Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

GCSE
GEOGRAPHY

Paper 2 Challenges in the Human Environment

Wednesday 5 June 2019 Afternoon Time allowed: 1 hour 30 minutes

Materials
For this paper you must have:
- the OS key insert (enclosed)
- a pencil
- a rubber
- a ruler.

You may use a calculator.

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.

Answer all questions in Section A and Section B.

Answer Question 3 and one other question in Section C.

- 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.

Information
- The marks for questions are shown in brackets.
- The total number of marks available for this paper is 88.
- Spelling, punctuation, grammar and specialist terminology will be assessed in Question **01.10**.
- HIC is a higher income country.
- LIC is a lower income country.
- NEE is a newly emerging economy.

For Examiner's Use	
Question	Mark
1	
2	
3	
4	
5	
6	
TOTAL	

Do not write outside the box

For the multiple-choice questions, shade the circle next to the correct answer.

CORRECT METHOD ⬬ WRONG METHODS ⊗ ⦿ ≋ ✓

If you want to change your answer you must cross out your original answer as shown. ⬬

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. ⬬

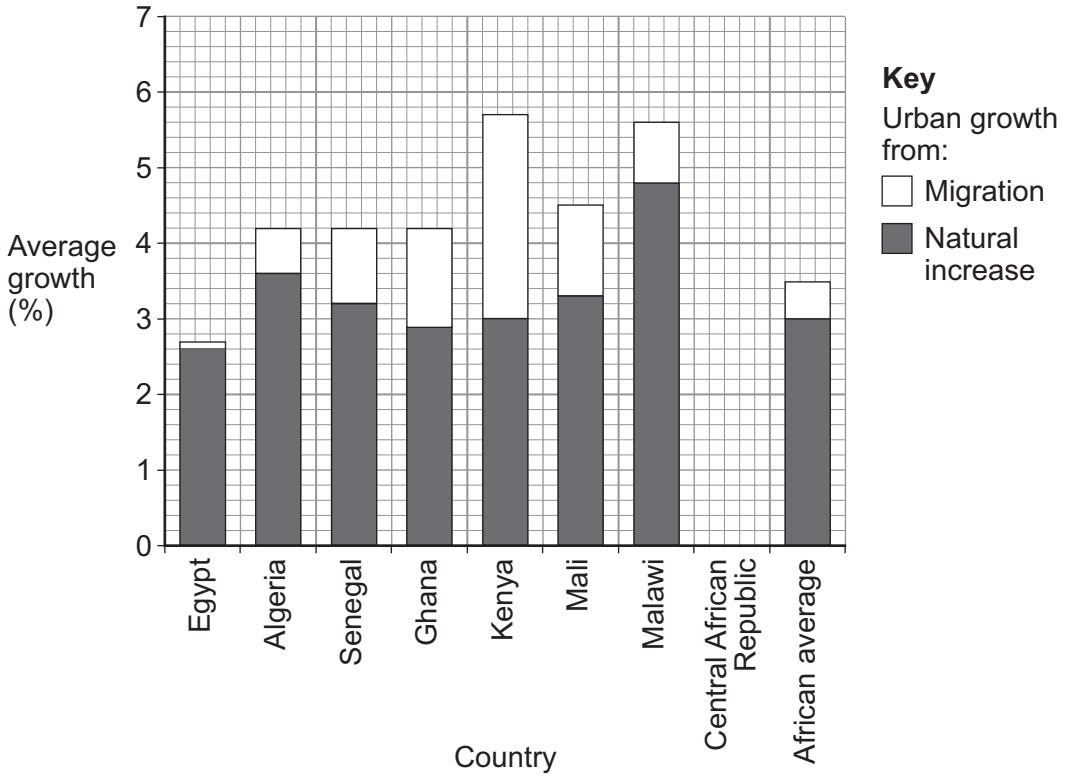
Section A Urban issues and challenges

Answer **all** questions in this section.

Question 1 **Urban issues and challenges**

Study **Figure 1**, a graph showing the average annual urban growth rates for selected African countries, 1960–2010.

Figure 1



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0 1 . 1 Use the following data to complete **Figure 1**.

[2 marks]

Country	Natural increase (%)	Migration (%)
Central African Republic	2.4	1.1

0 1 . 2 Outline **one** reason why rates of natural increase are high in many cities in LIC/NEEs.

