New Specification

Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
2018

Geography

Unit 1

Understanding Our Natural World

[GGY11]

GGY11

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 four** questions.
You are provided with an O.S. map for use with **Questions 1** and **2**.
Do **not** write your answers on this map.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.
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 questions **1(e), 2(d)(ii)** and **3(e)**.

Theme A: River Environments

1 **(a)** Study the Ordnance Survey extract of part of the coast of Cornwall, England and answer the question which follows. 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]

(b) A drainage basin has inputs, stores, transfers and outputs. Complete **Table 2** by drawing arrows to show which components of a drainage basin are stores and which are transfers. One has been completed for you.

Table 2

Stores	Drainage Basin Component	Transfers
	Surface runoff	
	Infiltration	
	Interception by vegetation	
	Groundwater flow →	
	Percolation	

[4]

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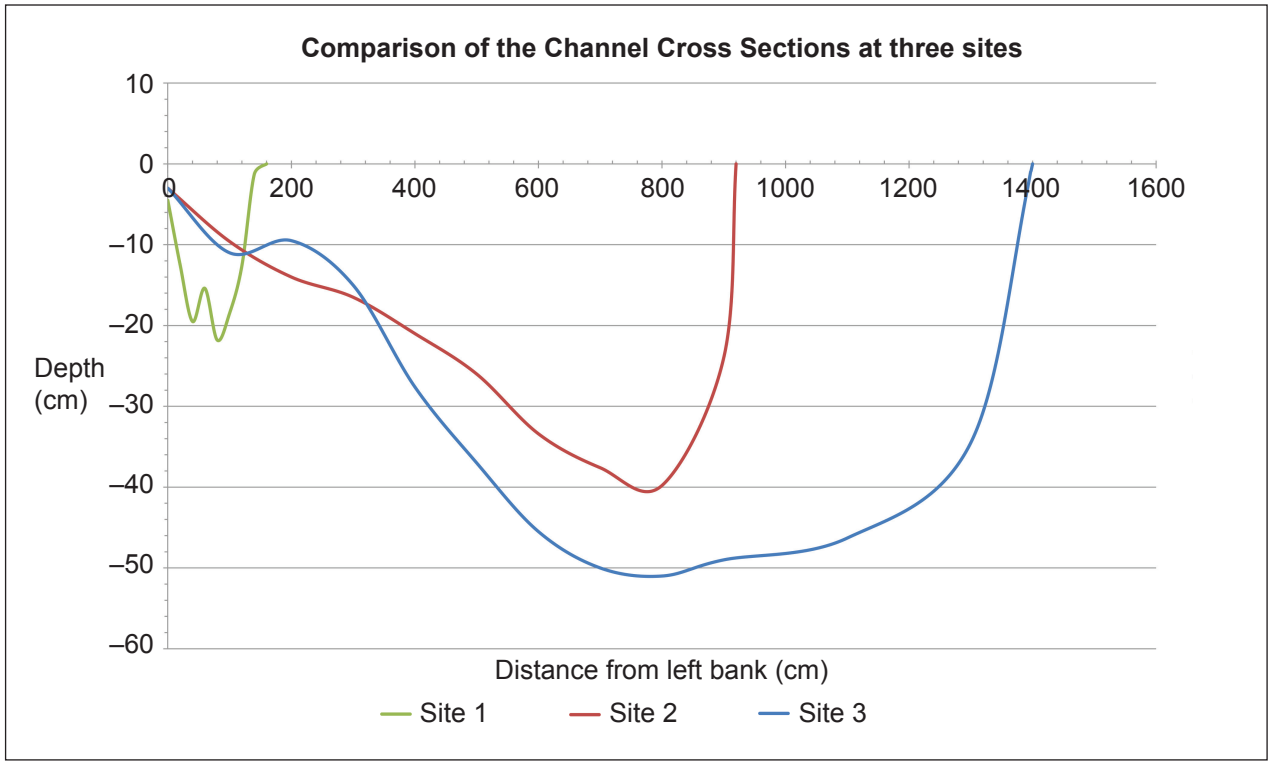
(Questions continue overleaf)

(c) Study **Fig. 1** which presents data collected by geography students on a field trip at three different sites on a river. Answer the question which follows.



