Surname	Centre Number	Candidate Number
Other Names		0

GCSE – NEW

3110U10-1

S18-3110U10-1

GEOGRAPHY

Unit 1: Changing Physical and Human Landscapes

TUESDAY, 22 MAY 2018 – AFTERNOON

1 hour 30 minutes

	For Examiner's use only		
		Maximum Mark	Mark Awarded
	Question 1	28	
	Question 2	28	
	Writing accurately	3	
either	Question 3	24	
or	Question 4	24	
	Total	83	

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01

ADDITIONAL MATERIALS

In addition to this paper you may use a calculator and a ruler if required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen. Do not use correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **both** questions in Section A.

Answer **one** question from Section B.

Write your answers in the spaces provided in this booklet.

If additional space is required you should use the continuation pages at the end of this booklet. The question number(s) should be clearly shown.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question.

Your ability to communicate and organise your ideas will be assessed in questions that are worth 6 or 8 marks. The accuracy of your writing will be assessed in your answer to question 2*(c)*(ii).

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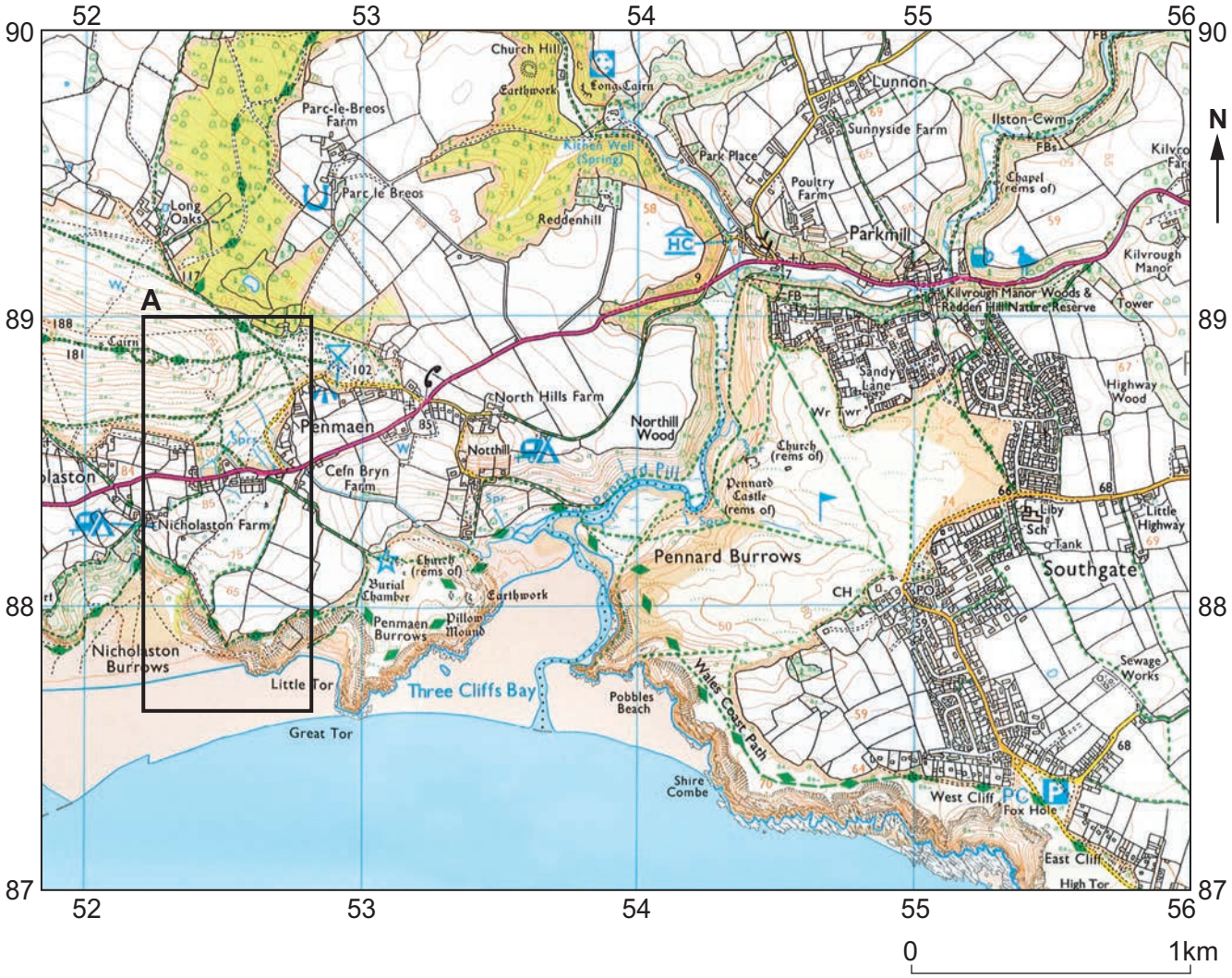
SECTION A – CORE THEMES

