Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

5109570454

GEOGRAPHY **0460/13**

Paper 1 **May/June 2019**

`1 hour 45 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler
Calculator
Protractor

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name in the spaces provided.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Write your answer to each question in the space provided.
If additional space is required, you should use the lined pages at the end of this booklet. The question number(s) must be clearly shown.

Answer **three** questions, **one** from each section.

The Insert contains Fig. 1.2 for Question 1, Fig. 4.3 for Question 4, Figs. 5.2 and 5.3 for Question 5, and Figs. 6.1 and 6.2 for Question 6.
The Insert is **not** required by the Examiner.
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

Definitions
MEDCs – More Economically Developed Countries
LEDCs – Less Economically Developed Countries

This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

DC (CE/CB) 162397/7

Section A

Answer **one** question from this section.

1 **(a)** Study Fig. 1.1, which shows information about population density in 1950, 2000 and 2050 (predicted).

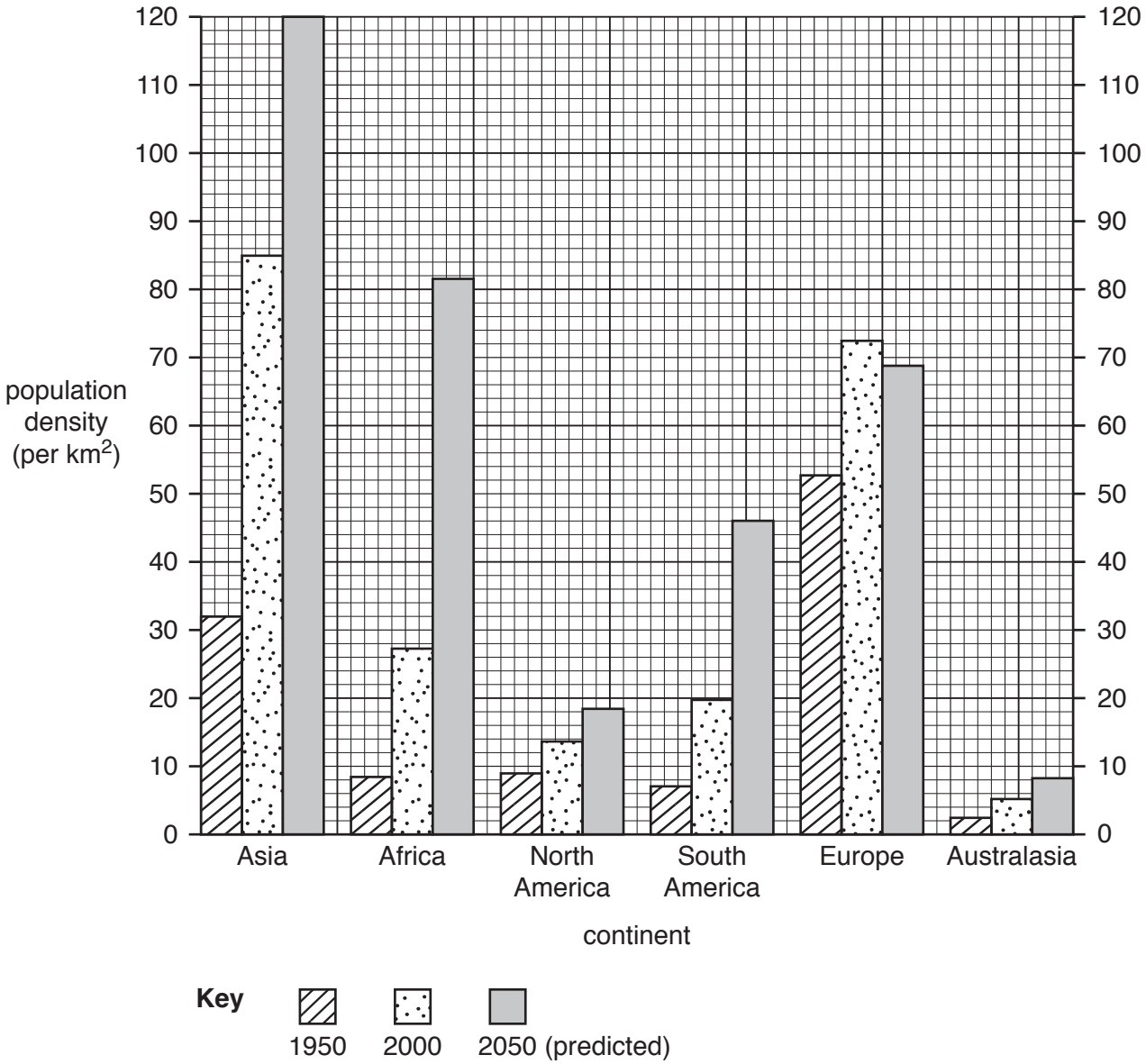

Fig. 1.1

(i) What does *population density* measure?