Site Number	Location	Discharge (cumecs)
1	Close to source	0.06
2	Middle course	1.10
3	Near the mouth	3.95

Source: Chief Examiner

Fig. 1

Describe and explain the changes in the channel shape between Site 1 and Site 3.

[7]

Extra space:

(d) Explain how levees are formed.

[5]

(e) With reference to a river in the British Isles, explain the physical and human causes of a flood on your named river.

Name of river _____

Causes of the flood _____

_____ [7]

Extra space:

Theme B: Coastal Environments

2 **(a)** Study the Ordnance Survey 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) Coasts are shaped by waves. State **two** facts about destructive waves.

1. _____

2. _____ [2]

(b) Study **Fig. 2**, which shows Durdle Door, an arch located in Cornwall. Answer the questions which follow.

© Andrea Bianchi / iStock / Getty Images Plus

Fig. 2

(i) Complete **Table 3** below by placing the statements in order to show how the arch shown in **Fig. 2** 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 is further eroded	

[3]

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

_____ [1]

[Turn over

(c) **Fig. 3** is a photograph of a wave cut platform.

Fig. 3

Explain how a wave cut platform such as this formed.

[5]

Extra space:

(d) Coasts often need protection against erosion.

(i) State **two** reasons why a stretch of coastline may need to be protected against erosion by the sea.

1. _____

_____

2. _____

_____ [2]

(ii) Evaluate the sustainability of a named coastal management strategy in the British Isles, which you have studied.

_____

_____

_____

_____

_____

_____

_____

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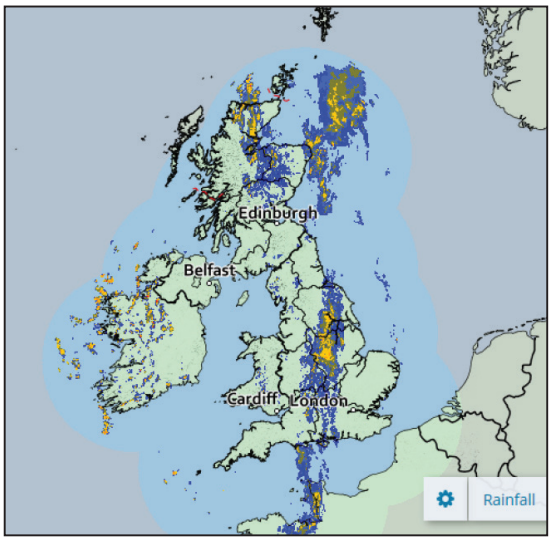
_____

_____ [8]

Extra space:

Theme C: Our Changing Weather and Climate

3 (a) (i) A variety of sources are used when making a weather forecast. Name the sources of data illustrated in **Fig. 4** below. Write your answers in the boxes provided.



A:

B:

C:

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Fig. 4

[3]

