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Write your name here

Surname	Other names

Edexcel
International GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Geography

Unit: 4GE0
Paper: 01

Friday 25 May 2012 – Morning
Time: 2 hours 45 minutes

Paper Reference
4GE0/01

Materials required for examination:
Ruler, pencil and pen

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- This paper is arranged in three sections, A, B and C.
  In Section A, answer TWO questions. In Section B, answer TWO questions.
  In Section C, answer ONE question.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Information

- The total mark for this paper is 150.
- The marks for **each** question part are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- The following abbreviations are used: LIC – low-income country, MIC – middle-income country, HIC – high-income country, NIC – newly-industrialised country, CBD – Central Business District.

Advice

- Write your answers neatly and in good English.

Turn over ▶

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SECTION A – THE NATURAL ENVIRONMENT AND PEOPLE

Answer TWO questions only from this section.

Put a cross in the box indicating the question you have chosen to answer ☒.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.

If you answer Question 1 put a cross in the box ☒ .

1 River environments

(a) Study Figure 1, which shows a river and the uses made of its water and valley.

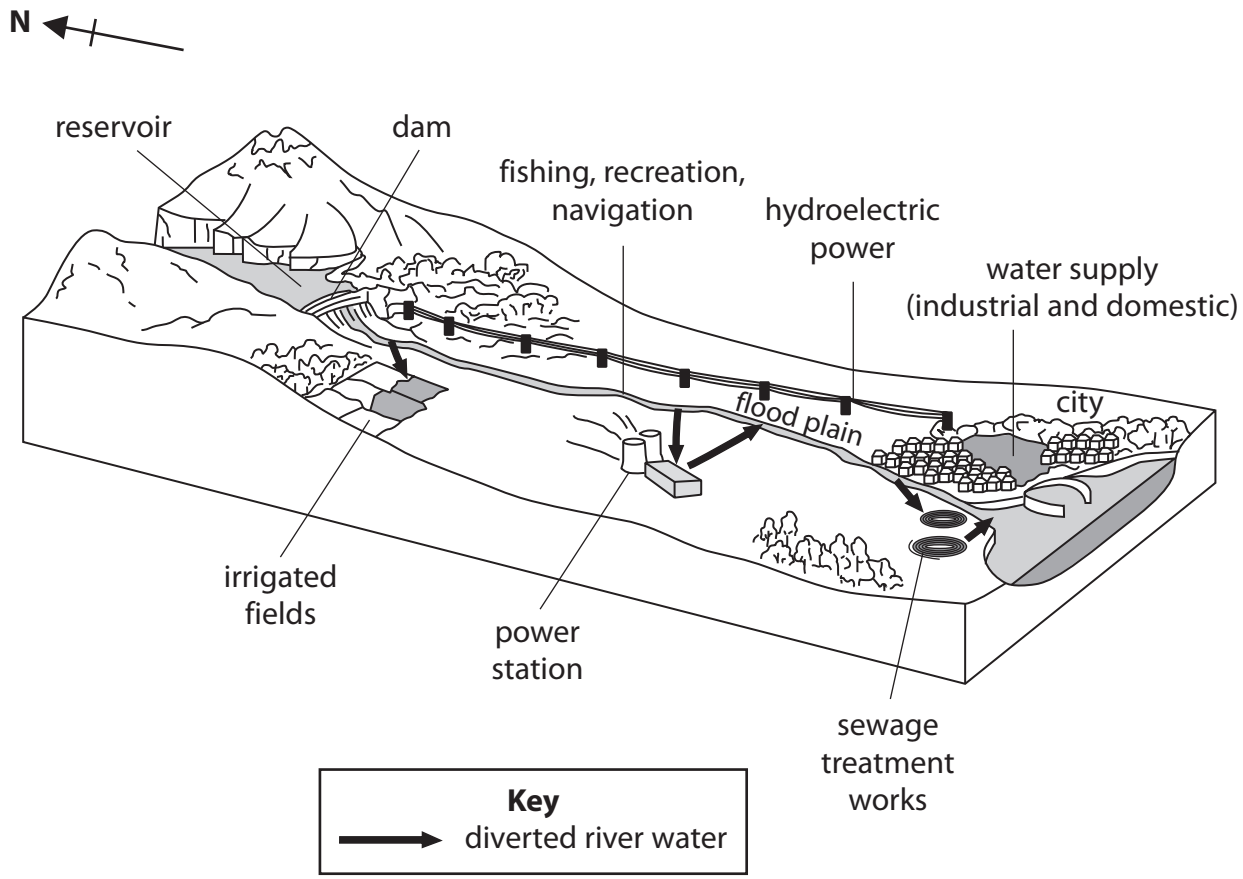

Figure 1

(i) Which **one** of the following features of the river is located close to the city?
Put a cross in the correct box.

(1)

☒ **A** mouth

☒ **B** source

☒ **C** meander

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(ii) In which direction is the river flowing?

(1)

.....

(iii) Give **three** sources of river pollution in this river basin.

(3)

1 .....

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2 .....

.....

3 .....

.....

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(b) (i) What is a flood plain?

(2)

(ii) Explain the formation of an oxbow lake.
Diagrams may help your answer.

(4)

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(iii) Give **two** reasons why the demand for water is increasing in urban areas.

(4)

1 .....

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2 .....

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(c) Describe how you would collect data in the field to investigate the quality of river water.
Diagrams may help your answer.

(6)

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(d) Explain the advantages and the disadvantages of a named dam or reservoir project.

(9)

Name of project: .....

(Total for Question 1 = 30 marks)

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If you answer Question 2 put a cross in the box ☒ .

2 Coastal environments

(a) Study Figure 2a, which shows some coastal landforms and ecosystems.

