Write your name here

Surname		Other names

Pearson Edexcel
International GCSE

Centre Number

Candidate Number

Geography
Unit: 4GE0
Paper: 01

Tuesday 22 May 2018 – Afternoon	Paper Reference
Time: 3 hours	**4GE0/01**

You must have:
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.
- Answer **seven** questions
  - Answer **two** questions in Section A
  - Answer **two** questions in Section B
  - Answer **two** questions in Section C – **either** Question 7 **or** 8 **AND either** Question 9 **or** 10
  - Answer **one** question in Section D.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is **180**.
- The marks for **each** question 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
  - HIC – High-income country
  - NIC – Newly-industrialised country
  - CBD – Central Business District.

Advice

- Write your answers neatly and in good English.
- Check your answers if you have time at the end.

Turn over ▶

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Pearson

SECTION A – THE NATURAL ENVIRONMENT AND PEOPLE

Answer TWO questions only from this section.

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

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

1   River environments

(a) Study Figure 1 which shows the channel network of a drainage basin in November 2010, January 2011 and March 2011.

Nov 2010   Jan 2011   March 2011

N

Key

↙ = Direction of flow
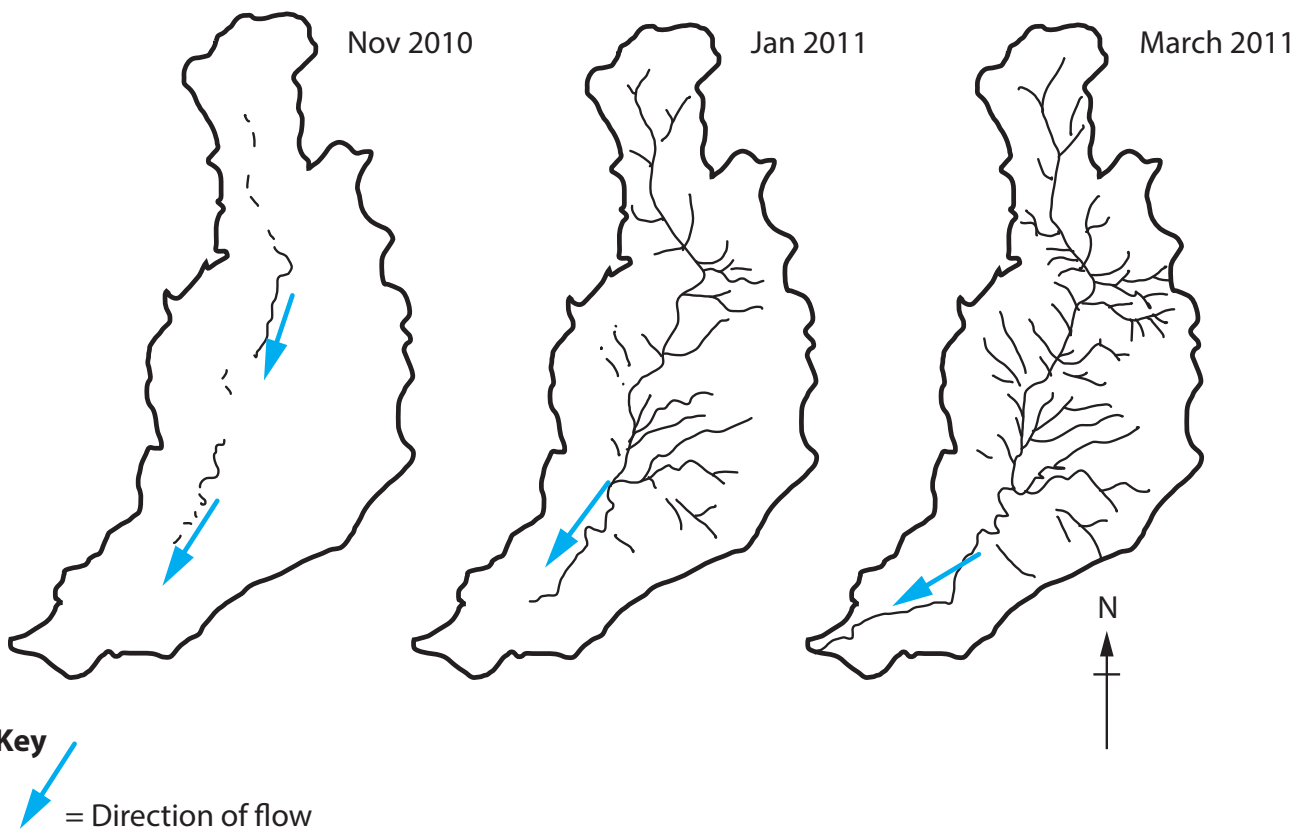
Figure 1

(i)   Identify **two** changes to the network between January and March 2011.

(2)

1 ....

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2 ....

....

(ii) Suggest what might have happened to rainfall in this area between November 2010 and January 2011.

(1)

....

(iii) What is the general direction of the drainage shown in Figure 1?

(1)

- ☒ **A** northerly
- ☒ **B** southerly
- ☒ **C** easterly
- ☒ **D** westerly

(b) (i) What is meant by the term **mass movement**?

(2)

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(ii) Outline **two** factors which affect mass movement.

