

Centre Number						Candidate Number				
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For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
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TOTAL	



General Certificate of Secondary Education
Foundation Tier
June 2015

Geography (Specification A)

90301F

F

Unit 1 Physical Geography

Tuesday 19 May 2015 1.30 pm to 3.00 pm

For this paper you must have:

- the colour insert (enclosed)
- a pencil
- a rubber
- a ruler.

You may use a calculator.

A

Time allowed

- 1 hour 30 minutes

Instructions

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- **Answer THREE questions:**
 - **one** question from **Section A (Questions 1 – 4)**
 - **one** question from **Section B (Questions 5 – 7)**
 - **one** other question from **either** Section A **or** Section B.
- 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.
- Use case studies to support your answers where appropriate.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 75.
- You are reminded of the need for good English and clear presentation in your answers. Where applicable, questions should be answered in continuous prose. Quality of written communication will be assessed in all answers.

Advice

- Where appropriate, credit will be given for the use of diagrams to illustrate answers and where reference is made to your personal investigative work. You are advised to allocate your time carefully.



J U N 1 5 9 0 3 0 1 F 0 1

Section A

Answer **one** question from Section A and **one** question from Section B and **one** other question from **either** Section A **or** Section B.

Use case studies to support your answers where appropriate.

Total for this question: 25 marks

1 The Restless Earth

1 (a) Complete the statements below to describe the characteristics of continental crust.

Circle the correct answer in each set of brackets.

[3 marks]

Continental crust is [**less than 500 / more than 1500**] million years old.

Continental crust is [**more / less**] dense than oceanic crust.

Continental crust [**can / cannot**] be renewed or destroyed.

1 (b) Study **Figure 1** on the insert, a map showing the world distribution of volcanoes.

1 (b) (i) What type of plate boundary is found at **X** on **Figure 1**?

[1 mark]

.....

1 (b) (ii) Are the following statements about the world distribution of volcanoes **true** or **false**?

Tick the correct boxes.

[4 marks]

	True	False
There are no volcanoes in Asia.		
Volcanoes occur around the edge of the Pacific Ocean.		
There is a line of volcanoes in the middle of the Atlantic Ocean.		
Volcanoes only occur at plate margins.		



1 (c) Study **Figure 2** on the insert, a photograph of Eyjafjallajökull, a volcano in Iceland.

1 (c) (i) Three characteristics of the volcano and surrounding area are shown at **X**, **Y** and **Z**.

Write labels for **X**, **Y** and **Z**.

[3 marks]

X

Y

Z

1 (c) (ii) Describe the positive and negative impacts of volcanic activity.

[6 marks]

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Question 1 continues on the next page

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1 (d) Study **Figure 3** on the insert, a map showing the Yellowstone supervolcano in the USA.

1 (d) (i) Use information in **Figure 3** to complete the table below.

[2 marks]

Distance along line A–B km
Shape of the supervolcano (caldera)

1 (d) (ii) How is a supervolcano different from a volcano?

[2 marks]

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1 (d) (iii) Describe the likely global consequences of a supervolcano eruption.

[4 marks]

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Total for this question: 25 marks

2 Rocks, Resources and Scenery

2 (a) Study **Figure 4** on the insert, a diagram showing the geological timescale.

2 (a) (i) Use **Figure 4** to complete the following sentences.

[2 marks]

Some granite formed 280 million years ago in the Period.

The Carboniferous period lasted for million years.

2 (a) (ii) With the help of **Figure 4**, outline what is meant by an 'era'.

[2 marks]

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2 (b) The following statements are about the three types of rock.

Complete the rock type table below by writing the letter for **each** statement in the correct column.

[4 marks]

One has been done for you.

- A** These rocks include slate and marble.
- B** These rocks are formed by volcanic activity.
- C** These rocks are often formed on the sea bed.
- D** These rocks often consist of many crystals.
- E** These rocks include chalk and clay.