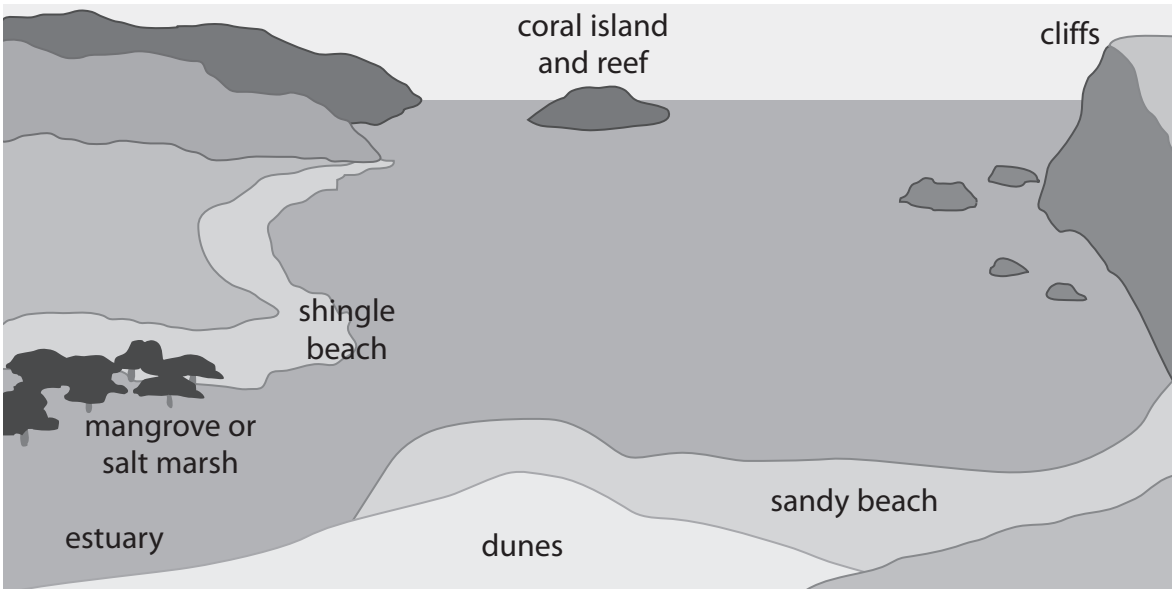

Figure 2a

(i) Name the landform which is made of:

(2)

1. sand or shingle

.....

2. hard rock

.....

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(ii) Name **two** coastal ecosystems.

(2)

1 .....

2 .....

(iii) Which **one** of the following is a major influence on the distribution of coastal ecosystems?

(1)

☒ **A** rainfall

☒ **B** sediment supply

☒ **C** deep-sea fishing

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(b) (i) What is an estuary?

(2)

(ii) Explain the formation of a beach.
A diagram may help your answer.

(4)

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(iii) Give **two** ways in which coastal ecosystems are threatened by economic development.

(4)

1 .....

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2 .....

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(c) Describe how you would collect data in the field to investigate a beach. Diagrams may help your answer.

(6)

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(d) Explain how a named area of coral reef or mangrove is being managed.

(9)

Name of area: .....

(Total for Question 2 = 30 marks)

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If you answer Question 3 put a cross in the box ☒ .

3 Hazardous environments

(a) Study Figure 3, which shows the estimated area affected by the ash cloud produced by an erupting volcano in Iceland during April 2010.

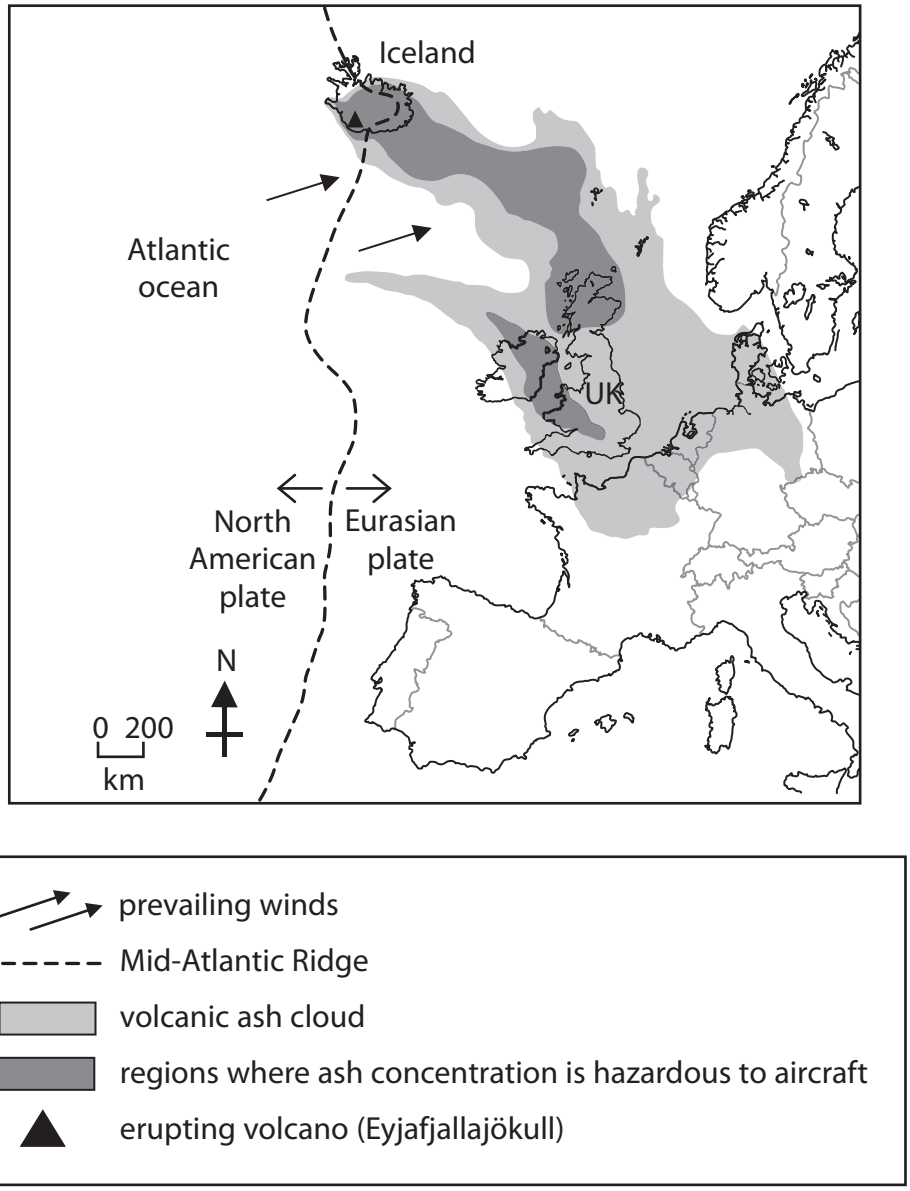

Figure 3

(i) What is the prevailing wind direction over Iceland?

