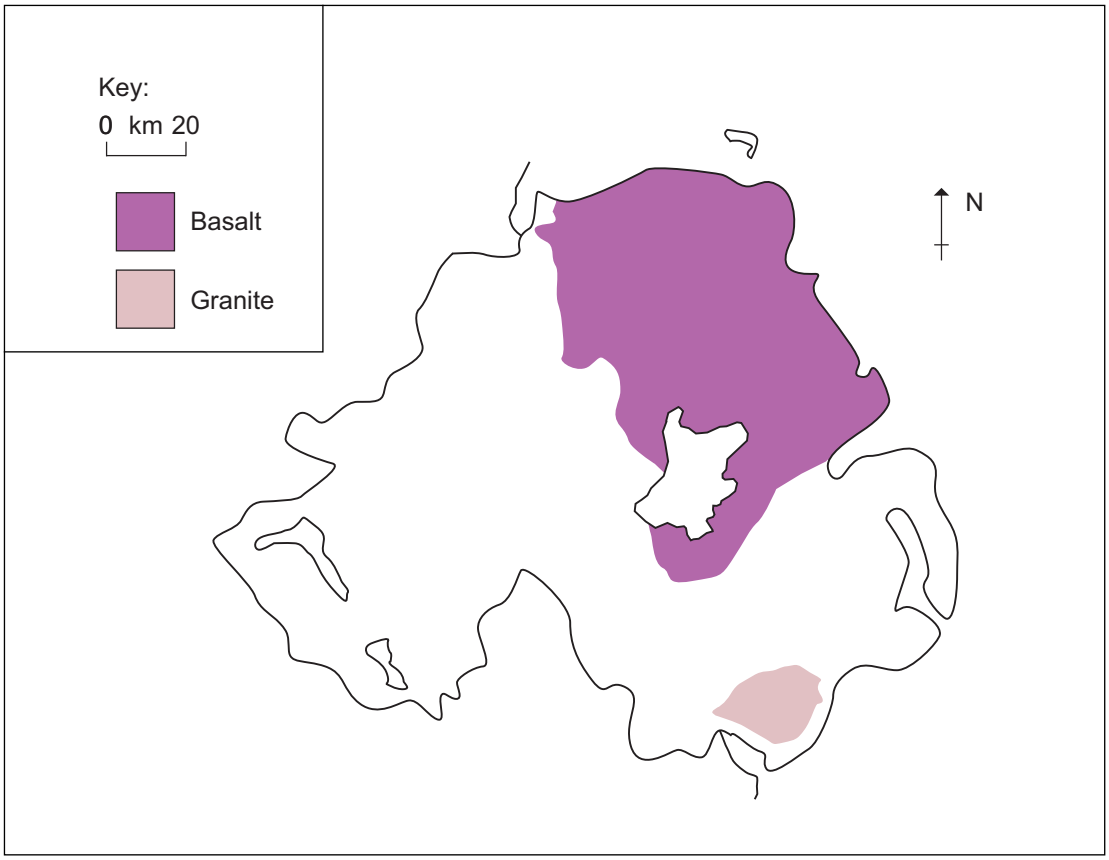
Fig. 8

(i) Complete **Fig. 8** by identifying the layers of the Earth labelled **X** and **Y**. Write your answer in the boxes provided. [2]

(ii) The crust of the Earth is divided into plates. Explain how plates move.

[3]

(b) Study **Fig. 9** which shows the location of igneous rocks in Northern Ireland. Answer the questions which follow.



Source: Principal Examiner

Fig. 9

(i) Underline the correct word in each of the following sentences about igneous rocks.

- Igneous rocks are found mainly in the **east** / **west** of Northern Ireland.
- Granite covers a **smaller** / **larger** area than basalt in Northern Ireland.
- Basalt is formed from **lava** / **fossils**.
- Granite has **larger** / **smaller** crystals than basalt. [4]

(ii) Complete **Table 7** below by placing the statements in order to show how granite is formed. One has been completed for you.

Table 7

Statement	Order
The magma begins to cool underground.	**2**
Granite is formed when the magma becomes hard.	
As it cools, crystals begin to form.	
Molten magma is found deep in the mantle.	

[3]

(iii) Complete **Table 8** by matching the volcanic features found within the British Isles and their location. One has been completed for you.