.....

.....[1]

(ii) Name the continent with:

- an increase in population density of over 50 per km^2 between 1950 and 2000

  .....

- a predicted decrease in population density between 2000 and 2050.

  ..... [2]

(iii) Parts of Australasia and North America are **under-populated**.
Explain why some areas are underpopulated.

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(iv) Describe the impacts of **over-population** on a country.

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(b) Study Fig. 1.2 (Insert), which is a photograph of an area which is sparsely populated.

(i) Explain how physical factors have influenced the population density and distribution in the area shown in Fig. 1.2.

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(ii) Explain why many areas with good transport networks are densely populated.

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(c) Explain the causes of an example of **international** migration you have studied.

Migration from ..... to .....

Explanation .....

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2 **(a)** Study Fig. 2.1, which shows an area near Quebec City in Canada (an MEDC).

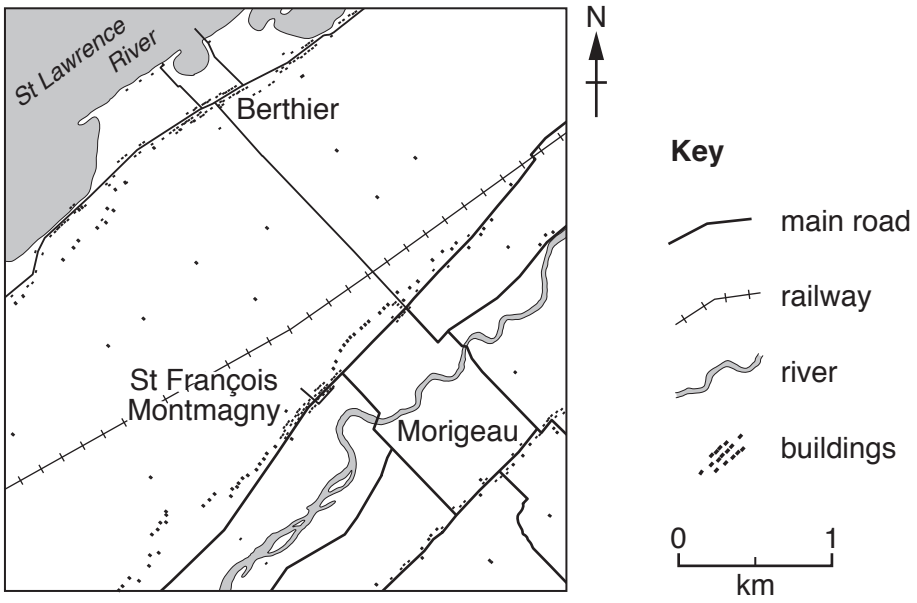

Fig. 2.1

(i) What is the settlement pattern of Morigeau, St François Montmagny and Berthier?

.....[1]

(ii) Using evidence from Fig. 2.1 **only**, give **two** reasons for the growth of a settlement at Berthier.

1 .....

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2 .....

.....[2]

(iii) Suggest reasons why there are no settlements between St François Montmagny and Morigeau.

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(iv) Identify the settlement pattern between St François Montmagny and Berthier and suggest possible reasons for this pattern.

Settlement pattern .....

Reasons .....

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.....[4]

(b) Study Fig. 2.2, which shows information about Quebec City.

With more than half of the world's population now living in cities, urban sprawl is a growing problem, particularly in North America, where large houses and two-car garages are common.

In Quebec City urban sprawl is increasing at a rapid rate. A recent study found that urban sprawl has been increasing since 1951. Between 1971 and 2001 the urban area increased by 250% but the population only increased by 50%. Along both the south and north of the St Lawrence river, urban sprawl stretches into the farming areas for many kilometres along the main highways. Residents of more distant settlements such as St François Montmagny are becoming increasingly concerned.

Fig. 2.2

(i) Explain why urban sprawl is occurring around urban areas such as Quebec City.

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(ii) Suggest reasons why residents of settlements such as St François Montmagny are becoming increasingly concerned by Quebec City's urban sprawl.