(1)

.....

.....

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(ii) What was the main direction in which ash travelled from Iceland?
Put a cross in the correct box.

(1)

- ☒ **A** north-west
- ☒ **B** south-east
- ☒ **C** south-west

(iii) How would the situation over the United Kingdom (UK) have been different had the wind been blowing from its prevailing direction?

(1)

.....

.....

(iv) Suggest **two** likely impacts of the ash cloud on the UK.

(2)

1 .....

.....

2 .....

.....

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(b) The volcano that erupted in 2010 is one of 35 large active volcanoes in Iceland.

(i) What is an active volcano?

(2)

(ii) With reference to Figure 3, explain why there are active volcanoes in Iceland. A diagram may help your answer.

(4)

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(iii) Give **two** reasons why people continue to live in volcanic areas.

(4)

1 .....

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2 .....

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(c) Describe how you would collect and record data in the field to investigate wind and temperature conditions.

(6)

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(d) Explain how hazard management affected how people coped with **one** named tectonic event.

(9)

Named tectonic event: .....

(Total for Question 3 = 30 marks)

TOTAL FOR SECTION A = 60 MARKS

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SECTION B – PEOPLE AND THEIR ENVIRONMENTS

Answer TWO questions only from this section.

If you answer Question 4 put a cross in the box ☒ .

4 Economic activity and energy

(a) Study Figure 4a, which shows how each of the employment sectors contributed to the GDP (Gross Domestic Product) of an HIC.

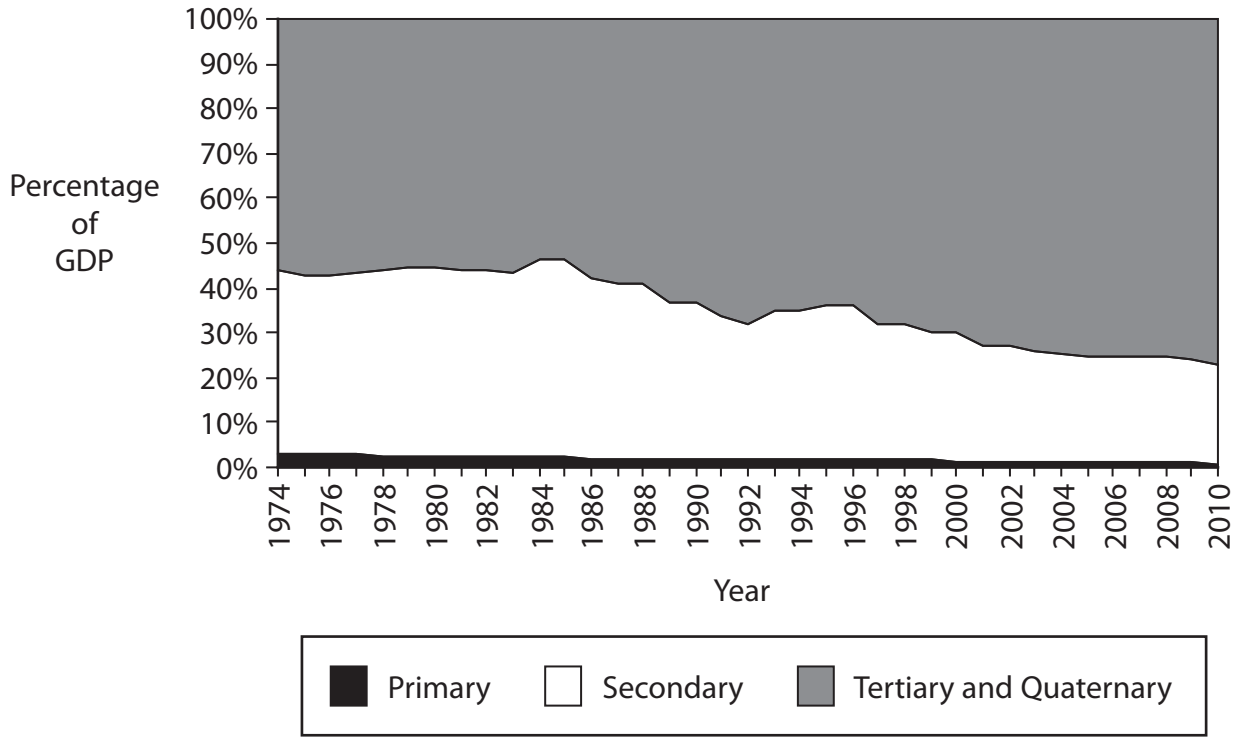

Figure 4a

(i) What percentage of GDP did the tertiary and quaternary sectors contribute in 2010?
Put a cross in the correct box.

(1)

☒ 57

☒ 67

☒ 77

(ii) Which employment sector includes agriculture?

(1)

☒ primary

☒ secondary

☒ tertiary

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(iii) With reference to Figure 4a, state how the contribution of the secondary sector changed between 1986 and 2010.

(1)

(iv) Describe **one** effect that the change in the secondary sector between 1991 and 2010 has had on a named area of an HIC.

(3)

Name of area: .....

(b) (i) State **three** characteristics of informal employment.

(3)

1 .....

2 .....

3 .....

(ii) Give reasons for the importance of the primary sector and informal employment in most LICs.

(4)

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(c) Study Figure 4b, which shows the results of a questionnaire survey of 50 people on their views about the use of renewable and non-renewable energy.