Rock Type		
Igneous	Sedimentary	Metamorphic
		A

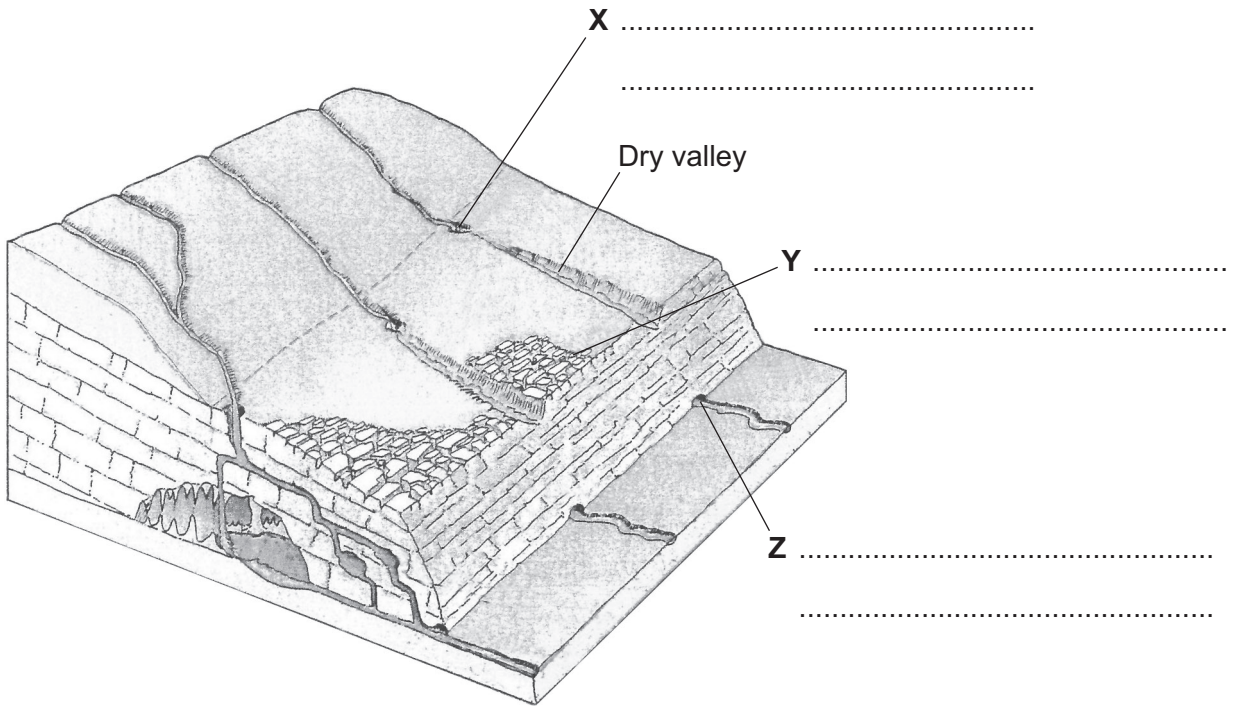
Question 2 continues on the next page

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2 (c) Study **Figure 5**, a block diagram showing limestone features.

Figure 5



2 (c) (i) On **Figure 5**, label the surface features shown at **X**, **Y** and **Z**.

[3 marks]

2 (c) (ii) The rock type below the limestone is:

pervious / permeable / impermeable.

Circle the correct answer.

[1 mark]



2 (c) (iii) With the help of **Figure 5**, explain the formation of a dry valley.

[4 marks]