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(c) For **two** named settlements of different sizes you have studied, compare the service provision.

Name of settlement 1 .....

Name of settlement 2 .....

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[Total: 25]

Section B

Answer **one** question from this section.

3 **(a)** Study Fig. 3.1, which shows information collected by instruments at a weather station in Zagreb, Croatia, on one day in February 2017.

Weather instrument	What it measures	Reading on 17th February 2017
Maximum and minimum thermometer	Highest and lowest temperatures	Highest = 14 °C Lowest = –5 °C
Wet-and-dry bulb thermometer	Relative humidity	Dry bulb = 14 °C Wet bulb = 9 °C
Rain gauge	Amount of precipitation	0 mm
Barometer	Atmospheric pressure	1021 mb
Wind vane	Wind direction	North
Anemometer	Wind speed	8 km per hour

Fig. 3.1

(i) What was the diurnal (daily) range of temperature at Zagreb on 17th February 2017?

..... °C [1]

(ii) Use the data in Fig. 3.1, along with Fig. 3.2, a relative humidity table, to find the relative humidity at Zagreb on 17th February 2017.

You should show how you worked out your answer in the box below.

dry bulb temperature (°C)	difference between dry bulb and wet bulb temperature (°C)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	81	64	46	29	13											
2	84	68	52	37	22	7										
4	85	71	57	43	29	16										
6	86	73	60	48	35	24	11									
8	87	75	63	51	40	29	19	8								
10	88	77	66	55	44	34	24	15	6							
12	89	78	68	58	48	39	29	21	12							
14	90	79	70	60	51	42	34	26	18	10						
16	90	81	71	63	54	46	38	30	23	15	8					
18	91	82	73	65	57	49	41	34	27	20	14	7				
20	91	83	74	66	59	51	44	37	31	24	18	12	6			
22	92	83	76	68	61	54	47	40	34	28	22	17	11	6		
24	92	84	77	69	62	56	49	43	37	31	26	20	15	10	5	
26	92	85	78	71	64	58	51	46	40	34	29	24	19	14	10	5

Fig. 3.2

[2]

(iii) Identify the following from Fig. 3.1:

- a weather instrument which is kept inside a Stevenson screen

  .....

- a weather instrument which consists of a funnel and a measuring cylinder

  .....

- a weather instrument which should be positioned in an open area at least 10 metres above ground level.

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(iv) Explain how a wind vane is used to measure wind direction and an anemometer is used to measure wind speed.

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(b) Study Fig. 3.3, which is a climate graph for a location in the northern hemisphere.

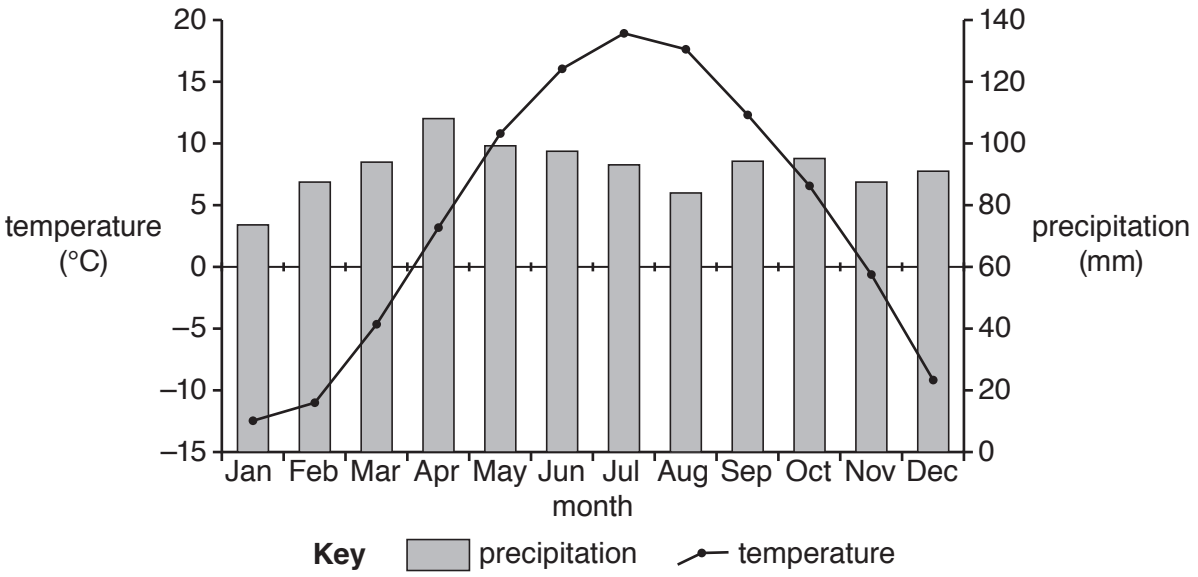

Fig. 3.3

(i) Describe the annual variation in temperatures shown in Fig. 3.3.
You should use statistics in your answer.