(4)

1 ....

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(c) Explain the characteristics of the hydrological cycle.

An annotated diagram may help your answer.

(6)

(d) Discuss the effectiveness of **two** different methods of flood control.

(9)

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(Total for Question 1= 25 marks)

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

2   Coastal environments

(a) Study Figure 2 which shows a coastal area at three different times.

A. Initial sea level

Shoreline position

B. Fall in sea level

1

2

Subaerial erosion

3

4

C. Rise in sea level

New shoreline

Marine erosion
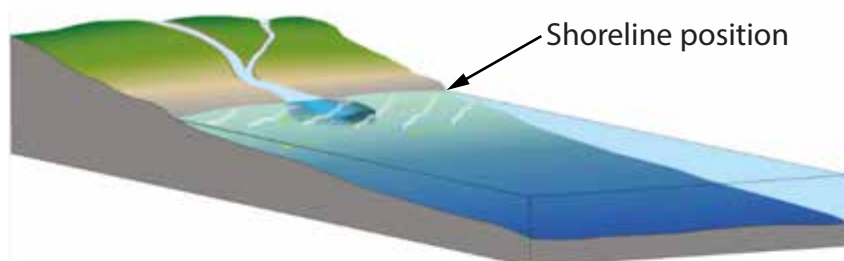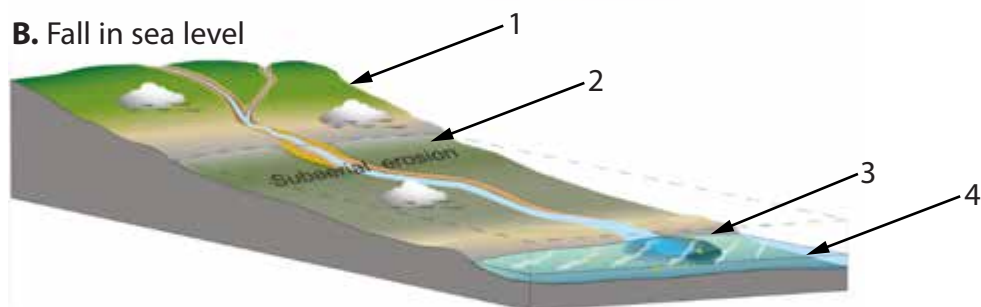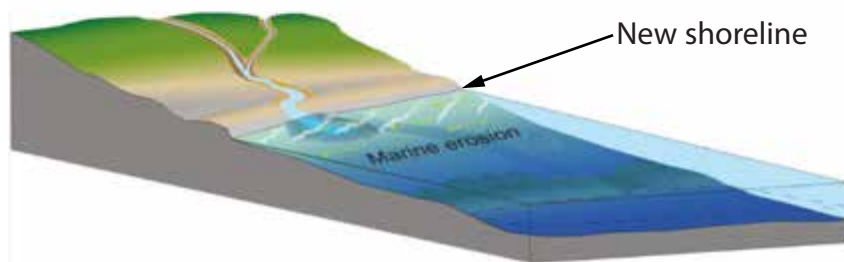
Figure 2

(i)   Identify where the new shoreline is in diagram B.

(1)

☒   **A**   1

☒   **B**   2

☒   **C**   3

☒   **D**   4

P 5 3 3 0 8 A 0 6 6 0

(ii) Identify which of the two sea-level changes (in diagrams B or C) results in a loss of land.

(1)

....

(iii) Identify **two** impacts that a fall in sea level has on the coastal area.

(2)

1 ....

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2 ....

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(b) (i) What is meant by the term **ecosystem**?

(2)

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(ii) Outline **two** physical factors affecting the distribution of coastal ecosystems.

(4)

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P 5 3 3 0 8 A 0 7 6 0

(c) Explain why conflicts can occur between development and conservation along a coastline.

(6)

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(d) Discuss the extent to which the landforms of **two** contrasting coastlines are determined by their geology.

(9)

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(Total for Question 2 = 25 marks)

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

3   Hazardous environments

(a) Study Figure 3 which shows the shapes of three types of volcano.

Shield

Cinder Cone
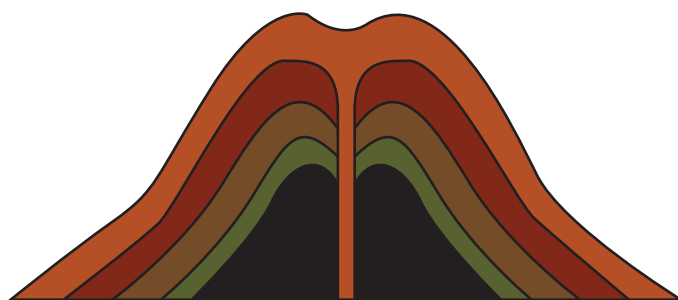
Composite Volcano

Figure 3

(i)   Identify **two** ways in which the volcanoes differ in shape.

(2)

1 ....

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2 ....

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P 5 3 3 0 8 A 0 1 0 6 0

(ii) Indicate the reason for the shape of the shield volcano.

(1)

- ☒ **A** fast flowing lava eruption
- ☒ **B** explosive eruption
- ☒ **C** ash eruption
- ☒ **D** slow flowing lava eruption

(iii) Which type of volcano is formed by the eruption of different types of material?