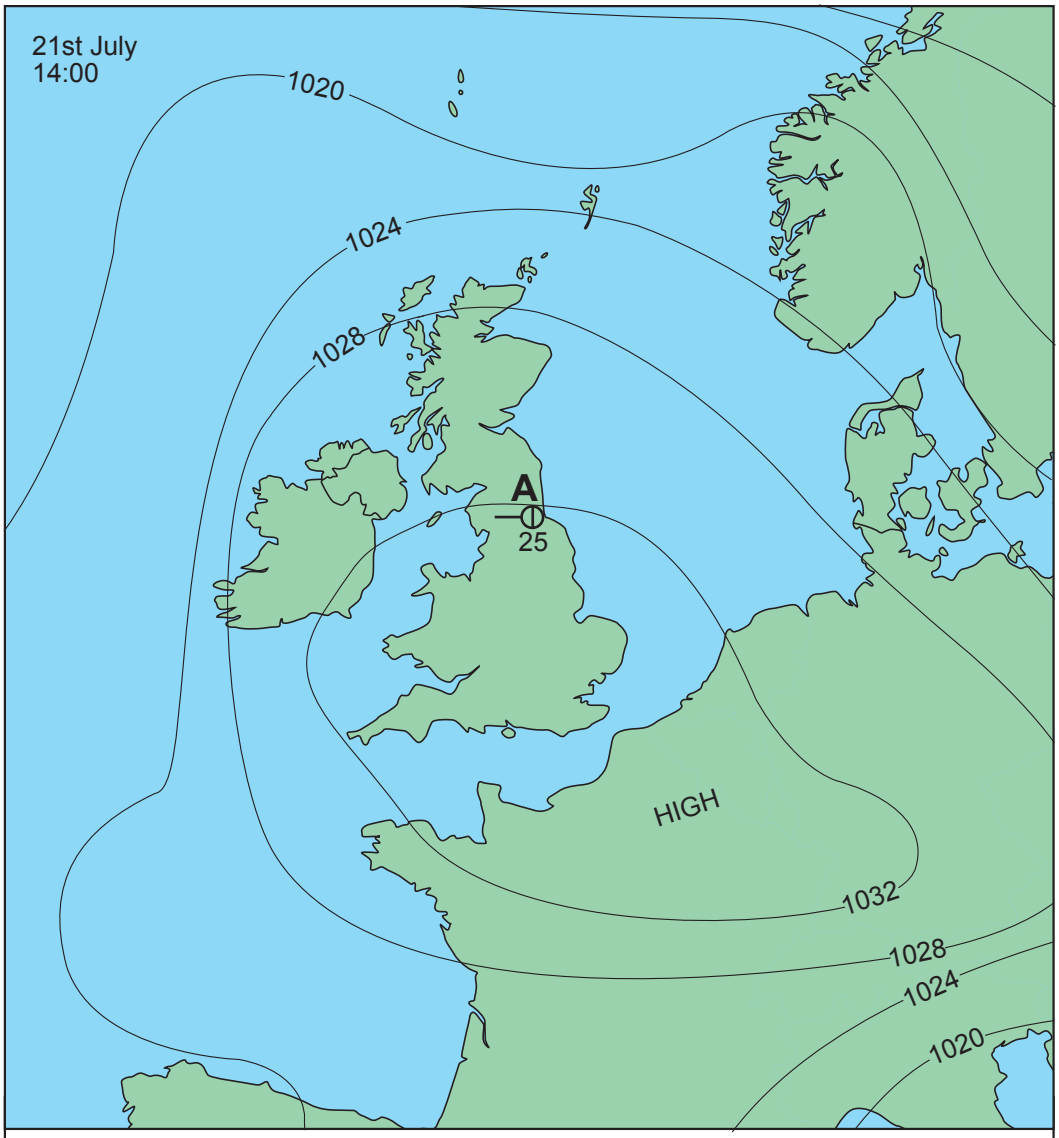
(ii) Distinguish between weather and climate.

[3]

(b) Describe and explain the temperature and moisture characteristics of a Polar Maritime air mass.

[4]

(c) Study **Fig. 5** which shows an anticyclone over the British Isles on a day in July. Answer the questions which follow.



Source: Principal Examiner

Fig. 5

(i) Complete **Table 4** to show the weather being experienced at weather station **A** (Newcastle upon Tyne) on **Fig. 5**. One has been completed for you.

Table 4

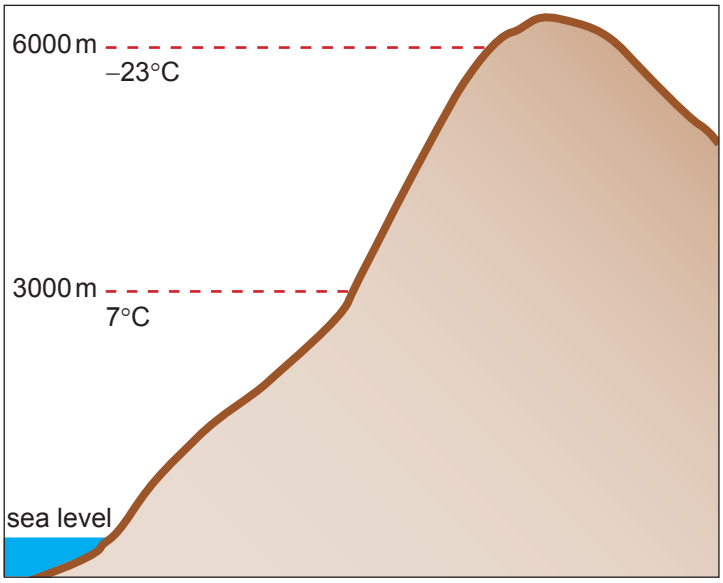
Weather Element	Weather conditions
Temperature	25 °C
Wind Speed	Knots
Wind Direction	