[2 marks]

_____

_____

_____

_____

0 1 . 3 Give **one** way in which a major city in a LIC/NEE is internationally important.

[1 mark]

Name of city: _____

International importance: _____

_____

_____

Question 1 continues on the next page

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Study **Figure 2**, maps and information about the Kendal Industrial Park in Java, Indonesia.

Figure 2

Kendal Industrial Park information cannot be reproduced here due to third-party copyright restrictions.

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0 1 . 4 Explain how urban industrial areas can help encourage development.

Use **Figure 2** and your own understanding.

[6 marks]

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Question 1 continues on the next page

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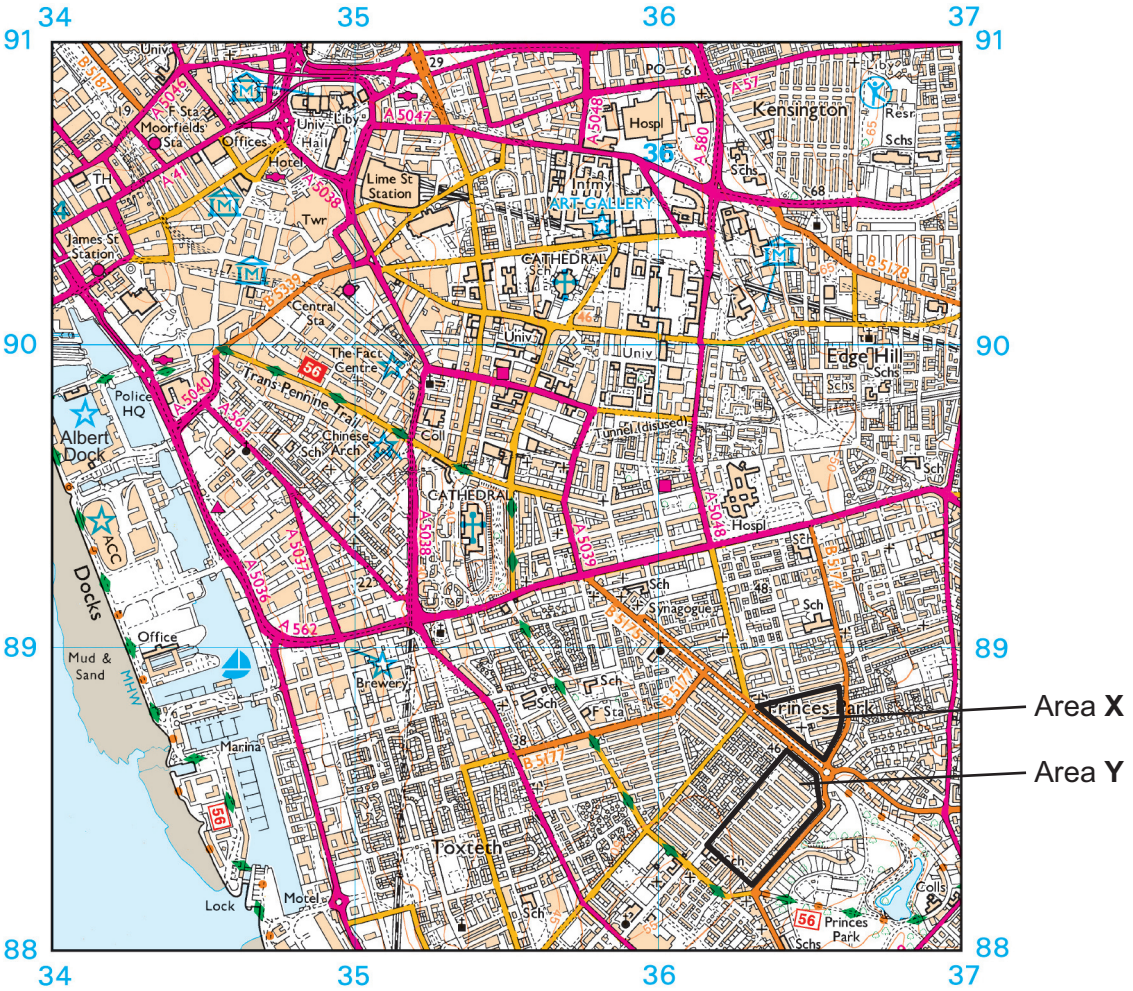
Study **Figure 3**, a 1:25 000 Ordnance Survey map showing part of Liverpool, a city in the UK.