STATEMENT	Agree	Disagree	Don't know
1 Using renewable energy will slow down global warming	38	2	10
2 Cleaner air will result from using renewable energy sources	46	0	4
3 Renewable sources are not as efficient at producing energy as non-renewable sources	28	10	12
4 Renewable sources, e.g. wind farms, can be visually unattractive	20	25	5
5 Extracting non-renewable energy, e.g. coal, can be dangerous	40	6	4
6 Renewable energy offers a more sustainable future	16	14	20

Figure 4b

(i) Complete Figure 4c for statements 4 and 5 on Figure 4b.

(2)

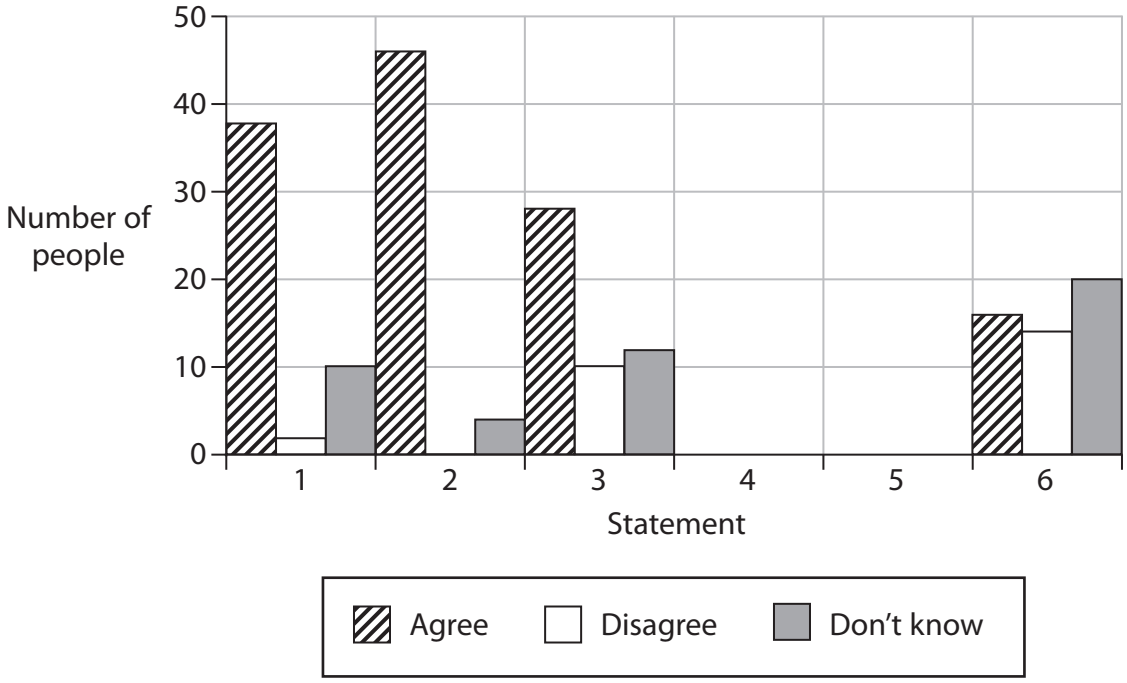

Figure 4c

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(ii) What conclusions can be reached about people's views on the use of renewable and non-renewable energy?

(6)

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(d) Explain the factors affecting the location and growth of **one** named high-tech manufacturing industry.

(9)

Name of high-tech manufacturing industry: .....

(Total for Question 4 = 30 marks)

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If you answer Question 5 put a cross in the box ☒ .

5 Ecosystems and rural environments

(a) Study Figure 5a, which shows a cycle of poverty in a rural area of an LIC.

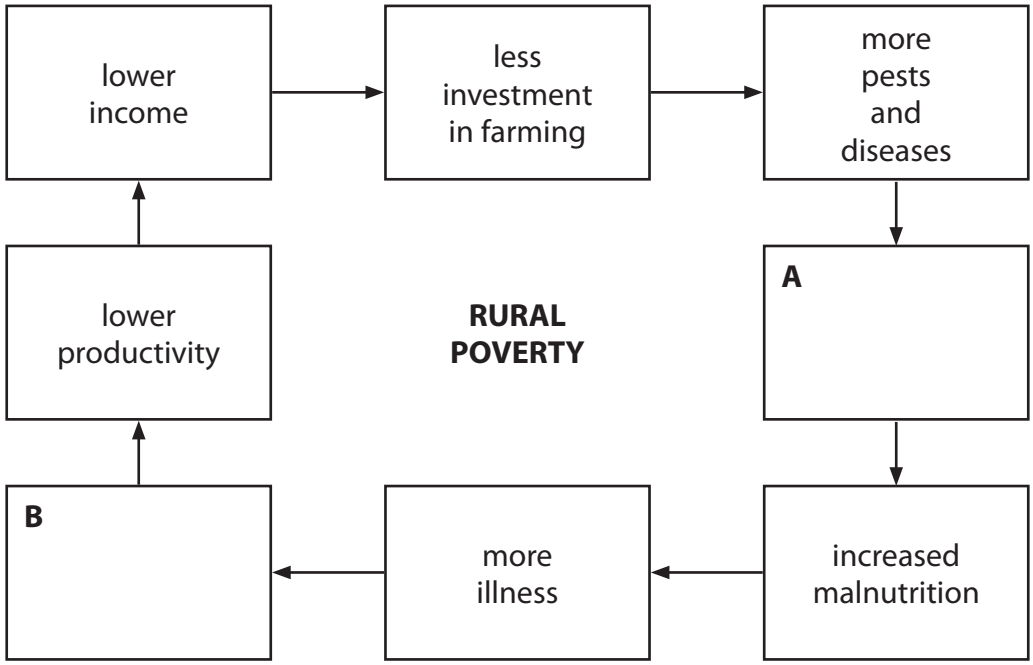

Figure 5a

(i) Complete boxes **A** and **B** by correctly using **two** of the following labels.

(2)

poor water	fewer working hours	more working hours
overproduction	food shortage	higher income

(ii) State **two** ways in which less investment in farming could lead to the occurrence of more pests and diseases on the farm.

(2)

1 .....

.....

2 .....

.....