[2]

(ii) State fully **one** reason why the weather system in **Fig. 5** brings high temperatures.

[3]

(d) Study **Fig. 6** which illustrates how altitude can influence temperature. Answer the question which follows.



Source: Principal Examiner

Fig. 6

Using **Fig. 6** describe how and explain why altitude influences temperature.

[4]

(e) With reference to an extreme weather event outside the British Isles you have studied (tornado, drought or hurricane), describe the impacts this event had upon people.

[6]

Extra space:

Theme D: The Restless Earth

4 **(a)** Study **Fig. 7** which shows the structure of the Earth. Answer the questions which follow.

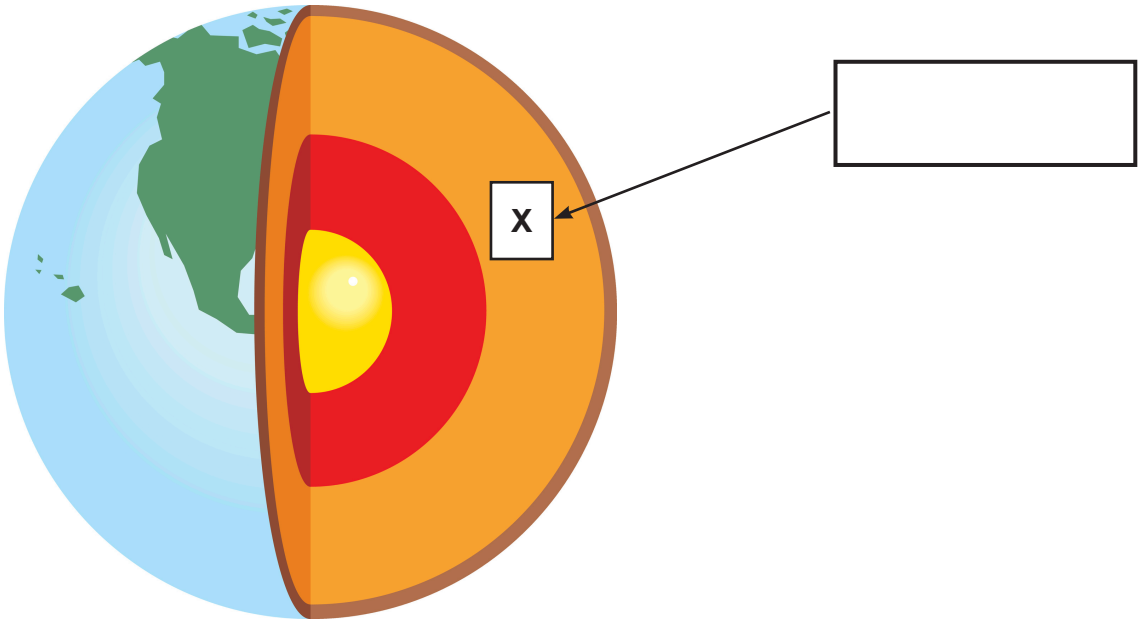


Fig. 7

(i) Name the section of the Earth indicated by **X** on **Fig. 7**. [1]

(ii) Underline the correct word in the following statements relating to the structure of the Earth. One has been completed for you.

The Earth's surface is divided into **tectonic plates** / **convection currents**.

The crust is the **thickest** / **thinnest** layer of the Earth.