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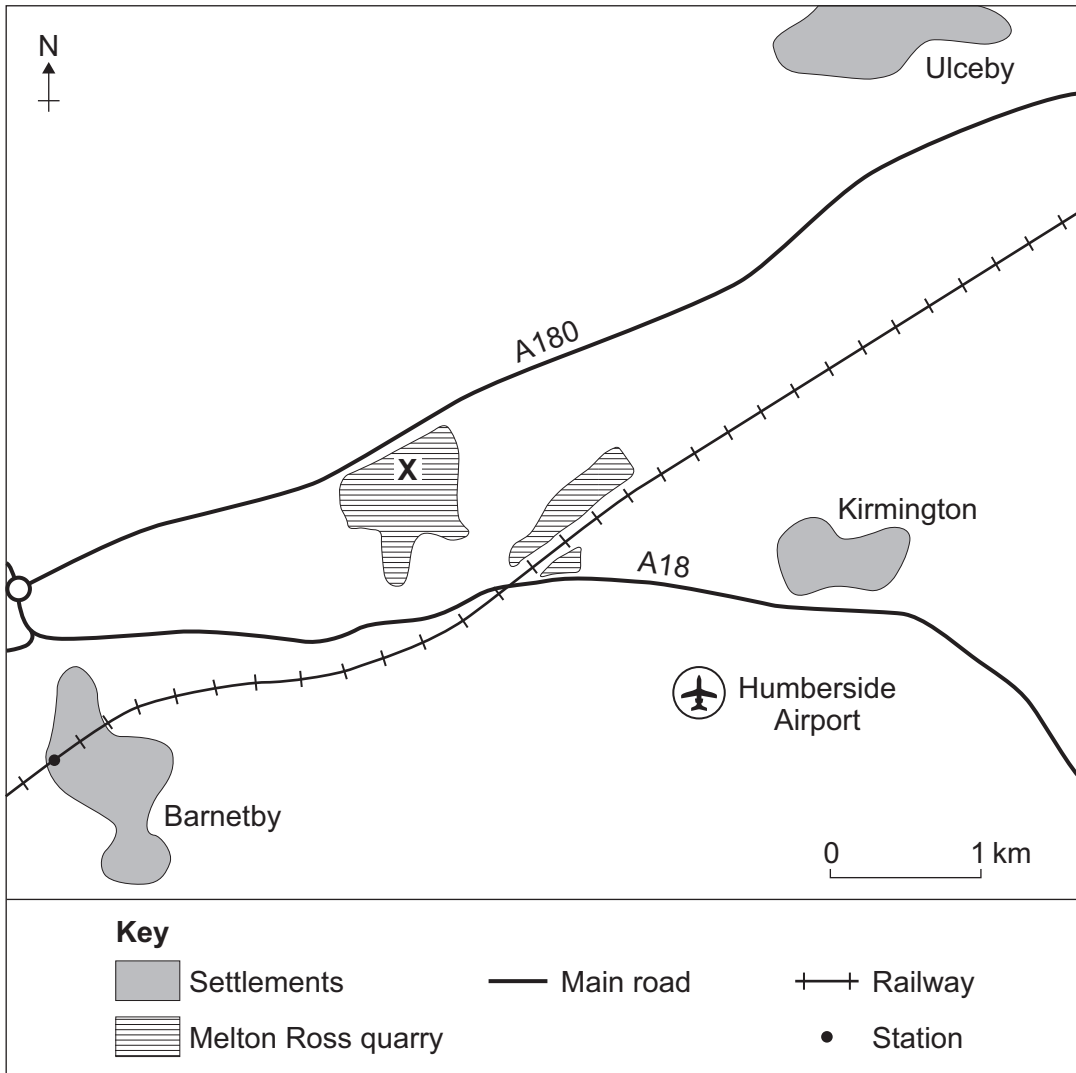
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2 (d) Study **Figure 6**, a sketch map showing the location of Melton Ross quarry.

Figure 6



2 (d) (i) Complete the sentences below to describe the location of Melton Ross quarry.

[3 marks]

Melton Ross quarry is two km of Kirmington.

Barnetby station is km south west of location X at the quarry.

The quarry is north of the main road



2 (d) (ii) Describe advantages and disadvantages of quarrying.

[6 marks]

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Total for this question: 25 marks

3 The Challenge of Weather and Climate

3 (a) Study **Figure 7** on the insert, a map showing the average maximum monthly temperatures at four weather stations in the UK from 1981 to 2010.

3 (a) (i) Use **Figure 7** to complete the Fact File below.

[3 marks]

Fact File

The temperature at Lake Vyrnwy in January was °C.

The warmest place in July was

The temperature range in London was °C.

3 (a) (ii) How does **latitude** explain the difference in temperature between London and Edinburgh?

[2 marks]

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3 (a) (iii) How does **altitude** explain the difference in temperature between Llanbedr and Lake Vyrnwy?

[2 marks]

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3 (b) Study **Figure 8** on the insert, a synoptic chart showing the St Jude storm over the British Isles on 28 October 2013.

3 (b) (i) Complete the paragraph below to describe the synoptic chart.

Circle the correct answer in each set of brackets.