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(iii) Which of the following types of farming is suggested by Figure 5a?
Put a cross in the correct box.

(1)

- ☒ **A** commercial
- ☒ **B** extensive
- ☒ **C** subsistence

(iv) Give a reason for your answer to (iii).

(1)

.....

.....

(b) (i) Explain how food shortages are a cause of rural population change in some LICs.

(3)

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(ii) Describe **two** ways in which food production in some LICs is being increased.

(4)

1 .....

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2 .....

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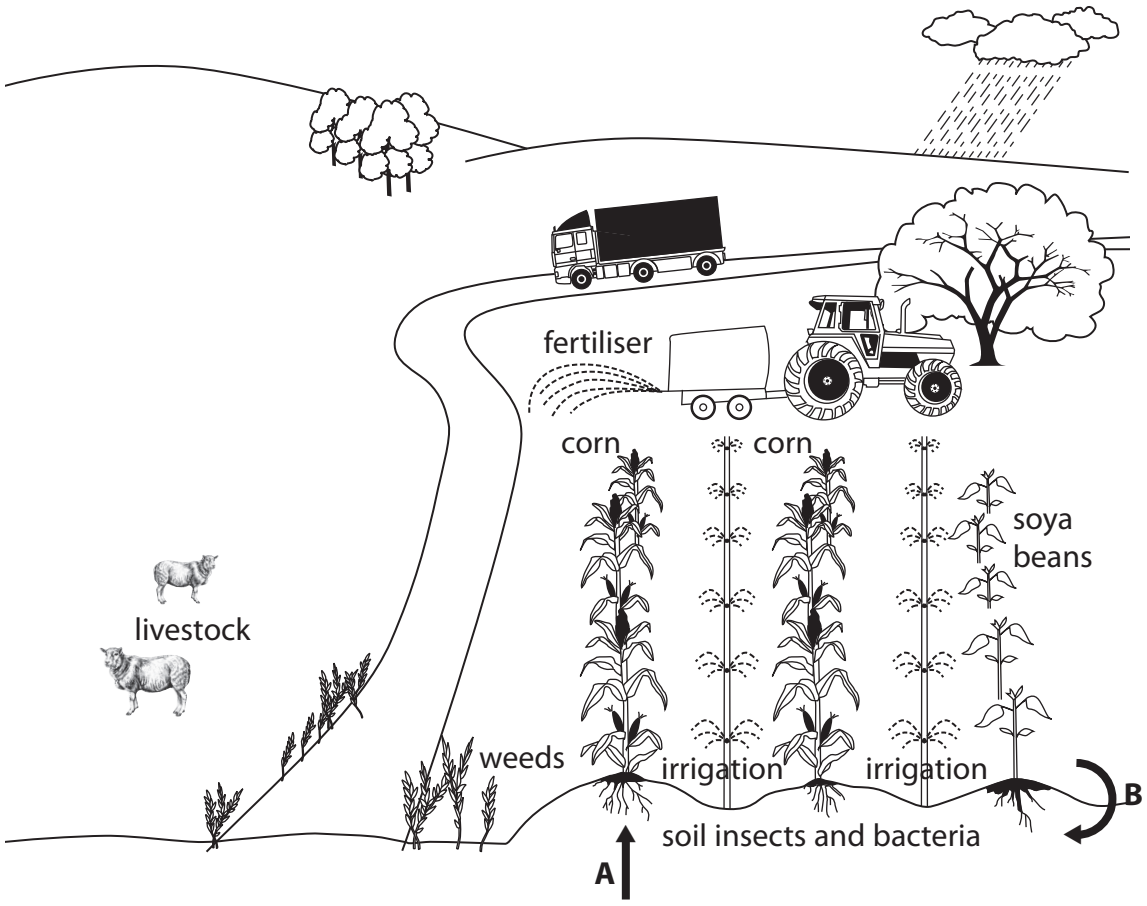
(c) Study Figure 5b, which is a field sketch of a farm.



A	plants feed on soil, water and nutrients
B	soil nutrients created by dead plants, insects and bacteria

Figure 5b

(i) Add arrowed labels to the sketch for **two** of the following field observations.

(2)

- animal waste fertilises soil
- bees pollinate crops
- soya beans fix nitrogen in soil
- weeds take water and nutrients from corn and soya beans

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(ii) What evidence is there in the field sketch to conclude that this farm is a system in operation?

(6)

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(d) Explain why **either** a named national park **or** a named protected area was chosen for conservation.

(9)

Name of national park or protected area: .....

(Total for Question 5 = 30 marks)

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If you answer Question 6 put a cross in the box ☒ .

6 Urban environments

(a) Study Figure 6a, which is a cartoon about urban life.



Figure 6a

(i) What is the urban problem highlighted by the cartoon?
Put a cross in the correct box.

(1)

☒ **A** crime

☒ **B** congestion

☒ **C** poverty

(ii) Give **one** piece of evidence which suggests that the cartoon is set close to a CBD.

(1)

.....

.....

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(iii) State **three** problems associated with rapid urbanisation other than the one highlighted in Figure 6a.

(3)

1 .....

.....

2 .....

.....

3 .....

.....

(iv) What term is used to describe the world's largest cities?

(1)

.....

.....

(b) (i) Explain the difference between a greenfield site and a brownfield site.

(3)

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(ii) With reference to HICs, describe how inner-city areas outside the CBD are changing.

(4)

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(c) Study Figure 6b, which shows the results of an environmental quality (EQ) survey at five sites in a town in an HIC.

Site		Street cleanliness score	Outside appearance of buildings score	Occupancy of buildings score	Total EQ score
1	(CBD core)	4	4	5	13
2	(CBD edge)	3	3	2	8
3	(Inner city)	4	3	3	10
4	(Inner city regenerated)	5	3	4	12
5	(Suburbs)	5	5	5	15

1 = very low quality. 5 = very high quality.

Figure 6b

(i) Plot the Total EQ scores for sites 4 and 5 on Figure 6c.