(1)

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(b) (i) What is meant by the term **natural disaster**?

(2)

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(ii) Outline **two** reasons why people continue to live in areas at risk from natural disasters.

(4)

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(c) Explain how the methods of monitoring weather conditions have changed.

(6)

(d) Discuss the extent to which management can mitigate the worst consequences of hazard events.

(9)

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(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

P 5 3 3 0 8 A 0 1 3 6 0

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 4 which shows four sources of clean renewable energy.
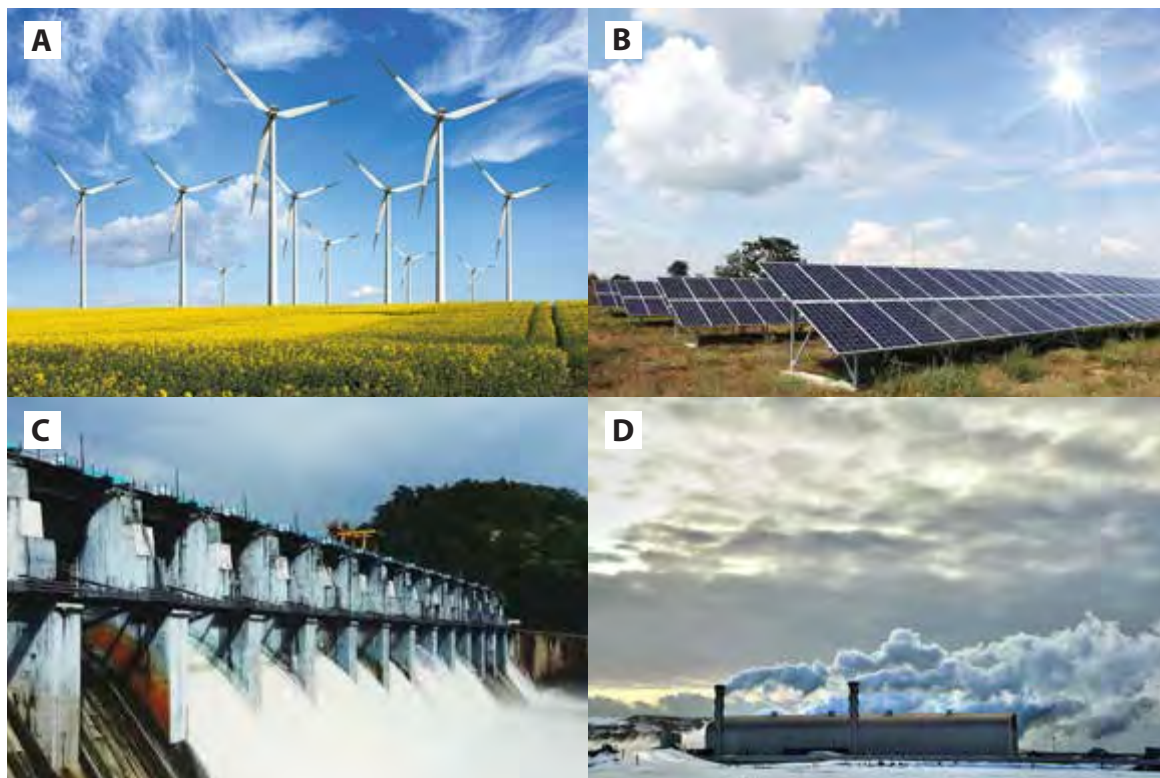
(Source: © Moment/Getty Images © EyeEm/Getty Images)

Figure 4

(i)   Clean renewable energy is

(1)

☒   **A**   energy from polluting and inexhaustible sources

☒   **B**   energy from non-polluting and inexhaustible sources

☒   **C**   energy from non-polluting and exhaustible sources

☒   **D**   energy from polluting and exhaustible sources

(ii) Which **one** of the four sources shown in Figure 4 is used to generate energy both onshore and offshore?

(1)

....

(iii) For **one** of the other three sources, suggest why it cannot be used to generate energy everywhere.

(2)

Name of source ....

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(b) (i) What is meant by the term **de-industrialisation**?

(2)

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(ii) Outline **two** causes of de-industrialisation.

(4)

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(c) Explain why some countries have an energy gap.

(6)

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(d) Discuss the extent to which the relative importance of the different economic sectors varies **within** countries.

Reference to named examples may help your answer.

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(Total for Question 4 = 25 marks)

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

5 Ecosystems and rural environments

(a) Study Figure 5 which shows a farmed area in one of the world's biomes.

Figure 5

(i) Identify the type of farming.

(1)

....

(ii) Identify the biome.

(1)

☒ **A** hot desert

☒ **B** temperate grassland

☒ **C** tropical rainforest

☒ **D** tundra

(iii) State **two** interactions between the components of this biome.

(2)

1 ....

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2 ....

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(b) (i) What is meant by the term **biodiversity**?

(2)

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(ii) Outline **two** reasons why biodiversity varies between ecosystems.

(4)

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(c) Explain how agricultural production might be raised.

(6)

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P 5 3 3 0 8 A 0 2 0 6 0

(d) Discuss whether changes to rural settlements in HICs are positive or negative.