Convection currents / **plate margins** occur underground.

The **outer** / **inner** core is solid.

Fault lines are areas of **strength** / **weakness** in the Earth's crust.

[4]

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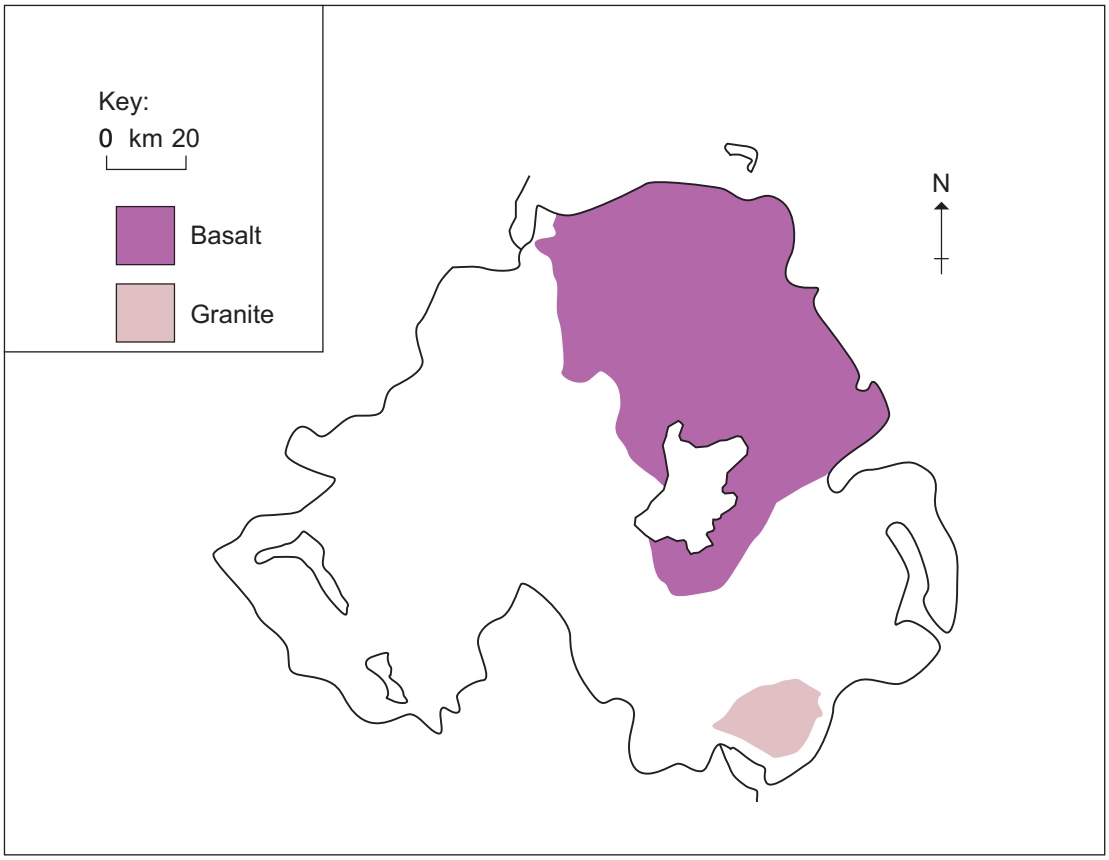
(b) Study **Fig. 8** which shows the location of igneous rocks in Northern Ireland. Answer the questions which follow.



Source: Principal Examiner

Fig. 8

(i) Describe the distribution of granite in **Fig. 8**.

[2]

(ii) Explain how granite forms.

[3]

(c) Study **Fig. 9** which shows a diagram of a shield volcano. Answer the questions which follow.