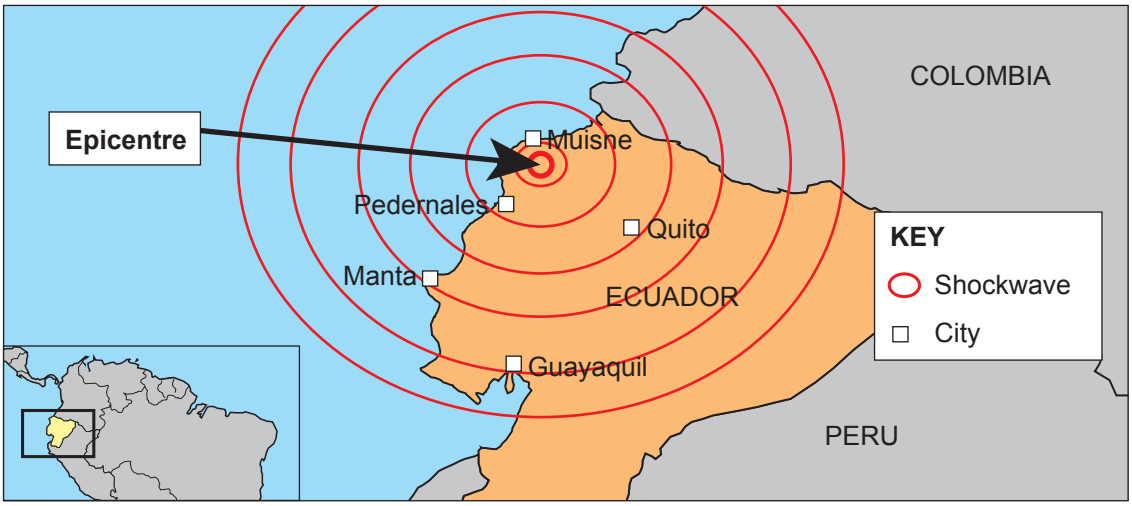
Table 8

Volcanic feature	Location within the British Isles
Lava Plateau •	• Slemish mountain
Basalt columns •	• Co. Antrim
Volcanic plug •	• Giant's Causeway

[2]

[Turn over

(c) Study **Fig. 10** which shows information about an earthquake in Ecuador in April 2016.



© BBC News

- Ecuador was hit by its most powerful earthquake in many years.
- The 7.8 earthquake struck on Saturday evening

Fig. 10

(i) State the strength of this earthquake.

_____ [1]

(ii) Referring to **Fig. 10**, name the city furthest away from the epicentre.

_____ [1]

(iii) State the meaning of the term **epicentre**.

_____

_____

_____

_____ [2]

(iv) Ecuador is a LEDC. State fully **one** reason why there are likely to be more deaths from earthquakes in LEDCs compared to MEDCs.

_____

_____

_____

_____

_____ [3]

[Turn over

(d) Earthquakes have many impacts on people and property. Describe **one** impact of a named earthquake in a MEDC which you have studied.

Name of Earthquake _____ [1]