Answer **all** *of the questions in this section.*

THEME 1: Landscapes and Physical Processes

1. *(a)* Study the OS map extract below. A full key is printed on page 28.

O.S. Map Extract of Three Cliffs Bay, South Wales at a scale of 1:25,000



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(i) Give the four figure grid reference where the river reaches the sea in Three Cliffs Bay. Tick (✓) the correct answer in the box below. [1]

Grid Reference	Tick (✓)
5487	
8753	
5387	

(ii) Give the width of Three Cliffs Bay from Great Tor to Shire Combe. Tick (✓) the correct answer in the box below. [1]

Width	Tick (✓)
0.6 km	
1.3 km	
2.6 km	
5.2 km	

(iii) Describe the relief (shape of the land) in box A shown on the map. Use evidence from the map. [4]

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(b) Study the photograph below.

(i) What makes this landscape distinctive? Use evidence from the photograph. [3]

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(ii) Landscapes are often affected by people.

Describe **one** negative impact of people on a landscape you have studied. [3]

Name of landscape studied .....

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(c) Study the information below.

Visitor Activities in UK National Parks

Activity	% of Visitors
Walking	40
Driving around and sightseeing by car	19
Relaxing	12
Visiting towns and villages	10
Other (e.g. horse riding, climbing, water sports)	19

(i) Select the most suitable graphical method of presenting the data shown in the table. Tick (✓) the correct answer from the box below. [1]

Graphical Method	Tick (✓)
Scatter graph	
Line graph	
Histogram	
Pie chart	

(ii) Select **one** of the methods you have **not** chosen. State why it is unsuitable. [1]

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(iii) Study the photograph below.

Signs for visitors to Snowdonia National Park

Evaluate **one or more** strategies for managing landscapes in Wales. [6]

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(d) (i) Describe the process of hydraulic action in a river channel. [2]

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(ii) Explain why geology and river processes interact to form waterfalls.
*You **may** use an annotated diagram to help your answer.* [6]