(2)

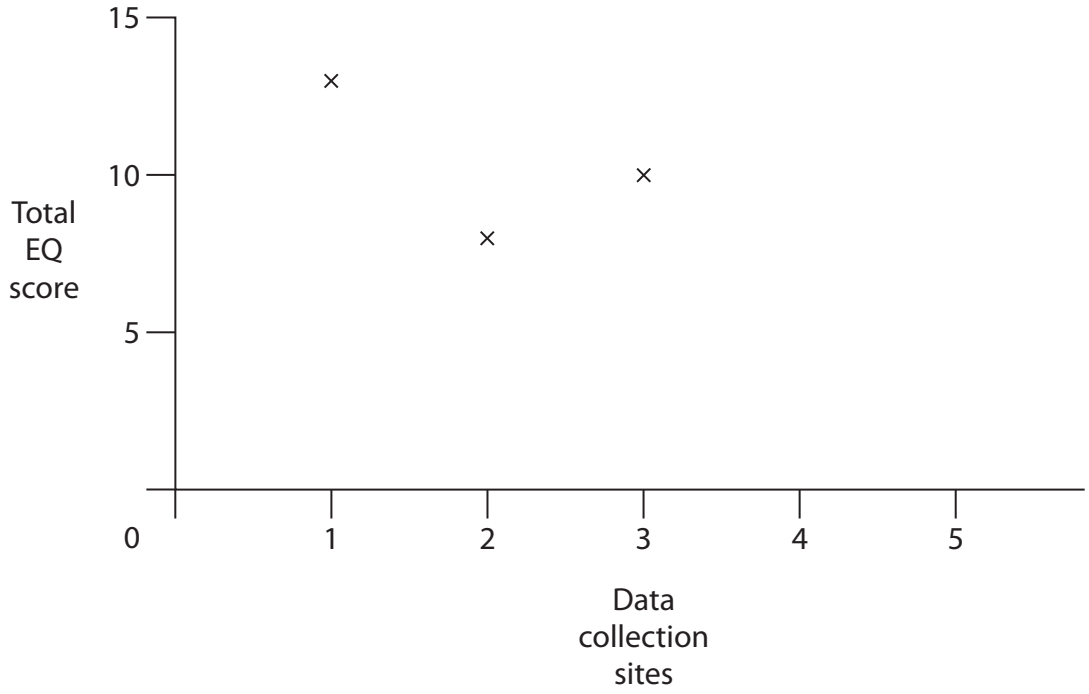

Figure 6c

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(ii) What conclusions can be reached about the pattern of environmental quality in this city?
You should refer to Figures 6b and 6c in your answer.

(6)

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(d) Explain why the edges of cities in HICs differ from those of cities in LICs.
Reference to named cities may help your answer.

(9)

(Total for Question 6 = 30 marks)

TOTAL FOR SECTION B = 60 MARKS

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SECTION C – GLOBAL ISSUES

Answer ONE question only from this section.

If you answer Question 7 put a cross in the box ☒ .

7 Fragile environments

(a) Study Figure 7a, which shows three different forecasts of future global emissions of CO_2 from 2010.

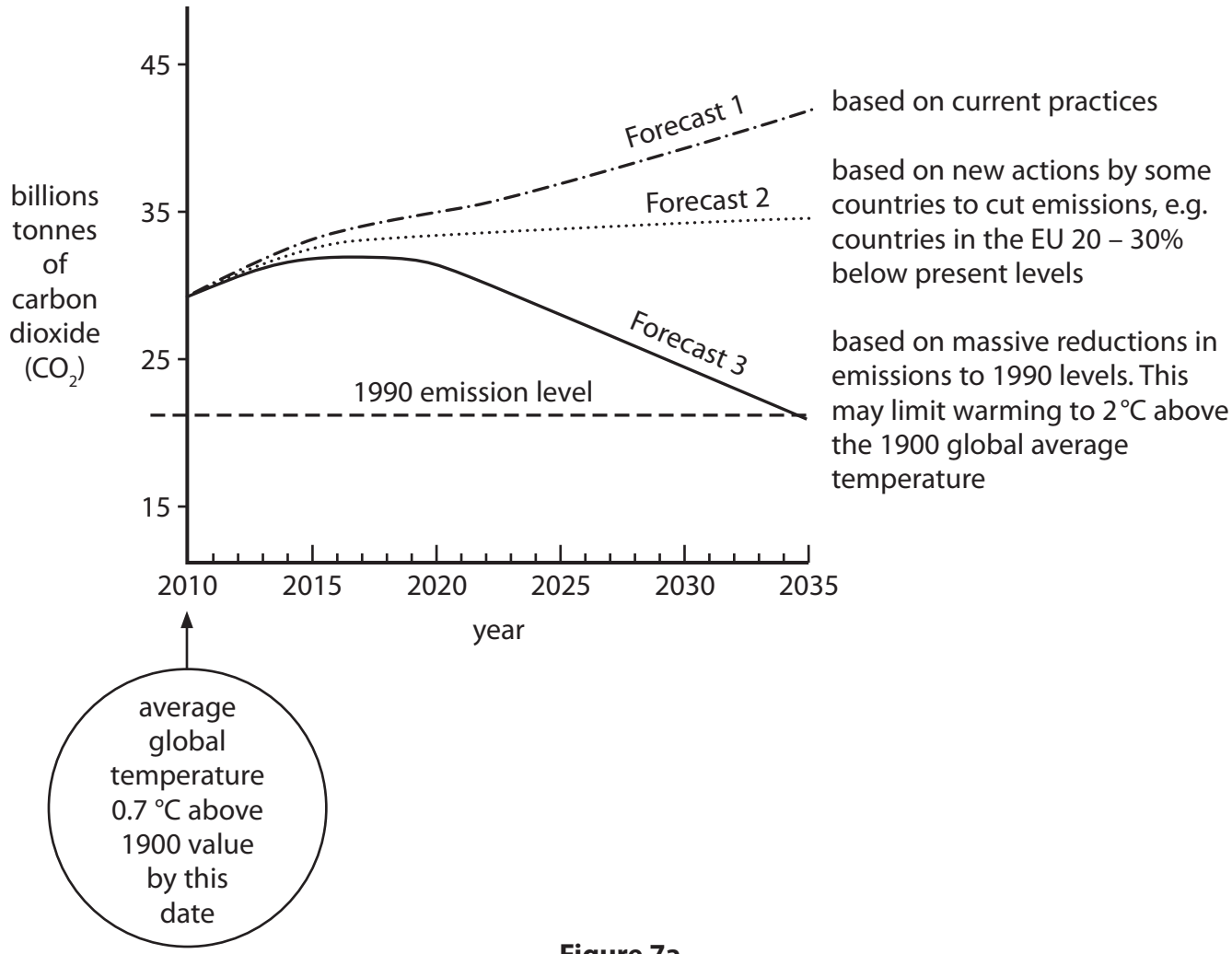

Figure 7a

(i) How much carbon dioxide (CO_2) was emitted in 2010?