Impact

_____

_____

_____

_____

_____ [3]

THIS IS THE END OF THE QUESTION PAPER

BLANK PAGE

DO NOT WRITE ON THIS PAGE

BLANK PAGE

DO NOT WRITE ON THIS PAGE

BLANK PAGE

DO NOT WRITE ON THIS PAGE

DO NOT WRITE ON THIS PAGE

For Examiner's use only	
Question Number	**Marks**
1	
2	
3	
Total Marks	

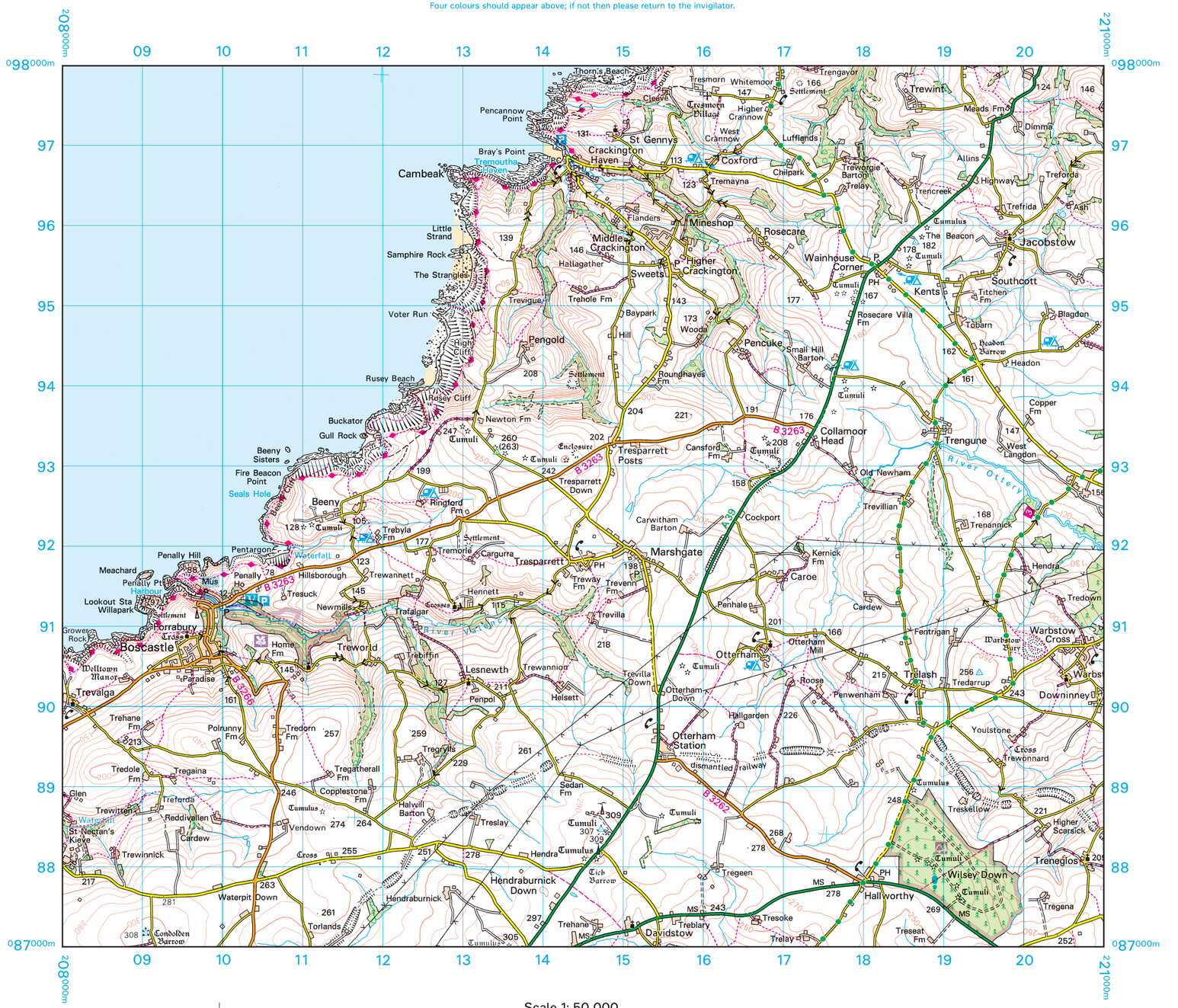
Examiner Number

Ordnance Survey

1:50 000 Scale
Landranger Series

Extract No 2256/190

Four colours should appear above; if not then please return to the invigilator.
Four colours should appear above; if not then please return to the invigilator.



1 kilometre = 0·6214 mile

1 mile = 1·6093 kilometres

ROADS AND PATHS

Not necessarily rights of way

- Junction number; Service area (S); Elevated (E); M1 — Motorway (dual carriageway)
- Unfenced; A 470 — Primary Route (A network of recommended through routes which complement the motorway system)
- Dual carriageway; A 493 — Main road
- Footbridge — Road under construction
- Secondary road
- B 4518 — Narrow road with passing places
- A 855; Bridge; B 885 — 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)

RAILWAYS

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

WATER FEATURES

Marsh or salting; Towpath; Lock; Slopes; Cliff; Shingle; Aqueduct; Canal; Ford; Beacon; Flat rock; Lighthouse (in use); Lighthouse (disused); Weir; Normal tidal limit; Sand Dunes; Low water mark; Lake; Footbridge; Bridge; Mud; High water mark

- Canal (dry)

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 is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the natural summit.

ROCK FEATURES

Outcrop; Cliff; 150; 600; Scree

PUBLIC RIGHTS OF WAY

- Footpath
- Bridleway
- Restricted byway (not for use by mechanically propelled vehicles)
- 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, Scotland's Great Trails, European Long Distance Path and selected Recreational Routes

BOUNDARIES

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

ANTIQUITIES

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

TOURIST INFORMATION

- Camp site / caravan site
- Garden/aboretum
- Golf course or links
- Information centre (all year / seasonal)
- Nature reserve
- P; P&R; P&R — Parking, Park and ride (all year / seasonal)
- Picnic site
- Recreation / leisure / sports centre
- Selected places of tourist interest
- Phone, public / emergency
- Viewpoint
- V — Visitor centre
- Walks / Trails
- World Heritage site or area
- Youth hostel

LAND FEATURES

- Electricity transmission line (pylons shown at standard spacing)
- Pipe line (arrow indicates direction of flow)
- ruin — Buildings
- 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)
- Natural Resources Wales
- National Trust for Scotland (always open / limited access, observe local signs)

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
Hospl	Hospital	Sch	School
Ho	House	TH	Town Hall, Guildhall or equivalent
MP	Milepost	Univ	University