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End of Question 1

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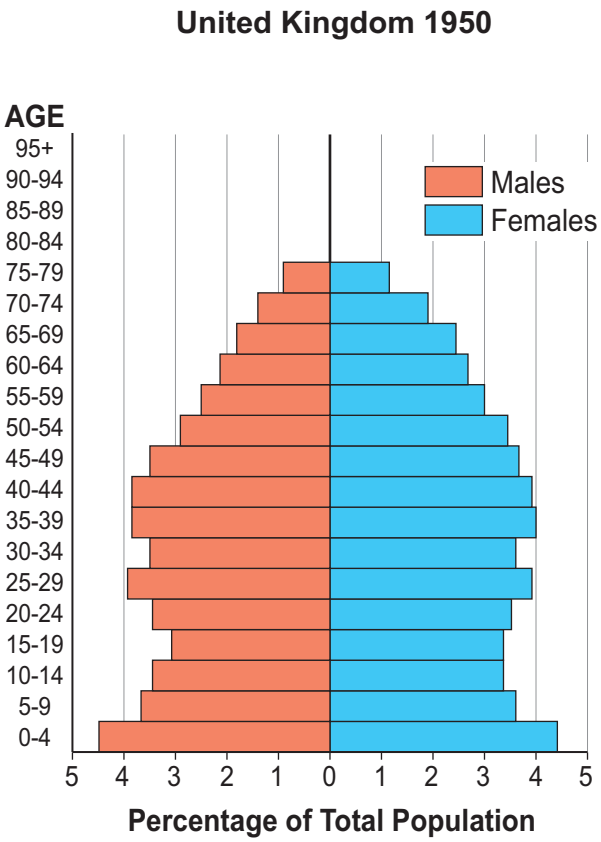
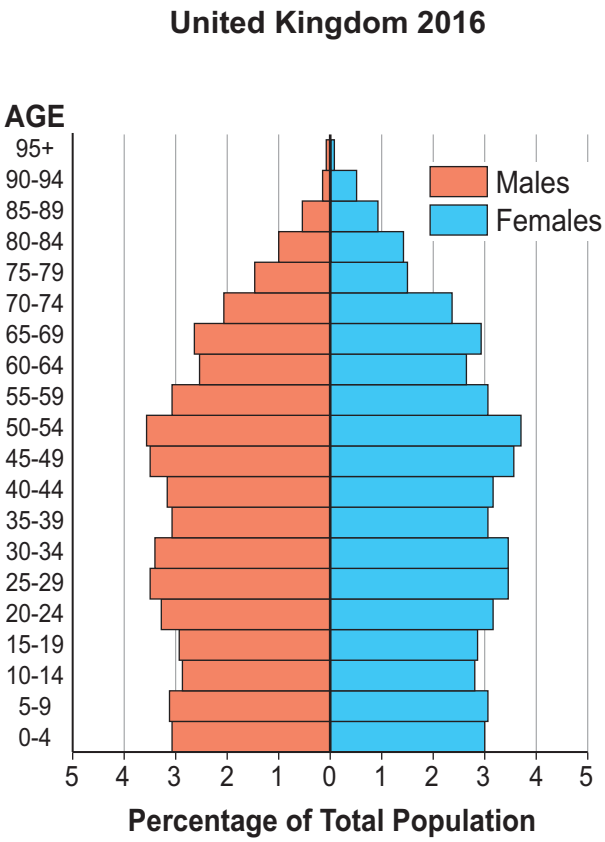
THEME 2: Rural-Urban Links

2. *(a)* Study the population pyramids below.





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(i) Give the percentage of the UK population aged 50-54 in 1950. Tick (✓) the correct answer in the box below. [1]

Percentage	Tick (✓)
2.9	
3.4	
6.3	
7.3	

(ii) Calculate the difference in percentage of people aged 70-74 between 1950 and 2016 by completing the table. [2]

Percentage (%) people aged 70-74 in 2016	4.4
Percentage (%) people aged 70-74 in 1950	
Difference	

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(iii) Use the population pyramids to give **one** other way in which the structure of the UK population has changed. [1]

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(iv) Describe **two** ways in which an ageing population has created challenges for the UK. [4]

1 .....