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(ii) Underline the month from the list below when you think flooding is most likely to occur at the location shown in Fig. 3.3.

January April August

Give reasons for your answer.

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(c) For a named river you have studied, describe the impacts of flooding.

Named river ....

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4 **(a)** Study Fig. 4.1, which shows information about the impacts of an earthquake in Italy, and Fig. 4.2, a map of its location.

> Emergency services are working in freezing conditions to find as many as 30 people feared trapped in a hotel in central Italy. It is now more than a day after the hotel was buried by an avalanche, as a large amount of snow slipped rapidly down the mountainside. The four-star Hotel Rigopiano, at the foot of the Gran Sasso mountain was covered by an avalanche of snow which is thought to have been triggered by an earthquake.
>
> Despite the fear of further avalanches, rescuers battled blizzards and strong winds to reach the site. They had to ski for several kilometres in the darkness to get there because roads were blocked. Road crews had cleared much of the snow and fallen trees by night time, finally allowing heavy rescue equipment to reach the hotel. Helicopters had earlier taken searchers, including dogs, up the mountain.

Fig. 4.1

Fig. 4.2

(i) Tick (✓) the **one** statement, in the box below, which best describes where the earthquake occurred.

40 km from Rome in northern Italy	
On Gran Sasso mountain, in the Abruzzo region	
On the coast in central Italy	
North east of Rome, in the Lazio region	

[1]

(ii) Suggest how the earthquake caused an avalanche of snow on Gran Sasso mountain.

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.....[2]

(iii) Using information from Fig. 4.1 **only**, give **three** reasons why rescuing people from the Hotel Rigopiano was difficult.

1 .....

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3 .....

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(iv) Explain why many people continue to live in areas which experience earthquakes.

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(b) Study Fig. 4.3 (Insert), which is a photograph of a crater on Tangkuban Perahu volcano in Indonesia.

(i) Using Fig. 4.3 **only**, describe **three** features of the crater of Tangkuban Perahu volcano.

1 .....

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(ii) Tangkuban Perahu volcano is located on a destructive plate boundary.
Explain why volcanoes erupt on destructive plate boundaries. You may include a labelled diagram.

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(c) For a named volcano you have studied, describe the impacts of a volcanic eruption.

Name of volcano ....

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[Total: 25]

Section C

Answer **one** question from this section.

5 **(a)** Study Fig. 5.1, which shows information about international tourist arrivals in Andalucia, a region in Spain (an MEDC) between 2001 and 2015.