(1)

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(ii) What is the **most** probable cause of the increase in global CO_2 emissions? Put a cross in the correct box.

(1)

☒ **A** recycling

☒ **B** solar activity

☒ **C** fossil fuel burning

(iii) State how emissions are forecast to change if countries continue with their current policies.

(1)

.....

.....

(iv) There has been a rise in average global temperature since 1900. State **two** other changes to weather and climate that have occurred along with this increase in temperature.

(2)

1 .....

.....

2 .....

.....

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(b) (i) Name **two** possible natural causes of global warming.

(2)

1 .....

2 .....

(ii) Suggest why keeping global warming to no more than 2 °C above the 1900 average temperature might prove difficult. Refer to Figure 7a.

(4)

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(iii) Describe the changes that people might have to make in order to adapt to the effects of global warming.

(4)

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(c) Study Figure 7b, which is a photograph of a recently desertified area.



Figure 7b

Explain the consequences of desertification for people living in affected areas.

(6)

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(d) Explain why a named area of tropical rainforest is under threat of clearance.

(9)

Name of area: .....

(Total for Question 7 = 30 marks)

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If you answer Question 8 put a cross in the box ☒ .

8 Globalisation and migration

(a) Study Figure 8a, which shows the distribution of global tourism in 1995 and the projected distribution in 2020. Figure 8b shows how total global tourism is expected to change between 1995 and 2020.

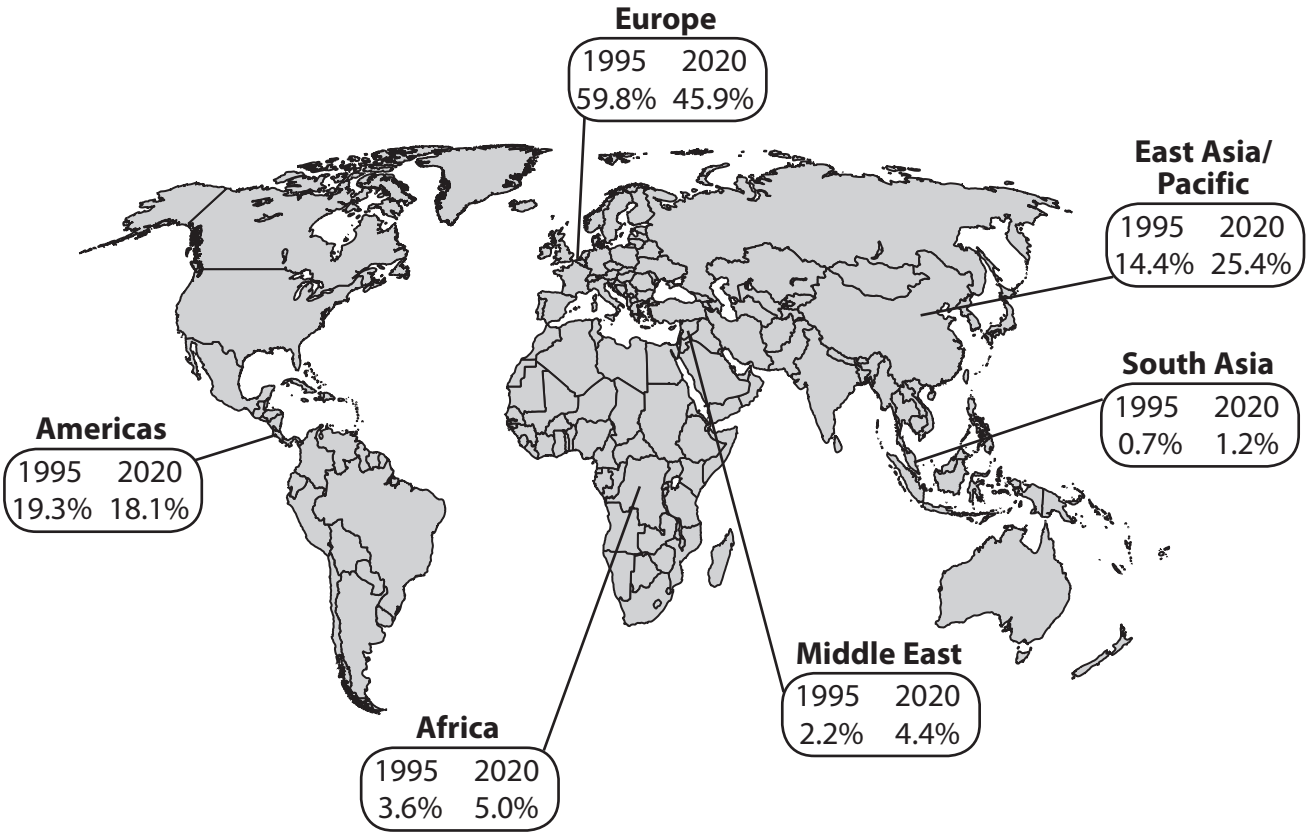

Figure 8a

	actual 1995	actual 2010	forecast 2020	average annual growth rate (%)
Global tourism in millions	565.4	1006.4	1561.1	4.1

Figure 8b

(i) State which of the regions shown by Figure 8a is expected to:

(2)

1. have the largest share of global tourism in 2020

.....

2. show the greatest increase in its share of global tourism

.....