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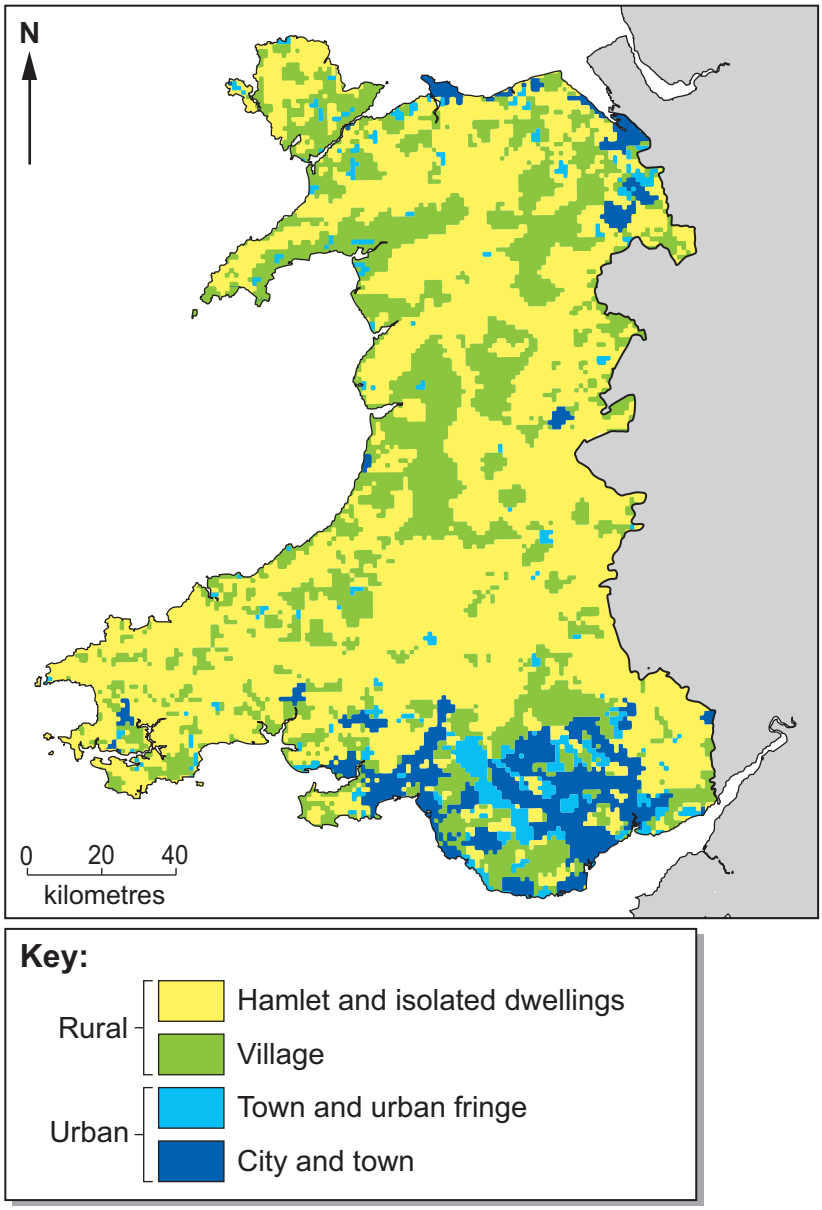
(b) Study the map below.

Distribution of urban and rural areas in Wales



(i) Describe the distribution of urban areas in Wales. [2]

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(ii) Give the meaning of the following terms by choosing from the definitions in the box below. Write the correct letter in each box. [2]

Urban-rural continuum ☐

Counter-urbanisation ☐

Letter	Definition
A	The movement of people from urban areas to live in the countryside.
B	The daily movement of people from the countryside to the city for work.
C	The area from which a large town or city attracts people to use its services.
D	The gradual change in settlement type from the city to the countryside.
E	The movement of people from the countryside to live in the city.

(iii) Explain why people in rural areas of Wales may have less access to services now than in the past. [6]

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(c) (i) Give **one** reason why many people work in the informal economy of cities in NICs or LICs. [2]

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(ii) Study the photographs and the fact box below.

Dharavi, a slum in Mumbai, India

Homeless person in London, UK

Fact Box

- Mumbai is India's largest city. It is estimated that around 13 million of the 21 million population live in slums without access to clean water and basic services.
- London is the capital city of the UK. It has a population of 8 million. Despite being one of the richest cities in the world, around 8,000 people are homeless and sleep rough.

"The challenges facing all global cities in the 21st century are the same."

To what extent do you agree with this statement? Make use of evidence from the photographs and fact box. [8]

The accuracy of your writing will be assessed in your answer to this question. [3]