Areas **X** and **Y** show two areas of urban regeneration.

Figure 3



N

Scale 1: 25 000

4 centimetres to 1 kilometre (one grid square)

1 0 Kilometres 1

1 ¾ ½ ¼ 0 Miles 1

1 Kilometre = 0·6214 mile

1 Mile = 1·6093 kilometres

Do not write outside the box

0 1 . 5 What is the approximate area covered by Area **Y**?

Shade **one** circle only.

[1 mark]

A 0.1 km^2 ⬭

B 0.4 km^2 ⬭

C 0.7 km^2 ⬭

D 1.0 km^2 ⬭

0 1 . 6 Give the four-figure grid reference for the Albert Dock.

[1 mark]

_____

0 1 . 7 Describe the location of Area **X**.

[2 marks]

_____

_____

_____

_____

Question 1 continues on the next page

Do not write outside the box

Study **Figure 4**, showing some information about Area **X** and some photographs of Area **Y**.

Figure 4

Area X: Granby Four Streets

- Houses renovated for affordable rent and low-cost ownership
- Derelict houses turned into an 'indoor garden' with glass roof
- Monthly street market
- Regeneration scheme won the Turner Prize for art

Area Y: Veolas Street before and after regeneration

0 1 . 8 Explain how regeneration can help to solve urban problems.

Use **Figure 4** and your own understanding.

[4 marks]

Extra space

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0 1 . 9 Complete the following factfile for a UK city you have studied.

[2 marks]

Name of UK city	
Location in the UK	
Importance in the UK	

0 1 . 1 0 To what extent has urban change created social and economic opportunities in a UK city you have studied?

[9 marks]
[+3 SPaG marks]

Name of UK city _____

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Extra space

33

End of Section A

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Turn over for the next question

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ANSWER IN THE SPACES PROVIDED

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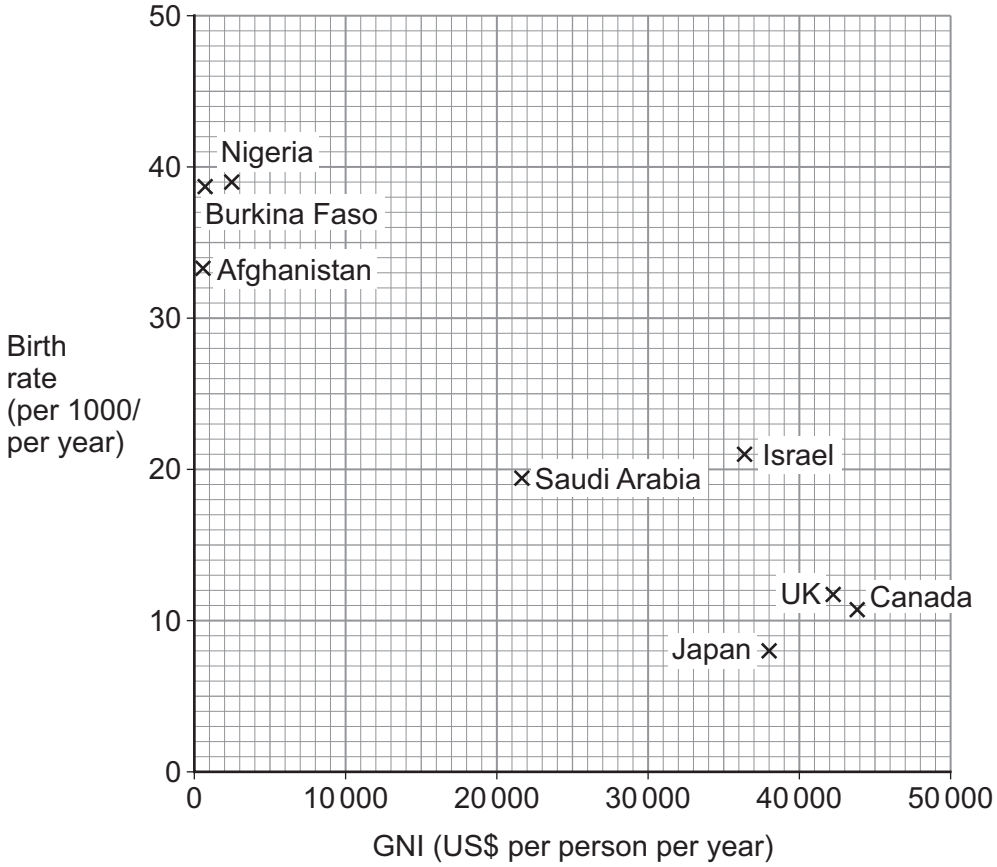
Section B The changing economic world

Answer **all** questions in this section.