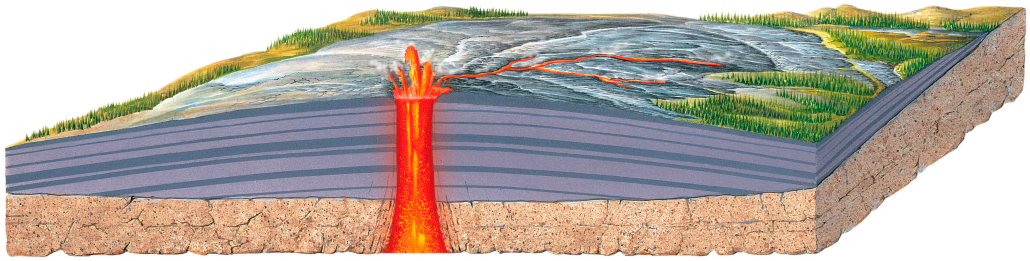


Fig. 9

(i) State **two** characteristics of a shield volcano.

1. _____

2. _____ [2]

(ii) Name one other type of volcano _____ [1]

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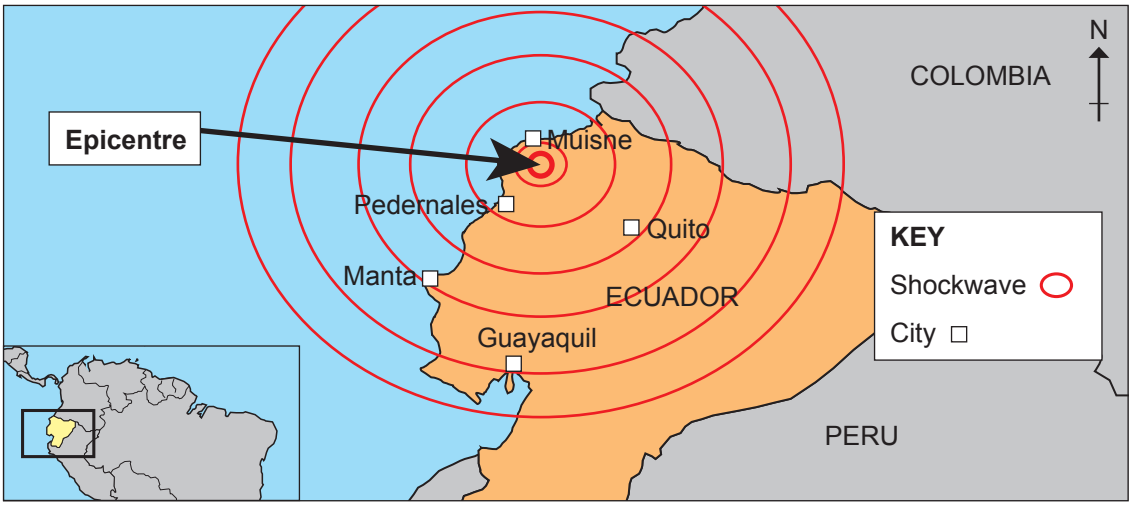
(d) Study **Fig. 10** which shows information about an earthquake in Ecuador in April 2016. Answer the questions which follow.



© BBC News

- Ecuador was hit by its most powerful earthquake in decades.
- The 7.8 earthquake struck on Saturday evening.
- During the rescue operation, 10,000 troops and 3,500 police were deployed.
- Coastal areas in the north-west were closest to the epicentre.

Fig. 10

(i) State the name of the city furthest away from the epicentre.

_____ [1]

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

_____

_____

_____

_____ [2]

(iii) Ecuador lies on a destructive plate boundary.

Explain why earthquakes often occur at a destructive boundary.

_____

_____

_____

_____

_____

_____ [3]

[Turn over

(e) Name an earthquake in a MEDC or LEDC which you have studied. Outline the cause of this earthquake and evaluate the success of **one** precaution used before the earthquake happened.