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End of Question 2

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13

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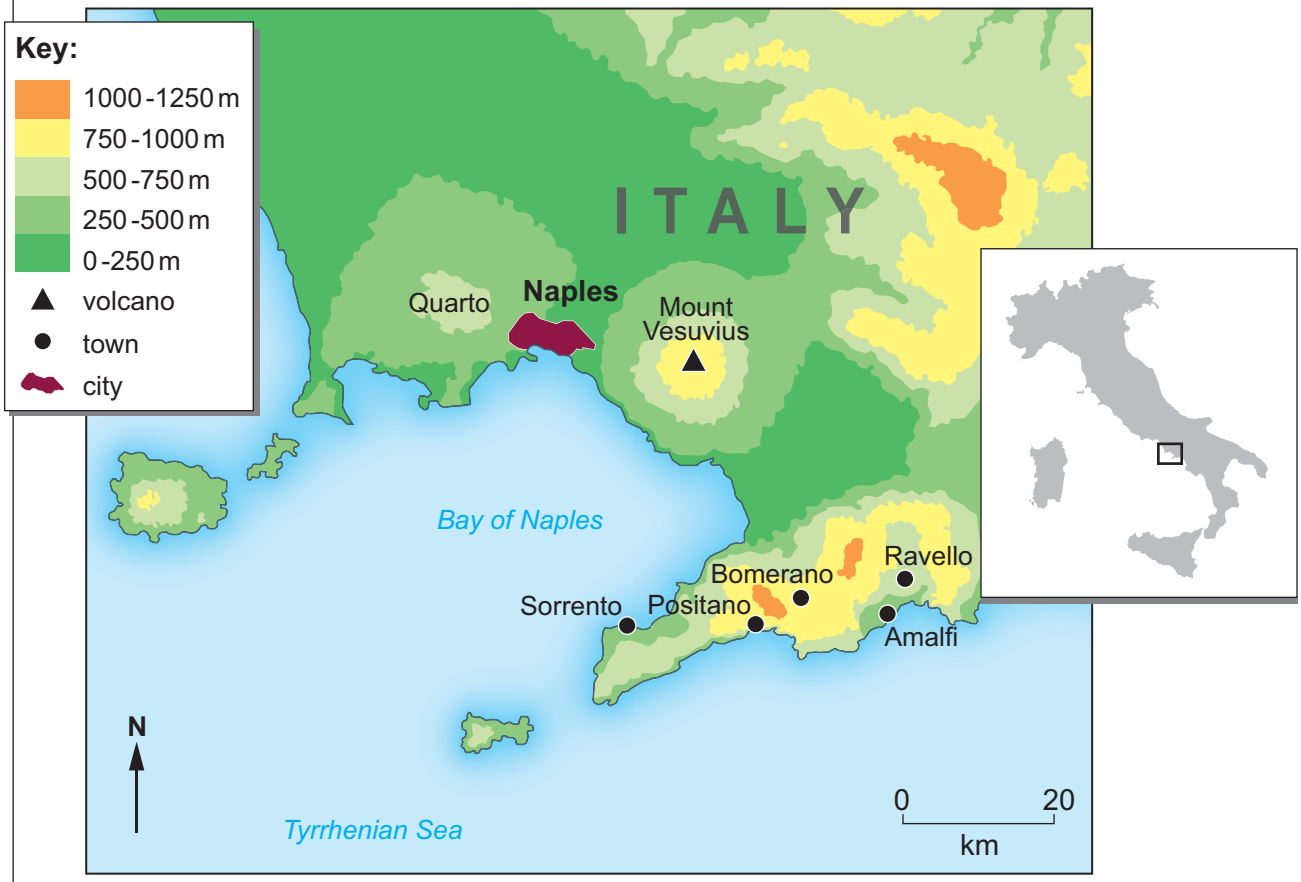
SECTION B – OPTIONS

Answer **one** *question in this section, either Question 3 or Question 4.*

THEME 3: Tectonic Landscapes and Hazards

3. *(a)* Study the information below. Mount Vesuvius is an active stratovolcano.

The Bay of Naples and Mount Vesuvius



Naples and Mount Vesuvius

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(i) Describe the location of Mount Vesuvius. [2]

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(ii) One feature of a stratovolcano is pyroclastic flow. Describe **two** other features of a stratovolcano. [4]

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(iii) Explain why the people of Naples are vulnerable to the impact of pyroclastic flows. Use evidence from the photograph and map. [4]

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(b) Study the information in the table below.