[4 marks]

The lowest pressure on the map is at [**W / X**]. The air pressure at Y is between [**977 and 979 / 981 and 983**] millibars. The isobars to the south of the British Isles are [**close together / far apart**]. There is a [**warm / cold**] front over southern England.

3 (b) (ii) What is the type of weather system centred at Y in **Figure 8**?

[1 mark]

.....

3 (b) (iii) Complete the sentences below to outline the weather associated with the passage of a cold front.

[3 marks]

Cloud cover is

.....

Precipitation is

.....

Windspeeds are

.....

Question 3 continues on the next page

Turn over ►



3 (c) Study **Figures 9a** and **9b** on the insert, photographs taken after the Philippines were hit by Typhoon Haiyan (a tropical revolving storm) on 8 November 2013.

Figure 9a shows Tacloban Airport.

Figure 9b shows the Tacloban coast near the airport.

Describe the effects of Typhoon Haiyan shown in **Figures 9a** and **9b**.

[4 marks]

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3 (d) Use a case study to describe the short-term and long-term responses to a tropical revolving storm in a richer part of the world.

[6 marks]

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Total for this question: 25 marks

4 Living World

4 (a) Study **Figure 10** on the insert, a diagram of a simple ecosystem.

4 (a) (i) Name **one** physical factor affecting the ecosystem.

[1 mark]

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4 (a) (ii) Outline how the soil is affected by the vegetation.

[2 marks]

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4 (a) (iii) Outline how the vegetation is affected by the soil.

[2 marks]

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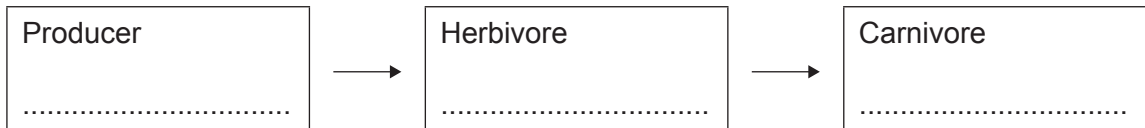
4 (b) (i) The headings for a partly completed food chain are shown below.

Add an example for each heading to complete the food chain.

Choose the examples from this list.

[3 marks]

bacteria caterpillar sunlight robin oak tree



4 (b) (ii) Describe the differences between a producer and a consumer.

[3 marks]

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Question 4 continues on the next page

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4 (c) Study **Figure 11** on the insert, a map showing the location of temperate deciduous forest.

The following statements begin to describe the location of temperate deciduous forest.

Use information from **Figure 11** to complete the sentences.

[4 marks]

The largest area of temperate deciduous forest is found

.....

In Africa, there is

.....

In North America and Asia, temperate deciduous forest is found

.....

In the southern hemisphere, temperate deciduous forest is found

.....



4 (d) Study **Figure 12** on the insert, a photograph of part of Epping Forest, a temperate deciduous woodland in the south of England.

Use **Figure 12** to describe the characteristics of this temperate deciduous woodland.

[4 marks]

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Question 4 continues on the next page

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4 (e) Use a case study to describe different uses of temperate deciduous woodland.

[6 marks]

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End of Section A



Section B

Answer **one** question from Section A and **one** question from Section B and **one** other question from **either** Section A **or** Section B.

Use case studies to support your answers where appropriate.

Total for this question: 25 marks

5 Water on the Land

5 (a) Study **Figure 13** on the insert, a 1:25 000 Ordnance Survey map extract of part of the Peak District.

Damflask Reservoir is named in grid square 2790. The dam is in grid square 2890.

5 (a) (i) What is the length of the dam along the line **X–Y** on the map?

[1 mark]

..... km

5 (a) (ii) What shape is Damflask Reservoir?

[1 mark]

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5 (a) (iii) Describe the relief (height and slope of the land) around Damflask Reservoir.

[2 marks]

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5 (a) (iv) A dam is an example of:

hard engineering / soft engineering.

Circle the correct answer.

[1 mark]

Question 5 continues on the next page

Turn over ►



5 (b) Study **Figures 14a** and **14b** on the insert, maps showing rainfall (2012) and population density (2011) in England and Wales.

5 (b) (i) Areas A and B are shown on **Figures 14a** and **14b**.

Complete the table below to show the missing information.