Question 2 **The changing economic world**

Study **Figure 5**, a scattergraph showing Gross National Income (GNI) and birth rate for selected countries in 2016.

Figure 5



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0 2 . 1 Plot the following data on to **Figure 5**.

[1 mark]

Country	**Birth rate (per 1000/per year)**	**GNI (US$ per person)**
Germany	9	44 000

0 2 . 2 Draw a best fit line on **Figure 5**.

[1 mark]

0 2 . 3 'Japan is in stage 5 of the Demographic Transition Model (DTM) and is a highly developed country.'

Explain this statement.

Use **Figure 5** and your own understanding.

[3 marks]

0 2 . 4 Outline how **one** historical factor can lead to uneven development.

[2 marks]

Question 2 continues on the next page

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0 2 . 5 Explain how fairtrade can reduce the development gap.

[4 marks]

Extra space

Question 2 continues on page 16

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Turn over for the next question

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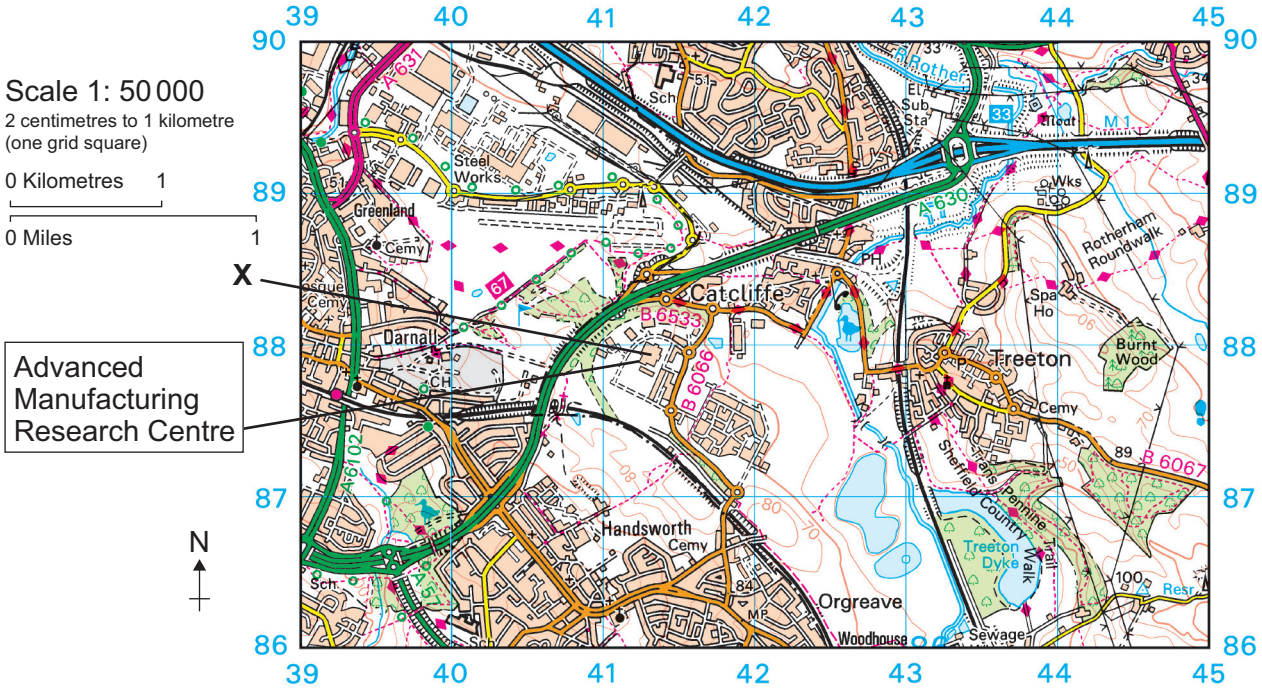
Study **Figure 6**, a 1:50 000 Ordnance Survey map of an area to the east of Sheffield, a city in the UK.