The Richter scale of earthquake magnitude

Magnitude		Description	Frequency
2.0-2.9	Minor	Generally not felt, but recorded.	1,300,000 per year (est.)
3.0-3.9		Often felt, but rarely causes damage.	130,000 per year (est.)
4.0-4.9	Light	Noticeable shaking of indoor items, rattling noises. Significant damage unlikely.	13,000 per year
5.0-5.9	Moderate	Can cause major damage to poorly constructed buildings over small regions. Slight damage to well-designed buildings.	1,319 per year
6.0-6.9	Strong	Can cause serious damage to well-designed buildings. Destructive up to about 160 kilometres across populated areas.	134 per year
7.0-7.9	Major	Can cause serious damage over larger areas.	15 per year
8.0-8.9	Great	Can cause serious damage in areas several hundred kilometres across.	1 per year
9.0-9.9		Devastating in areas several thousand kilometres across.	1 per 10 years

(i) Describe the relationship between the magnitude of earthquakes and the frequency with which they occur. [2]

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(ii) The amount of ground shaking during an earthquake increases by a factor of 10 with each point on the Richter scale. Point 4.0 on the Richter scale is 10 times more powerful than 3.0 and 100 times more than 2.0.

Calculate the increase in ground shaking during an earthquake measuring 7.0 on the Richter scale compared to one measuring 3.0. Show your working. [2]

Answer .....

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(iii) Explain why an earthquake with magnitude 5.5 (refer to the table on page 16) might have varying impacts on people in countries at different levels of development. [6]

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(c) Study the photograph below.

Earthquake in Amatrice, Central Italy in August 2016

Suggest the **social** impacts of this earthquake on the people of Amatrice. Use evidence from the photograph. [4]

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End of Question 3

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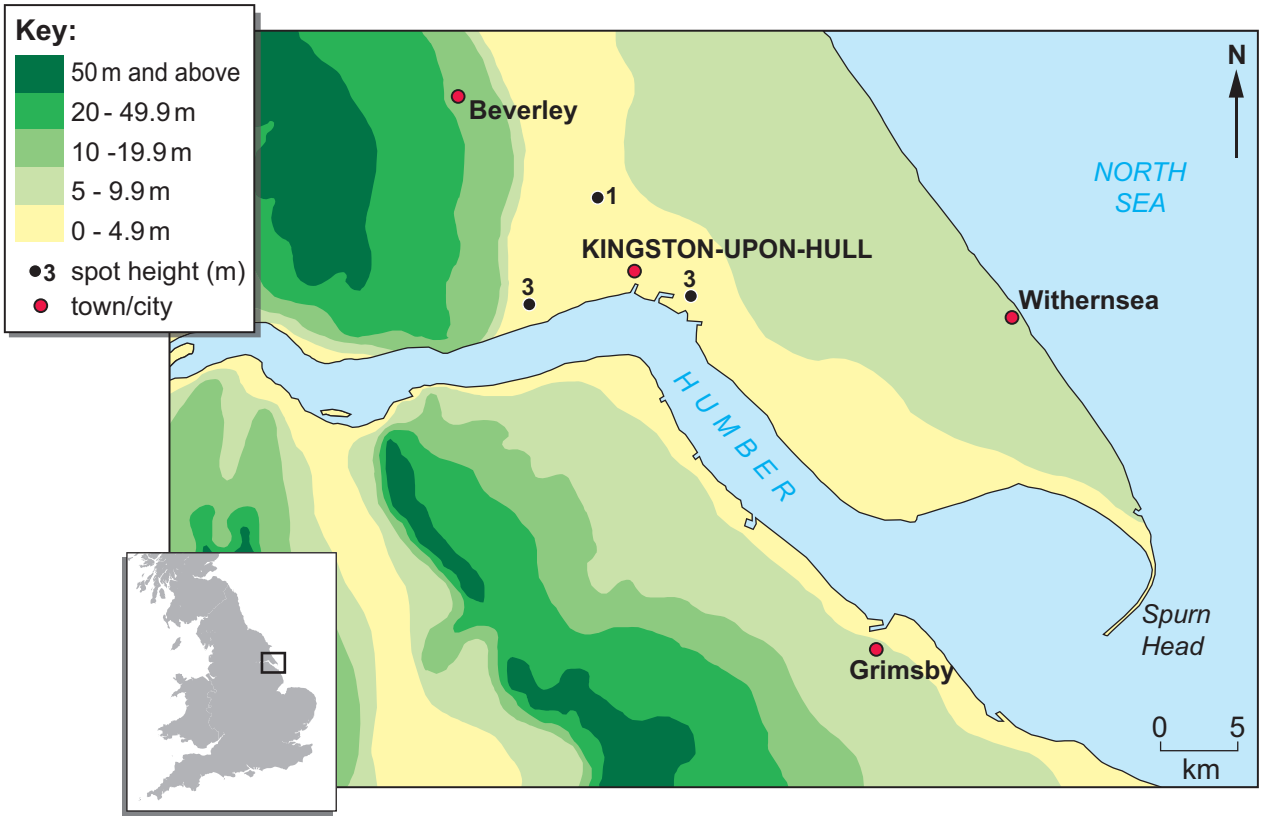
If you have answered Question 3 **do not** *answer Question 4.*