Reference to named examples may help your answer.

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(Total for Question 5 = 25 marks)

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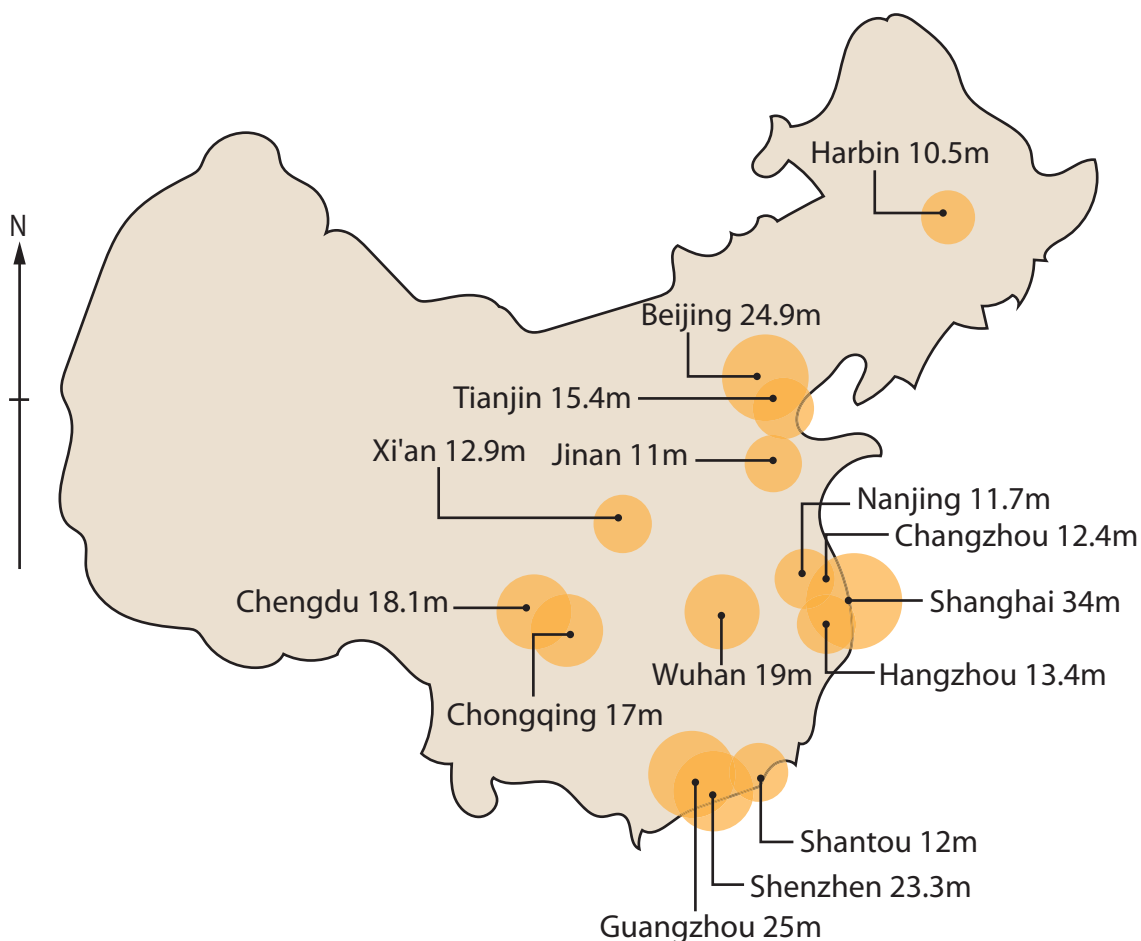
If you answer Question 6 put a cross in the box ☒ .

6   Urban environments

(a) Study Figure 6 which shows information about Chinese cities in 1980 and Chinese mega-cities in 2015.

Percentage (%) of Chinese population living in urban areas		Population of four Chinese cities in 1980 (millions)
1980	**2015**	Beijing 5.4
19.6	56.6	Chongqing 3.0
		Guangzhou 1.9
		Xi'an 1.2

Figure 6

(i) How many mega-cities were there in China in 2015?

(1)

....

(ii) What is the minimum population of a mega-city?

(1)

⊠ **A** 6 million

⊠ **B** 8 million

⊠ **C** 10 million

⊠ **D** 12 million

(iii) Identify the evidence in Figure 6 that China has experienced rapid urbanisation.

(2)

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(b) (i) What is meant by the term **land value**?

(2)

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P 5 3 3 0 8 A 0 2 3 6 0

(ii) Outline **two** reasons why land values vary within urban areas.

(4)

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(c) Explain the improvements taking place in shanty towns in LIC cities.

(6)

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(d) Discuss whether developments in HIC cities should be encouraged to take place on brownfield rather than greenfield sites.

Reference to named examples may help your answer.

(9)

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(Total for Question 6 = 25 marks)

TOTAL SECTION B = 50 MARKS

SECTION C – PRACTICAL GEOGRAPHICAL ENQUIRY

Answer TWO questions from this section.

EITHER question 7 or 8 AND EITHER question 9 or 10.

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

7   Coastal environments fieldwork

(a) Study Figure 7a which shows a student measuring a beach profile.