Figure 6



0 2 . 6 Using **Figure 6**, give the six-figure grid reference for the centre of the motorway junction.

Shade **one** circle only.

[1 mark]

A 403870

B 423884

C 430891

D 433892

0 2 . 7 Using **Figure 6**, what is the straight line distance from the building labelled **X** to the railway station to the west?

Shade **one** circle only.

[1 mark]

A 200 m

B 1 km

C 2 km

D 4 km

Do not write outside the box

Study **Figure 7**, a photograph of part of the area shown in **Figure 6**.

Figure 7

0 2 . 8 Using **Figure 6** and **Figure 7**, in which direction was the photographer facing when the photograph was taken?

Shade **one** circle only.

[1 mark]

A North west ⬭

B North east ⬭

C South west ⬭

D South east ⬭

0 2 . 9 **Figure 7** shows the location of Sheffield University's Advanced Manufacturing Research Centre.

Use **Figure 7** to describe **one** characteristic of the Centre's location.

[1 mark]

_____

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Question 2 continues on the next page

Do not write outside the box

Study **Figure 8**, some information about Sheffield University's Advanced Manufacturing Research Centre.

Figure 8

- Built on land reclaimed from coal mining
- A brownfield site
- Combines research and science firms
- Focuses on future technology
- Europe's largest advanced manufacturing park

0 2 . 1 0 Suggest how the UK is moving towards a post-industrial economy.

Use **Figure 8** and your own understanding.

[6 marks]

Extra space

Do not write outside the box

0 2 . 1 1 Using a case study of a LIC/NEE, evaluate the effects of economic development on the population's quality of life.

[9 marks]

Name of country _____

Extra space _____

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30

End of Section B

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ANSWER IN THE SPACES PROVIDED

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Section C The challenge of resource management

Answer **Question 3** and

either Question 4 **or** Question 5 **or** Question 6.

Question 3 **The challenge of resource management**

Study **Figure 9**, a table showing mango imports into the UK, 2012–2016.

Figure 9

Year	Mango imports (1000 tonnes)
2012	38
2013	47
2014	47
2015	56
2016	66

0 3 . 1 Calculate the percentage increase in mango imports into the UK between 2012 and 2016.

Answer to the nearest whole percentage.

[2 marks]

Show your working

Nearest whole percentage =

0 3 . 2 State **one** environmental effect of the increase shown in **Figure 9**.

[1 mark]

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0 3 . 3 Outline **one** advantage of sourcing food locally in the UK.

[2 marks]

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Question 3 continues on the next page

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Study **Figure 10**, comments from a government report into water quality and pollution in the UK.

Figure 10

The Environment Agency has asked water companies and farmers to reduce the number of pollution incidents harming England's waters. They have also said penalties for pollution should be made tougher.

The number of serious pollution incidents has reduced since 2001, but there were still 317 in 2016.

The most common reasons for rivers having poor water quality were pollutants from farmland and sewage. These produce algae and reduce oxygen levels in the water.

The Environment Agency says population growth, climate change and plastic pollution are some of the main threats to water quality in the future.

0 3 . 4 Discuss the challenges of managing water quality and pollution in the UK.

Use **Figure 10** and your own understanding.

[6 marks]