THEME 4: Coastal Hazards and their Management

4. Study the map and photograph below.

Relief map and location of Kingston-upon-Hull, England



Coastal flood barrier, Kingston-upon-Hull

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(a) (i) Describe the location of Kingston-upon-Hull. [2]

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(ii) The coastal flood barrier in Kingston-upon-Hull is an example of hard engineering. Describe **two** other examples of hard engineering on the coast. [4]

Example 1 .....

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Example 2 .....

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(iii) Explain why Kingston-upon-Hull is vulnerable to coastal flooding. Use evidence from the map and photograph. [4]

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(b) Hurricanes, or cyclones, are severe storms that affect tropical regions and cause major flooding of coastal areas due to raised sea levels called storm surges. The severity of hurricanes is measured on a scale of 1 to 5.

Study the table of information below.

The Saffir-Simpson Hurricane Scale				
Category	**Wind speed in km/hr**	**Storm surge height in metres**	**Damage**	**Average frequency of storms in every 10 years affecting USA**
5	249 +	5.7 +	**Catastrophic**. Flood damage to lower floors of buildings less than 5 metres above sea level.	0.2
4	210–249	3.9–5.6	**Extreme**. Flooding extends far inland. Major damage to buildings and structures close to shore.	1.2
3	178–209	2.7–3.8	**Extensive**. Widespread flooding near the coast.	4.6
2	154–177	1.8–2.6	**Moderate**. Significant flooding of roads near the coast.	4.7
1	119–153	1.0–1.7	**Minimal**. Some shallow flooding of vulnerable homes.	7.1

(i) Describe the relationship between the severity of storms and the frequency with which they occur. [2]

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(ii) Calculate how often the USA might expect to experience a Category 5 storm. Show your working. [2]

Answer .....

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(iii) Explain why the vulnerability of coastal communities to flooding varies in countries at different levels of economic development. [6]

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(c) Study the photograph below.

Sea wall defences at Penzance, Cornwall

Suggest the **social** reasons why the council is prepared to spend money on maintaining the defences in Penzance. Use evidence from the photograph. [4]

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End of Question 4

END OF PAPER

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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

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Explorer™ series (1:25 000 scale)

Explorer Map symbols

ROADS AND PATHS — Not necessarily rights of way

- M1 or A6(M) — Motorway; Service Area; 7 Junction Number
- A 35 — Dual carriageway
- A 31(T) or A35 — Trunk or Main road
- B 3074 — Secondary road
- Narrow road with passing places
- Road under construction
- Road generally more than 4 m wide
- Road generally less than 4 m wide
- Other road, drive or track, fenced and unfenced
- Gradient: steeper than 20% (1 in 5); 14% (1 in 7) to 20% (1 in 5)
- Ferry — (V) Vehicle; (P) Passenger
- Path

RAILWAYS

- Multiple track / Single track — Standard gauge
- Narrow gauge / Light Rapid Transit System with station
- Road over; road under; level crossing
- Cutting; tunnel; embankment
- Station, open to passengers; siding

PUBLIC RIGHTS OF WAY — Not shown on maps of Scotland

- Footpath
- Bridleway
- Byway open to all traffic
- Road used as a public path

The representation on this map of any other road, track or path is no evidence of the existence of a right of way

OTHER PUBLIC ACCESS

- Other routes with public access

The exact nature of the rights on these routes and the existence of any restrictions may be checked with the local highway authority. Alignments are based on the best information available.