[2 marks]

Area	Rainfall (mm)	Population density (people per square km)
A		0–99
B	600–799	

5 (b) (ii) Using **Figures 14a** and **14b**, identify **one** area likely to have a water surplus and **one** area likely to have a water deficit.

[2 marks]

Area of water surplus

Area of water deficit

5 (b) (iii) Explain ‘the need for transfer’ in managing water supply in the UK.

[3 marks]

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5 (c) Study **Figure 15** on the insert, a photograph of High Force waterfall on the River Tees in the north of England.

5 (c) (i) Three characteristics of the waterfall are shown by **X**, **Y** and **Z**.

Write labels for **X**, **Y** and **Z**.

[3 marks]

X

Y

Z

5 (c) (ii) Explain the formation of a waterfall.

[4 marks]

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5 (d) Describe how a river transports its load.

[6 marks]

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Total for this question: 25 marks

6 Ice on the Land

6 (a) Study **Figures 16a** and **16b** on the insert, graphs showing information about the Solheimajökull glacier in Iceland in the years 1931–2012.

Figure 16a shows the advance and retreat of the glacier.

Figure 16b shows the changes in the position of the snout of the glacier.

6 (a) (i) Use **Figure 16a** to complete the sentences below.

[2 marks]

Most ice was lost from the glacier in

During the 1980s the glacier

6 (a) (ii) Use **Figure 16b** to complete the sentences below.

Circle the correct answer in each set of brackets.

[2 marks]

From 1931 to 2012, the glacier snout retreated [**1000m / 1300m**].

In this period there was a [**steady / fluctuating**] loss of ice.

6 (a) (iii) What is the glacial budget?

[1 mark]

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6 (a) (iv) Outline changes in a glacier between summer and winter.

[3 marks]

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Question 6 continues on the next page

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6 (b) Study **Figure 17** on the insert, a 1:50 000 Ordnance Survey map extract of the Helvellyn area of the Lake District.

6 (b) (i) Red Tarn (grid square 3415) is in a corrie.

In what direction does the corrie face?

[1 mark]

.....

6 (b) (ii) What is the height of Helvellyn at grid reference 342151?

[1 mark]

..... m

6 (b) (iii) A pyramidal peak is labelled on **Figure 17** and two other landforms resulting from glacial erosion are identified at **X** and **Y**.

Name landform **X** and landform **Y**.

[2 marks]

Landform **X**

Landform **Y**

6 (b) (iv) Explain the formation of a pyramidal peak.

[4 marks]

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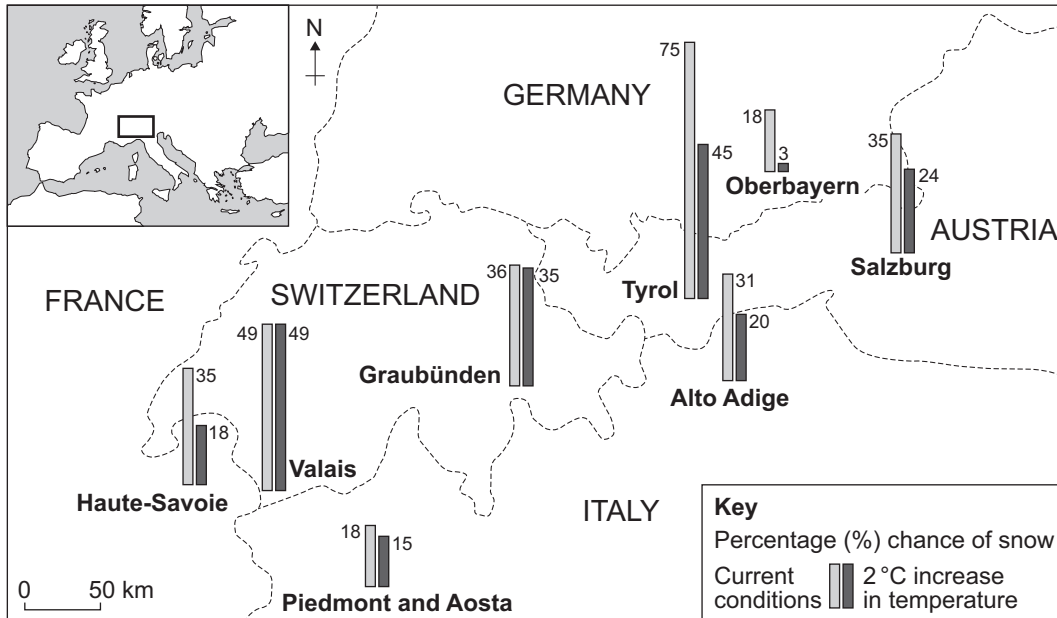
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6 (c) Study **Figure 18**, a located bars map showing the chance of snow in selected regions of the Alps under current conditions and the chance of snow if there is a 2 °C increase in temperature.