Extra space

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11

End of Question 3

Turn over for the next question

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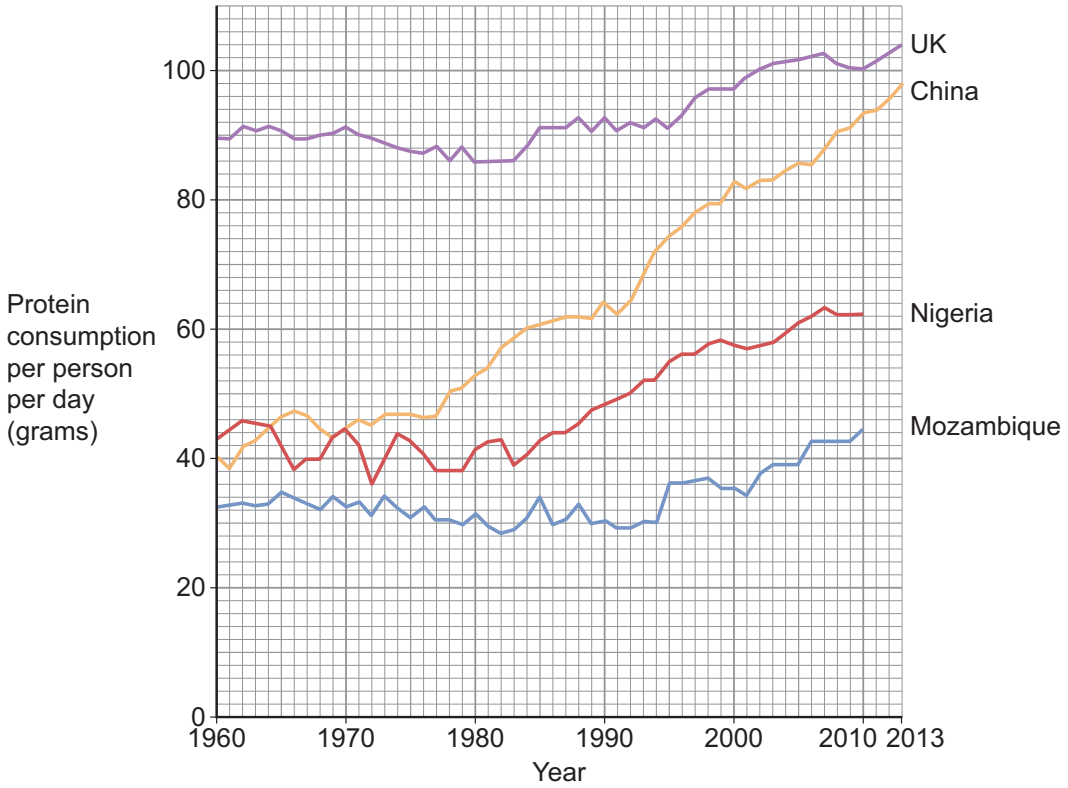
Answer **either** Question 4 **or** Question 5 **or** Question 6.

Question 4 **Food**

Study **Figure 11**, a graph showing daily protein consumption for selected countries, 1960–2013.

Figure 11



0 4 . 1 What was the difference in protein consumption per person per day between China and the UK in 2013?

[1 mark]

_____

0 4 . 2 Complete **Figure 11** using the following data.

Country	Daily protein consumption 2013
Nigeria	64 grams
Mozambique	46 grams

[2 marks]

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0 4 . 3 Describe the trend for China shown in **Figure 11**.

[2 marks]

0 4 . 4 Suggest why food consumption in a country might change over time.

[3 marks]

Question 4 continues on the next page

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0 4 . 5 ‘A large scale agricultural development can bring both advantages and disadvantages.’

Explain this statement using an example you have studied.

[6 marks]

Name of development _____

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14

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Question 5 **Water**

Study **Figure 12**, information about the water crisis in Cape Town, a city in South Africa, a LIC/NEE country.

Figure 12

Restrictions on the amount of water available per person per day:

- 19 May 2017–100 litres
- 3 Sep 2017–90 litres
- 1 Feb 2018–50 litres
- If the water crisis continues people will be rationed to 25 litres.

For comparison, the average Californian usage – 321 litres per person per day.

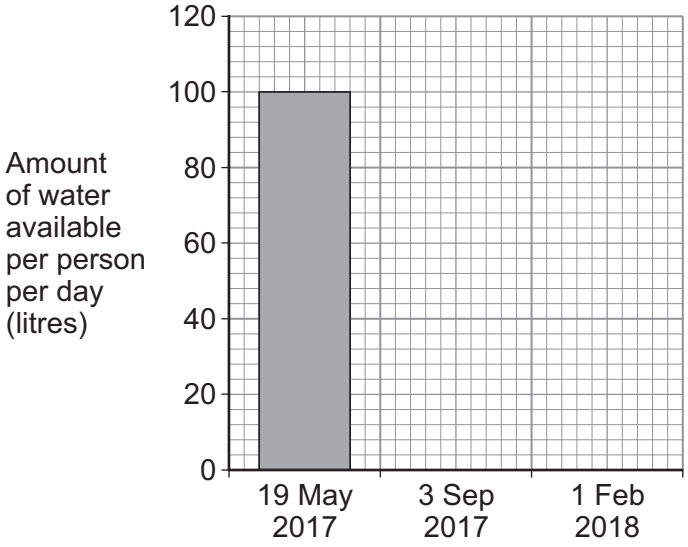
0 5 . 1 Calculate the difference between the average Californian usage and restrictions in Cape Town on 1 February 2018.