X →

Figure 7a

(i)   Name the piece of equipment X.

(1)

⊠ **A** augur

⊠ **B** calliper

⊠ **C** clinometer

⊠ **D** quadrat

(ii) Describe how the piece of equipment X is used to measure a beach profile.

(3)

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(iii) Suggest **two** factors that the student might have considered when choosing a site for this beach profile.

(4)

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(b) The student then continued their investigation at the back of the beach into the sand dune area shown on Figure 7c below.

Study Figure 7b which is a table and graph. The table shows the data collected on a sand dune transect. The pH data has been plotted on the graph.

(i) **Plot the data** for plant species on the graph (Figure 7b).

(4)

SITE	1	2	3	4	5	6
pH of surface material	8.0	7.5	6.0	5.0	5.0	4.5
Average no. of plant species per sq.m.	0	2	6	12	10	15
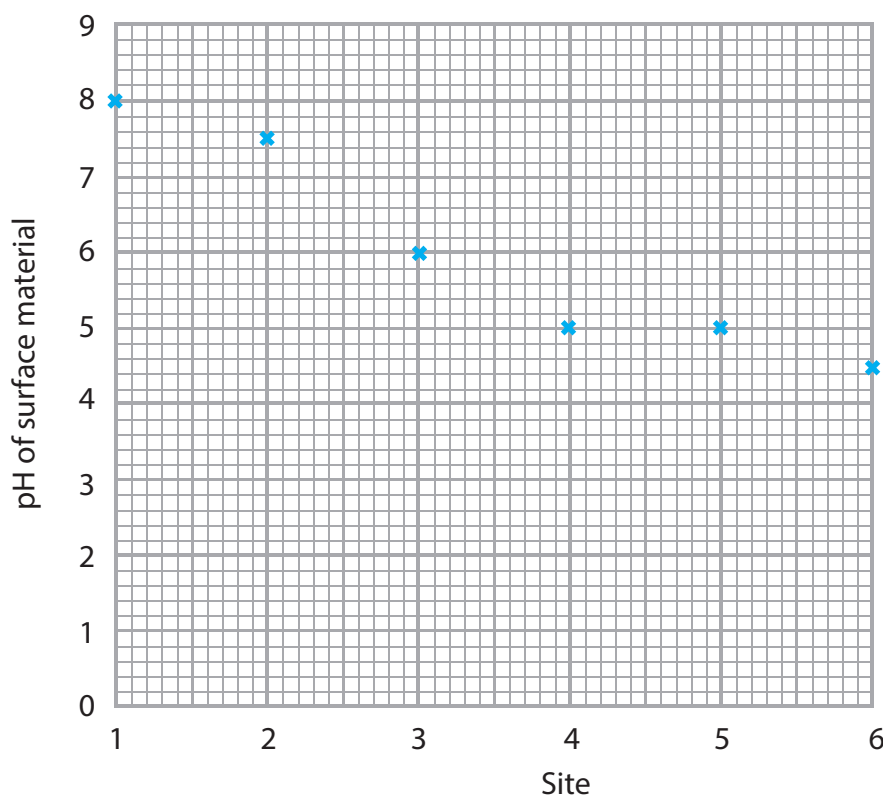
Figure 7b
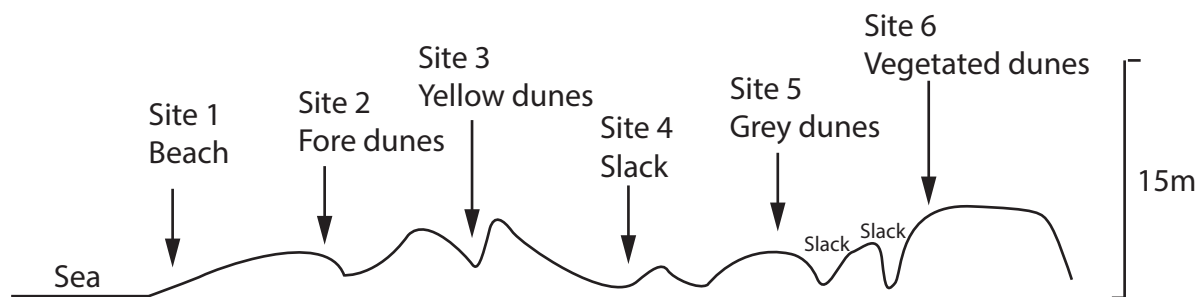
Figure 7c

(ii) Identify **two** sets of data that were needed to draw the transect in Figure 7c.

(2)

1 ....

2 ....

(iii) Suggest **one** advantage of locating the graph (Figure 7b) above the transect (Figure 7c).

(2)

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(iv) What conclusions can be reached about changes in pH and vegetation along the transect?

(6)

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(v) Suggest how you might evaluate the conclusions reached in such an investigation.

(3)

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(Total for Question 7 = 25 marks)

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

8   Hazardous environments fieldwork

(a) Study Figure 8a which shows a geographer collecting weather data.

(Source: © Nigel Cattlin / Alamy Stock Photo)

Figure 8a

(i)   Name the piece of equipment X.