- National Trail / Long Distance Route; Recreational route
- Permitted footpath / Permitted bridleway — See note below

Footpaths and bridleways along which landowners have permitted public use but which are not rights of way. The agreement may be withdrawn.

- Off road cycle routes

BOUNDARIES

- National
- County
- Constituency (Const), Electoral Region (ER) or Burgh Const
- Civil Parish (CP) or Community (C)
- Unitary Authority (UA), Metropolitan District (Met Dist), London Borough (LB) or District
- National Park

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

- Site of antiquity
- 1066 — Site of battle (with date)
- VILLA — Roman
- Castle — Non-Roman
- Visible earthwork

NB. Due to changes in specification there are differences on some sheets

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GENERAL FEATURES

- Gravel pit
- Sand pit
- Other pit or quarry
- Landfill site or slag heap
- Current or former Place of worship — with tower; with spire, minaret, or dome
- Place of worship
- Building; important building
- Glasshouse
- Youth hostel
- Bunkhouse/camping barn/ other hostel (selected areas only)
- Bus or coach station
- Lighthouse; disused lighthouse;
- Beacon
- Triangulation pillar
- Mast
- Windmill; with or without sails
- Wind pump; wind generator
- pylon pole — Electricity transmission line
- Slopes

BP	Boundary post
BS	Boundary stone
CH	Clubhouse
FB	Footbridge
MP; MS	Milepost; milestone
Mon	Monument
PO	Post office (selected areas only)
Pol Sta	Police station (selected areas only)
Sch	School
TH	Town Hall
NTL	Normal tidal limit
W; Spr	Well; spring

HEIGHTS AND NATURAL FEATURES

- 52 · Ground survey height
- 284 · Air survey height

Surface heights are to the nearest metre above mean sea level. Heights shown close to a triangulation pillar refer to the ground level height at the pillar and not necessarily at the summit

Vertical face/cliff

75 60 50

Loose rock — Boulders — Outcrop — Scree

- Water
- Mud
- Sand; sand and shingle

VEGETATION

Vegetation limits are defined by positioning of symbols

- Coniferous trees
- Non-coniferous trees
- Coppice
- Orchard
- Scrub
- Bracken, heath or rough grassland
- Marsh, reeds or saltings.

ACCESS LAND

- Access land boundary and tint
- Access land in wooded area
- Access information point
- DANGER AREA — Firing and test ranges in the area. Danger! Observe warning notices
- MANAGED ACCESS — Access permitted within managed controls, for example, local byelaws

Portrayal of access land on this map is intended as a guide to land which is normally available for access on foot, for example access land created under the Countryside and Rights of Way Act 2000, and land managed by the National Trust, Forestry Commission and Woodland Trust. Access for other activities may also exist. Some restrictions will apply; some land will be excluded from open access rights. The depiction of rights of access does not imply or express any warranty as to its accuracy or completeness. Observe local signs and follow the Countryside Code.

TOURIST AND LEISURE INFORMATION

- Building of historic interest
- Cadw (Welsh heritage)
- Camp site
- Caravan site
- Camping and caravan site
- Castle / fort
- Cathedral / Abbey
- Country park
- Cycle trail
- English Heritage property
- Fishing
- Forestry Commission visitor centre
- Garden / arboretum
- Golf course or links
- Information centre
- Information centre, seasonal
- Horse riding
- Museum
- Nature reserve
- National Trust property
- Other tourist feature
- Parking
- P&R — Park and ride, all year / seasonal
- Picnic site
- Preserved railway
- PC — Public Convenience
- Public house/s
- Recreation / leisure / sports centre
- Slipway
- Telephone (public / motoring organisation / emergency)
- Theme / pleasure park
- Viewpoint
- Visitor centre
- National Park Information Point
- Walks / trails
- Water activites

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