[1 mark]

_____

Study **Figure 13**, a graph showing how the water restrictions in Cape Town have changed.

Figure 13



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0 5 . 2 Use the data in **Figure 12** to complete the graph in **Figure 13**.

[2 marks]

0 5 . 3 Describe the trend shown in **Figure 13**.

[2 marks]

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0 5 . 4 Outline **one or more** likely impacts of water insecurity.

[3 marks]

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Question 5 continues on the next page

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0 5 . 5 'A large scale water transfer scheme can bring both advantages and disadvantages.'

Explain this statement using an example you have studied.

[6 marks]

Name of scheme _____

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14

End of Question 5

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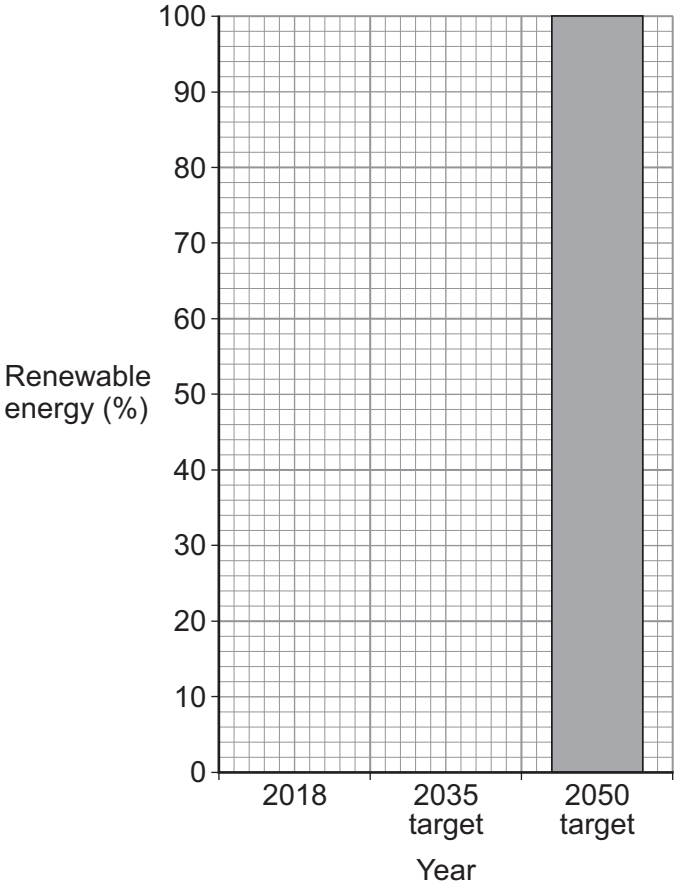
Question 6 **Energy**

Study **Figure 14**, a graph showing the percentage of energy from renewable sources in the Balearic Islands, a region of Spain.

Figure 14



0 6 . 1 Complete **Figure 14** using the following data.

Year	Renewable energy (%)
2018	4
2035 target	35

[2 marks]

0 6 . 2 Calculate the difference between the 2018 percentage from renewable energy and the 2035 target.

[1 mark]

Question 6 continues on the next page

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Study **Figure 15**, a newspaper article about energy in the Balearic Islands.

Figure 15

Balearic Islands turn to sunshine in shift to 100% green energy

The Balearics rely heavily on expensive and dirty fossil fuels. The local government has a plan to use 100% renewable energy by 2050.

New diesel cars will be banned. There will be charging points for electric cars and street lights will use LEDs.

There are plans for large solar energy farms across the islands. Some people are against these plans.

Conservation groups have instead suggested solar panels on rooftops. The Spanish government prefers to expand renewable energy on the mainland and export it to the islands with undersea cables.

0 6 . 3 State **two** alternatives to large solar energy farms suggested in **Figure 15**.

[2 marks]

1 _____

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2 _____

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0 6 . 4 Suggest how energy supply issues can lead to conflict.

[3 marks]

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0 6 . 5 ‘Extraction of fossil fuels can bring both advantages and disadvantages.’

Explain this statement using an example you have studied.

[6 marks]

Name of fossil fuel _____

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14

END OF QUESTIONS

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