(1)

☒   **A**   Beaufort scale

☒   **B**   whirling hygrometer

☒   **C**   Stevenson screen

☒   **D**   rain gauge

P 5 3 3 0 8 A 0 3 1 6 0

(ii) Describe how the piece of equipment X is used in collecting weather data.

(3)

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(iii) Suggest **two** factors that should be considered when choosing a suitable site at which to locate weather recording equipment.

(4)

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(b) Study Figure 8b which is a table and graph. The table shows data collected up the hill slope shown in Figure 8c. The wind speed data has been plotted on the graph.

(i) **Plot the data** for temperature on the graph (Figure 8b).

(4)

SITE	1	2	3	4	5	6
Air temperature (°C)	20.5	19.5	19.0	18.0	17.5	18.0
Wind speed (miles per hour)	0	1	4	10	10	8

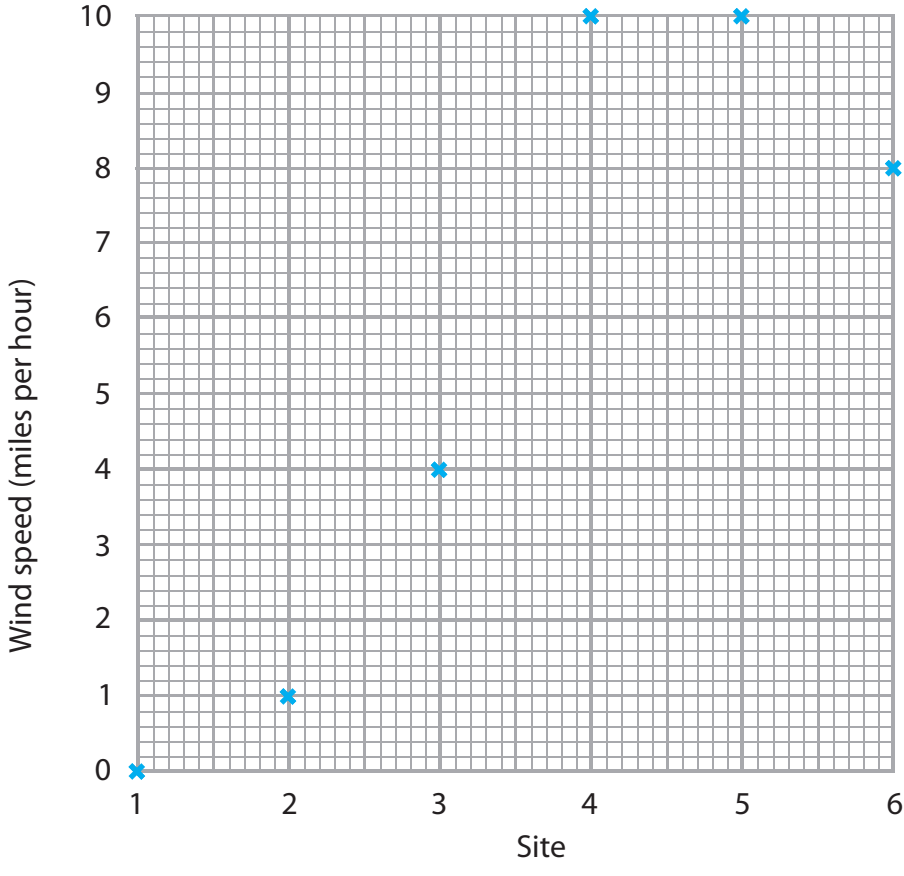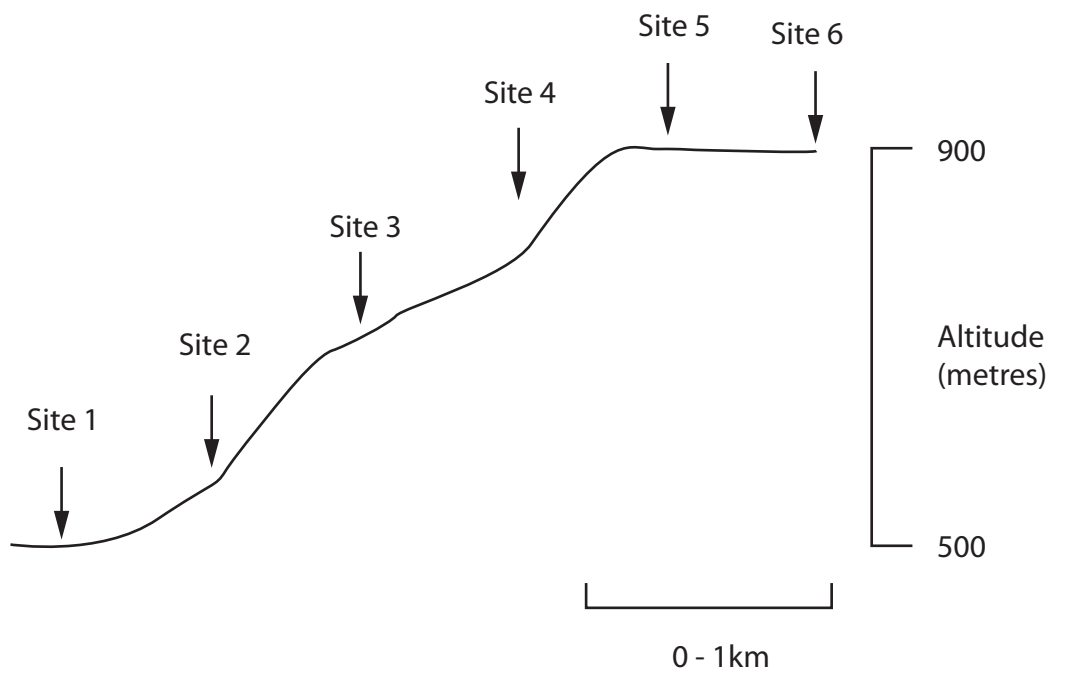**Figure 8b**

Figure 8c

(ii) Identify **two** sets of data needed to draw the hill slope profile shown in Figure 8c.