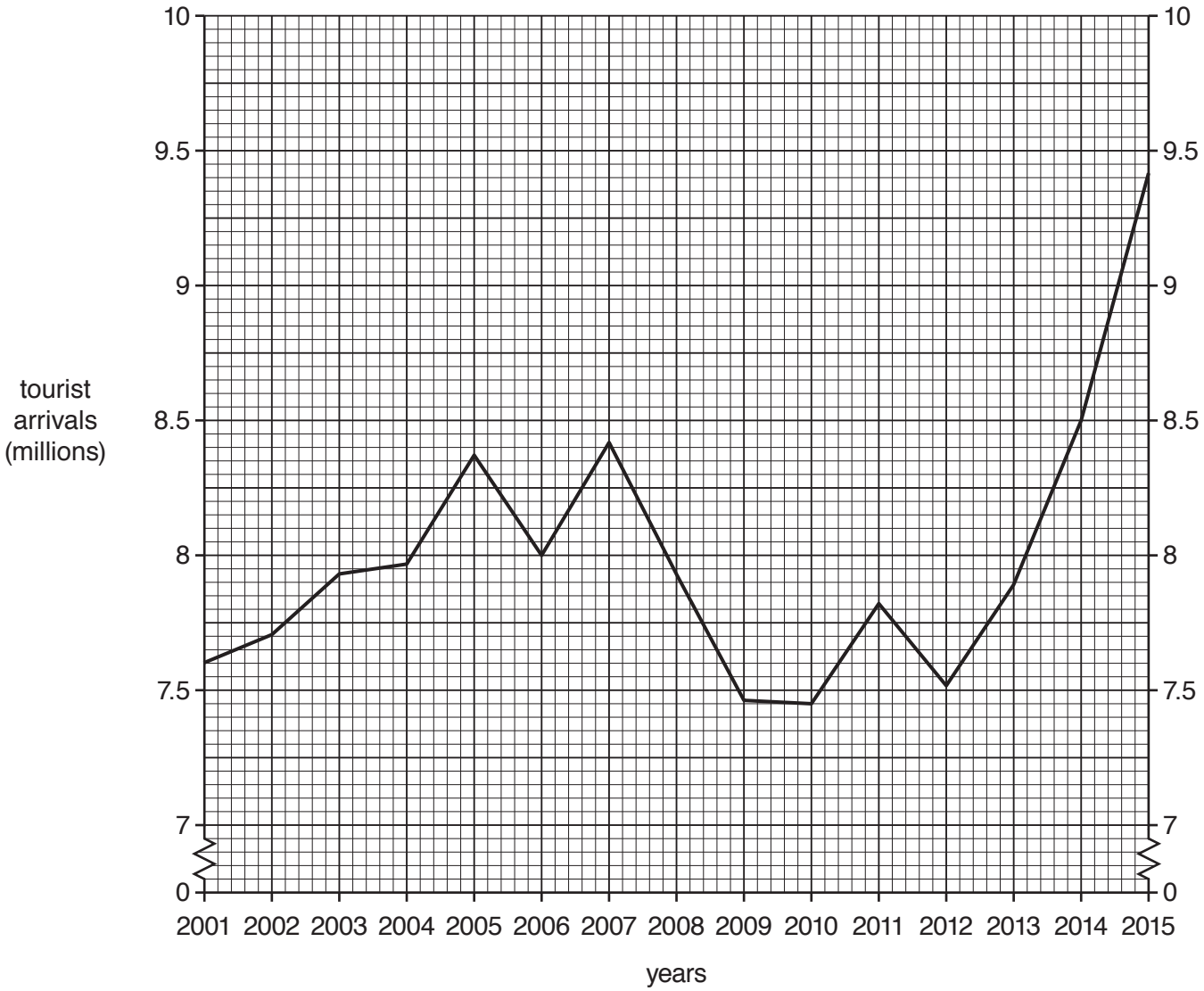

Fig. 5.1

(i) How many international tourists arrived in Andalucia in 2001?

..... million [1]

(ii) Describe the **overall** change in the numbers of international tourists arriving in Andalucia between 2001 and 2015. You should use statistics in your answer.

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.....[2]

(iii) Suggest reasons why the number of tourists visiting Andalucia varies from year to year.

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(b) Study Figs. 5.2 and Fig. 5.3 (Insert), which are photographs taken in Andalucia.

(i) Describe **three** different attractions to tourists of the area shown in Figs. 5.2 and 5.3.

1 .....

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(ii) Explain **two** likely benefits of tourism for local people in Andalucia.

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(iii) Suggest ways in which the tourist industry is likely to threaten the natural environment in Andalucia.

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(c) For a named tourist destination or region you have studied, explain how tourism is managed so that it is sustainable.

Name of destination or region .....

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[Total: 25]

6 **(a)** Study Fig. 6.1 (Insert), which shows information on sources of energy which were used in Japan in 2013 and are planned to be used in 2030.

(i) What was the main source of energy used in Japan in 2013?

. ..... [1]

(ii) State **two** pieces of evidence from Fig. 6.1 that Japan plans to reduce the use of fossil fuels by 2030.

1 .....

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2 .....

.....[2]

(iii) Explain how it will benefit Japan to reduce the use of imported fossil fuels and use more renewable energy.

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(iv) Japan plans to increase its use of nuclear power.
Suggest **two** benefits and **two** possible problems for Japan of using more nuclear power.

Benefit 1 .....

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Benefit 2 .....

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Problem 1 .....

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Problem 2 .....

.....[4]

(b) Study Fig. 6.2 (Insert), which is a photograph showing an area where electricity is generated using solar panels and wind turbines in Madeira, a Portuguese island in the Atlantic Ocean.

(i) Suggest why these methods of electricity generation are possible in this location.

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(ii) There is a proposal to extend the area where solar power is being generated into area **X**. Explain why some people are likely to support this proposal but other people will be against it.

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(c) For a named country you have studied, explain how **water supply** is being managed to ensure future supplies.

Name of country .....

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Additional Pages

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