Figure 18



6 (c) (i) Three of the following statements describing the information in **Figure 18** are correct.

Tick the **three** correct statements.

[3 marks]

The greatest decrease in the percentage chance of snow with a 2 °C increase in temperature will be in Tyrol.	<input type="checkbox"/>
Regions in Switzerland will not be affected very much by a 2 °C increase in temperature.	<input type="checkbox"/>
Under current conditions the region with the highest chance of snow is Valais.	<input type="checkbox"/>
There would be a change of 3% or less in two regions with a 2 °C increase in temperature.	<input type="checkbox"/>
The two Italian regions will show the greatest drop in percentage chance of snow with a 2 °C increase in temperature.	<input type="checkbox"/>
The percentage chance of snow will halve in Oberbayern with a 2 °C increase in temperature.	<input type="checkbox"/>

Question 6 continues on the next page

Turn over ►



6 (c) (ii) Describe the economic and social impacts of unreliable snowfall on some resorts.

[6 marks]

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Total for this question: 25 marks

7 Coastal Zone

7 (a) Study **Figure 19** on the insert, a photograph of Happisburgh, Norfolk.

7 (a) (i) State the evidence at **X** and **Y** suggesting that erosion is taking place on this coast. **[2 marks]**

X

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Y

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7 (a) (ii) With the help of **Figure 19**, outline **one** impact of this erosion on people. **[2 marks]**

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7 (a) (iii) Name the landform at **Z**. **[1 mark]**

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Question 7 continues on the next page

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7 (b) Explain the formation of a wave-cut platform.

[4 marks]

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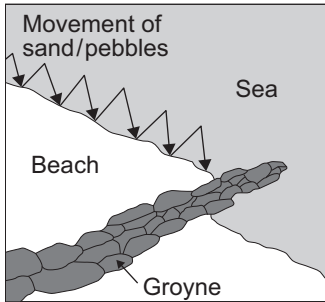
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7 (c) Study **Figure 20**, a table showing information about three coastal management strategies.

Figure 20



Coastal management strategy	Cost (£)	Construction	Years before significant maintenance
Sea walls	6 000–10 000 per metre	Continuous	30–50
Groynes	5 000–10 000 each	Every 200 metres	10
Rock armour	1 000–4 000 per metre	Continuous but short distance	10

7 (c) (i) Use **Figure 20** to complete the sentences below.

[3 marks]

One advantage of a sea wall is

.....

One advantage of rock armour is

.....

Groynes are different from the other strategies because

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7 (c) (ii) With the help of **Figure 20**, outline how groynes can protect the coast.

[3 marks]

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Question 7 continues on the next page

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7 (d) Study **Figure 21** on the insert, a 1:50 000 Ordnance Survey map extract of Walton-on-the-Naze.

7 (d) (i) What is the **four figure** grid reference of the Nature Reserve marked **X**?

[1 mark]

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7 (d) (ii) What is the distance along the line from the coast at point **Y** to the island at point **Z**?

[1 mark]

..... km

7 (d) (iii) Grid squares 2223 and 2323 are outlined on the map.

Describe the coastal features in these grid squares.

[2 marks]

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7 (e) Use a case study to describe the characteristics of a coastal habitat.

[6 marks]

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END OF QUESTIONS



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Figure 5: Block diagram of a Carboniferous limestone landscape taken from David Waugh and Tony Bushell's 'New Key Geography for GCSE 2nd Edition' (ISBN 978-0-7487-8133-1), first published in 2002. Permission granted by Oxford University Press.

Figure 18: Based on data from OECD.

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