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(ii) Europe is forecast to experience a decline in its share of global tourism.

(2)

1. Name **one** other region also forecast to experience a decline.

.....

2. Suggest **one** reason for a declining share of global tourism.

.....

(iii) State how total global tourism is forecast to change by 2020.

(1)

.....

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(b) (i) What is voluntary migration?

(2)

(ii) Explain how push and pull factors affect migration.
Reference to examples may help your answer.

(4)

(iii) Suggest **two** issues facing countries managing international migration.

(4)

1

2

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(c) Study Figure 8c, which shows a modern industrial area in Asia.



Figure 8c

Explain the part being played by **either** China **or** India in the global economy.

(6)

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(d) Explain attempts being made to make tourism more sustainable.
Reference to at least **one** named example of sustainable tourism may help your answer.

(9)

(Total for Question 8 = 30 marks)

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If you answer Question 9 put a cross in the box ☒ .

9 Development and human welfare

(a) Study Figure 9a, which shows the relationship between life expectancy and spending on healthcare in three groups of countries (A, B and C) in 2010.

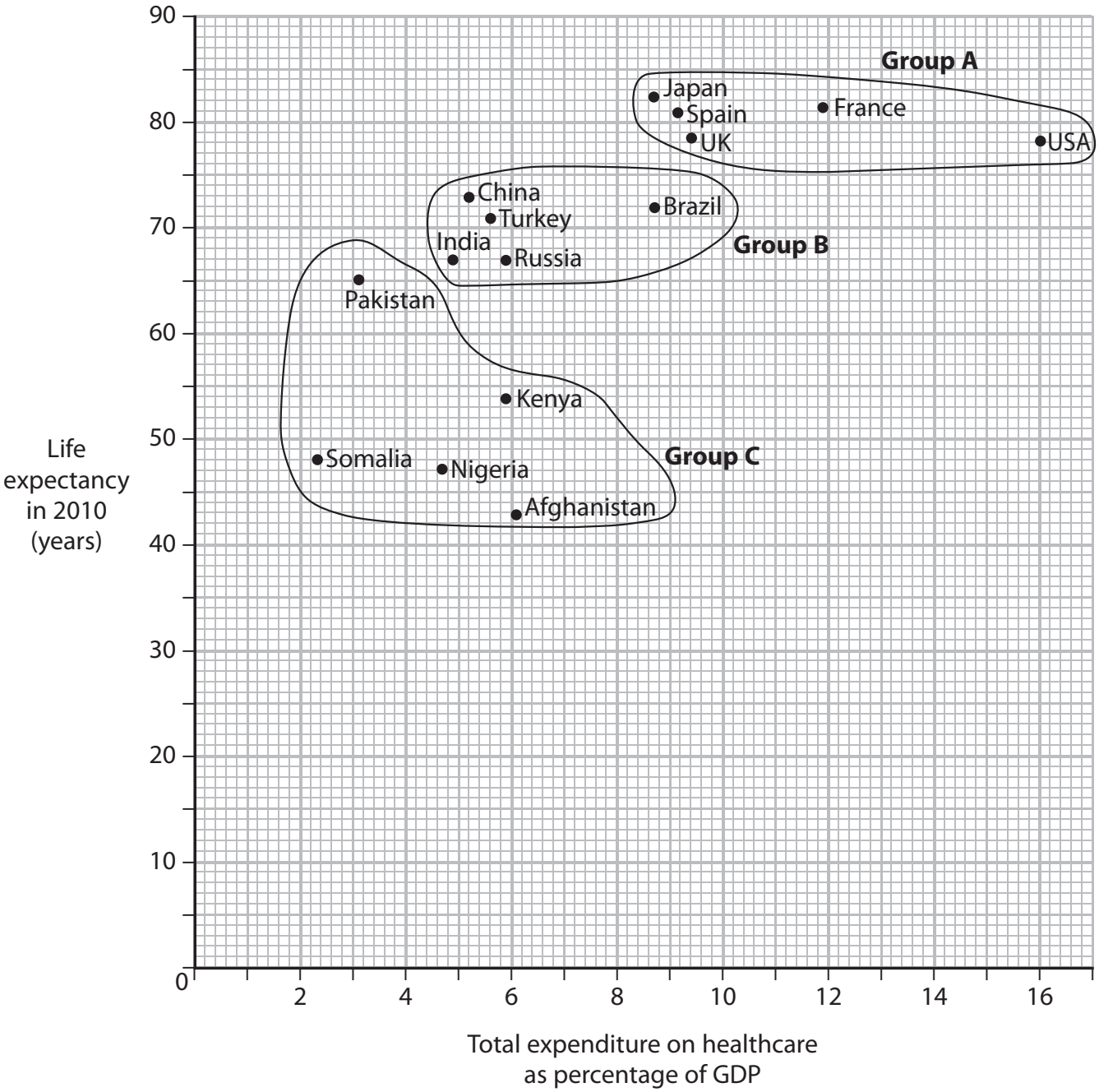

Figure 9a

(i) What was life expectancy in Russia in 2010?

(1)

.....

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(ii) Which of the terms HIC, MIC, LIC best describes the countries in:

(2)

1. group A

.....

2. group C

.....

(iii) Figure 9a shows a general relationship between life expectancy and healthcare spending.

(2)

1. What is this general relationship?

.....

2. Name **one** country in group A which is an exception to the general relationship.

.....

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(b) (i) What is meant by the term GDP (gross domestic product)?

(2)

(ii) Describe **two** indicators of development other than life expectancy and GDP.

(4)

1

2

(iii) Describe **two** ways in which the distribution of global development is changing.

(4)

1

2

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(c) Study Figure 9b, which shows areas of contrasting quality of life within the city of Dhaka, Bangladesh.



Figure 9b

Give reasons for the contrast in quality of life within urban areas.
Reference to examples may help your answer.

(6)

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(d) Explain how population changes are being managed in **one** named country.

(9)

Named country: .....

(Total for Question 9 = 30 marks)

TOTAL FOR SECTION C = 30 MARKS
TOTAL FOR PAPER = 150 MARKS

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