(2)

1 ....

2 ....

(iii) Suggest **one** advantage of locating the graph (Figure 8b) above the transect (Figure 8c).

(2)

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(iv) What conclusions can be reached about changes in weather up the hill slope?

(6)

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(v) Suggest how you might evaluate the conclusions reached in such an investigation.

(3)

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(Total for Question 8 = 25 marks)

P 5 3 3 0 8 A 0 3 5 6 0

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

9   Economic activity and energy fieldwork

(a) Study Figure 9 which was produced by a group of students as part of their investigation of the location of **either** factories or services.

FACTOR
Political
Supportive local government

FACTOR
Natural Environment
Pleasant working environment

FACTOR
Economic
Access to good workforce

FACTOR
Social
Proximity to customers
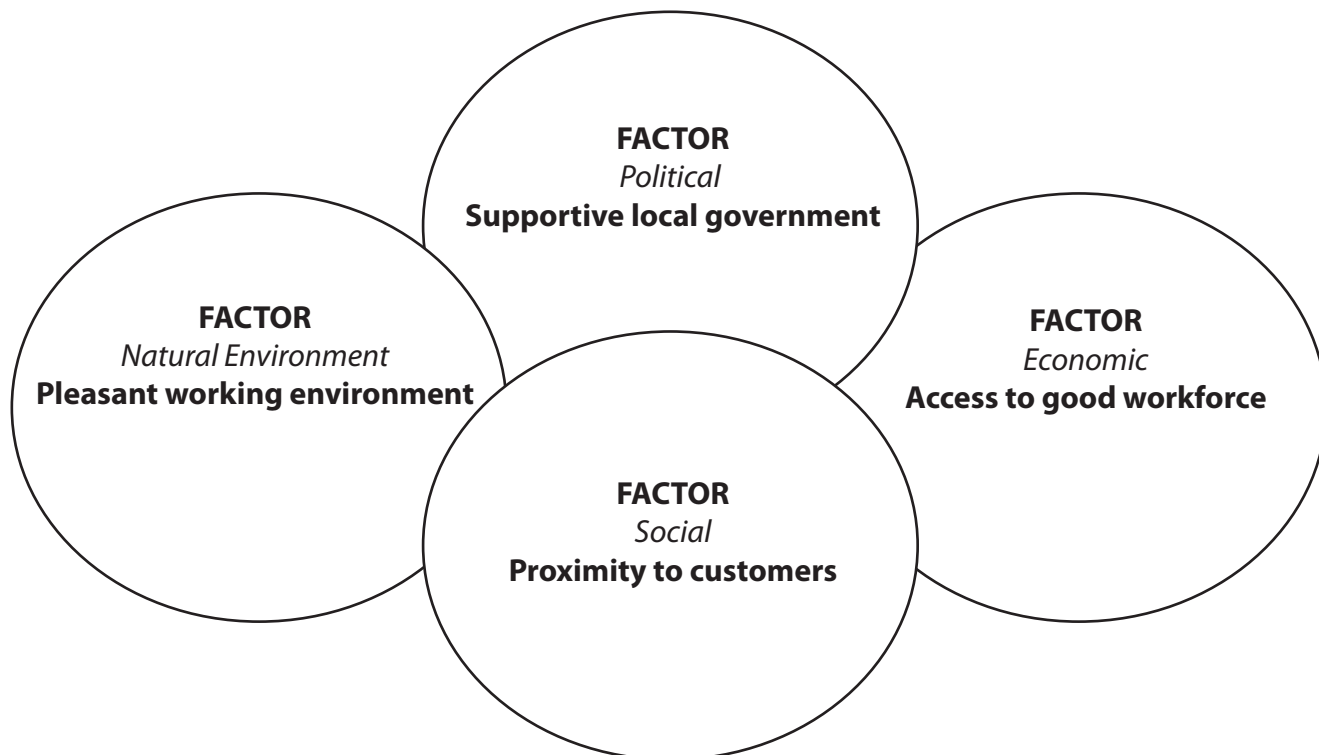
Figure 9

(i)   Suggest **one** possible aim of this investigation.

(2)

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(ii) Describe **two** sources of secondary information that might have been useful as part of the pre-fieldwork and planning stage.

(4)

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(iii) Suggest what factors students might consider in undertaking a risk assessment at **either** a factory **or** services location.

(4)

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(iv) Describe the use of equipment and the field techniques that might have been used when collecting information in this type of investigation.