Name of Earthquake _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

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For Examiner's use only	
Question Number	**Marks**
1	
2	
3	
4	
Total Marks	

Examiner Number

Ordnance Survey

1:50 000 Scale
Landranger Series

Extract No 2256/190

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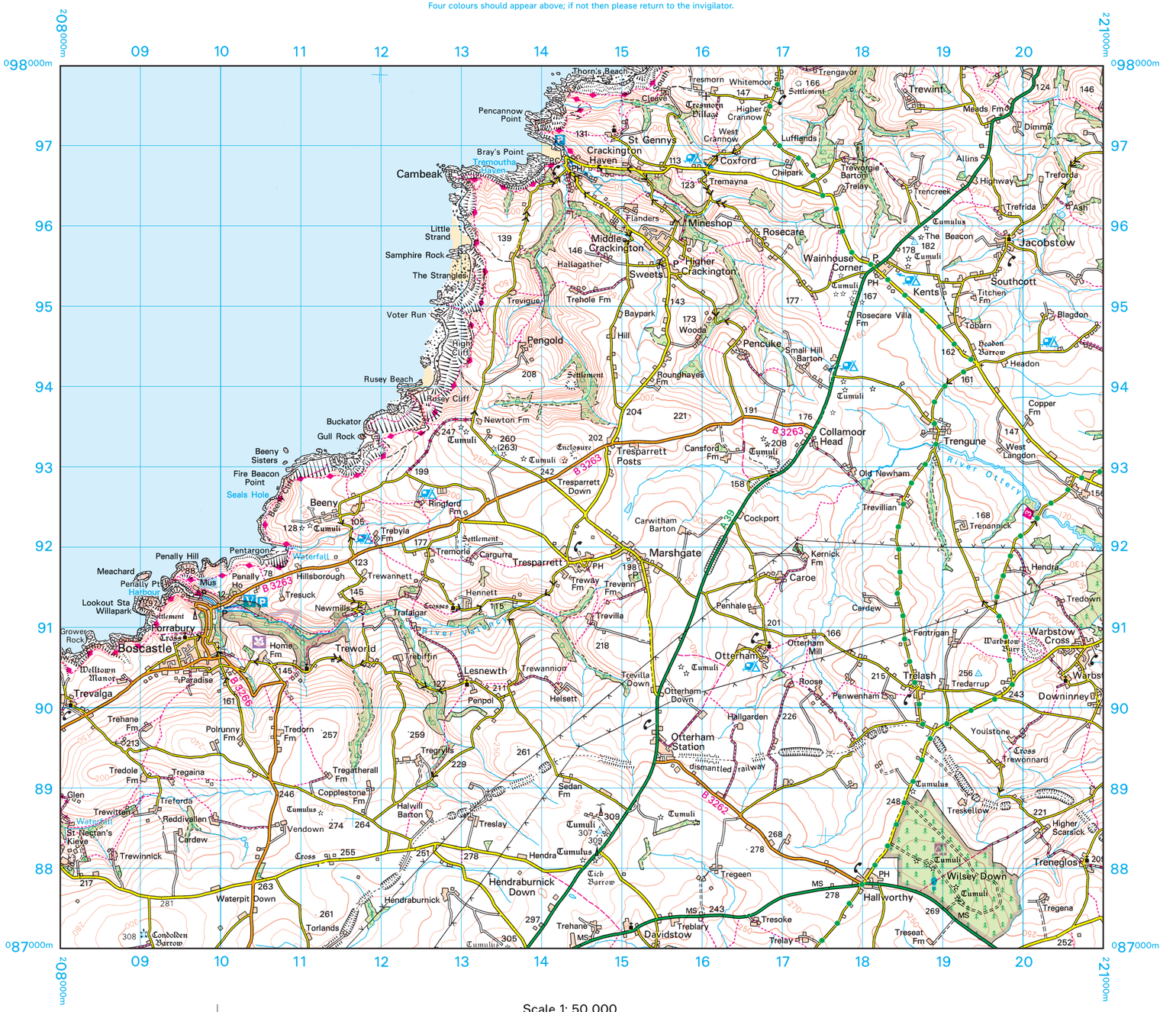
Four colours should appear above; if not then please return to the invigilator.



ROADS AND PATHS

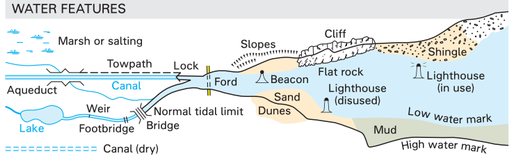
Not necessarily rights of way

- 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



- 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

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 — 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