(8)

Equipment

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Field techniques

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(v) Suggest **two** ways ICT might have been used in this type of investigation.

(4)

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(vi) Outline how **one** named quantitative technique might have been used to analyse the fieldwork information.

(3)

Named technique ....

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(Total for Question 9 = 25 marks)

If you answer Question 10 put a cross in the box ☒ .

10 Ecosystems and rural environments fieldwork

(a) Study Figure 10 which was produced by a group of students as part of their investigation of three farm systems.

Farm A
| Land |
| Labour |
| Capital |

Farm B
| Land |
| Labour |
| Capital |

Farm C
| Land |
| Labour |
| Capital |

Low ← ————————————————————— → High

IMPORTANCE
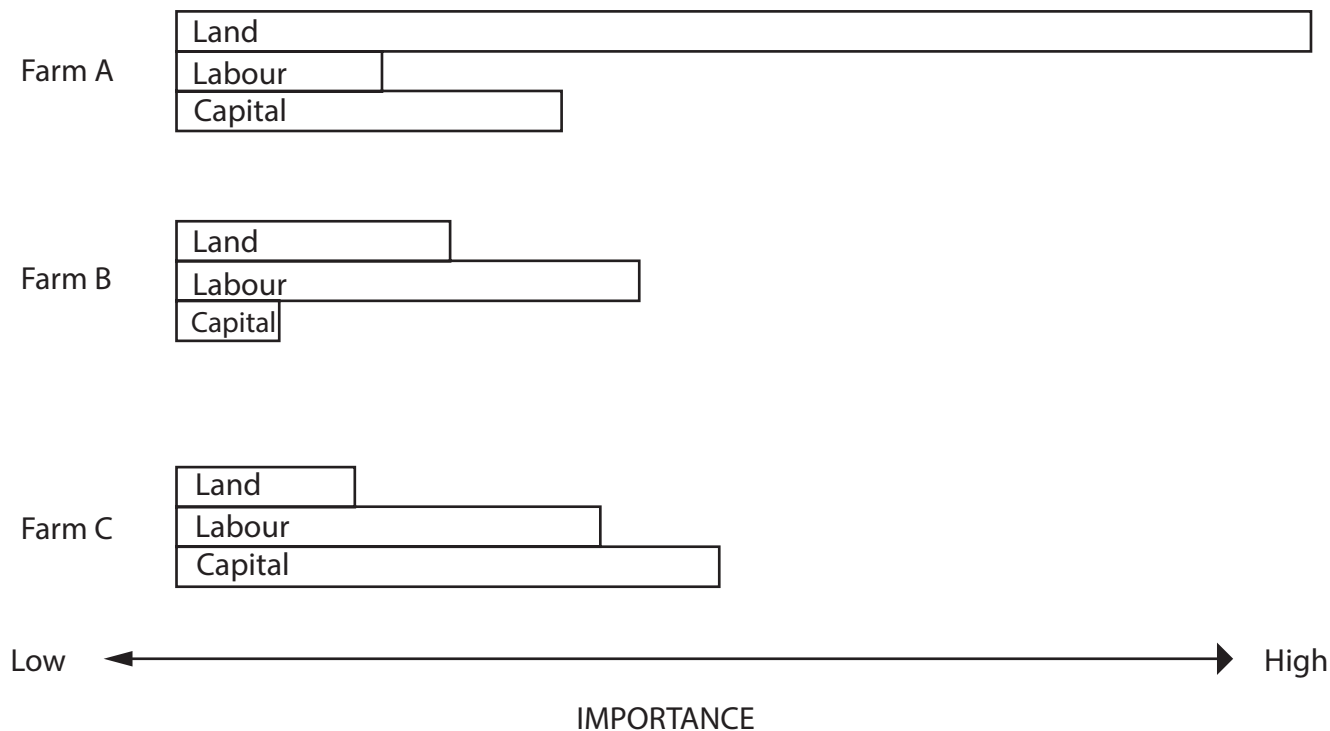
Land = natural resources
Labour = work done by people and human skills
Capital = finance and equipment

Figure 10

(i) Suggest **one** possible aim of this investigation.

(2)

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P 5 3 3 0 8 A 0 4 0 6 0

(ii) Describe **two** sources of secondary information that might have been useful as part of the pre-fieldwork and planning stage.

(4)

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(iii) Suggest what factors students might consider in undertaking a risk assessment on a farm location.

(4)

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(iv) Describe the use of equipment and the field techniques that might have been used when collecting information in this type of investigation.

(8)

Equipment

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Field techniques

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(v) Suggest **two** ways ICT might have been used in this type of investigation.

(4)

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(vi) Outline how **one** named quantitative technique might have been used to analyse the fieldwork information.

(3)

Named technique ....

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(Total for Question 10 = 25 marks)

TOTAL FOR SECTION C = 50 MARKS

P 5 3 3 0 8 A 0 4 3 6 0

SECTION D – GLOBAL ISSUES

Answer ONE question only from this section.

If you answer Question 11 put a cross in the box ☒ .

11 Fragile environments

(a) Study Figure 11a which shows the temperature record for Central England from 1950 to 2014.

Central England Annual Mean Temperature - 1950 to 2014

Key

⟋ = Long term trend
⟋ = Mean annual temperature
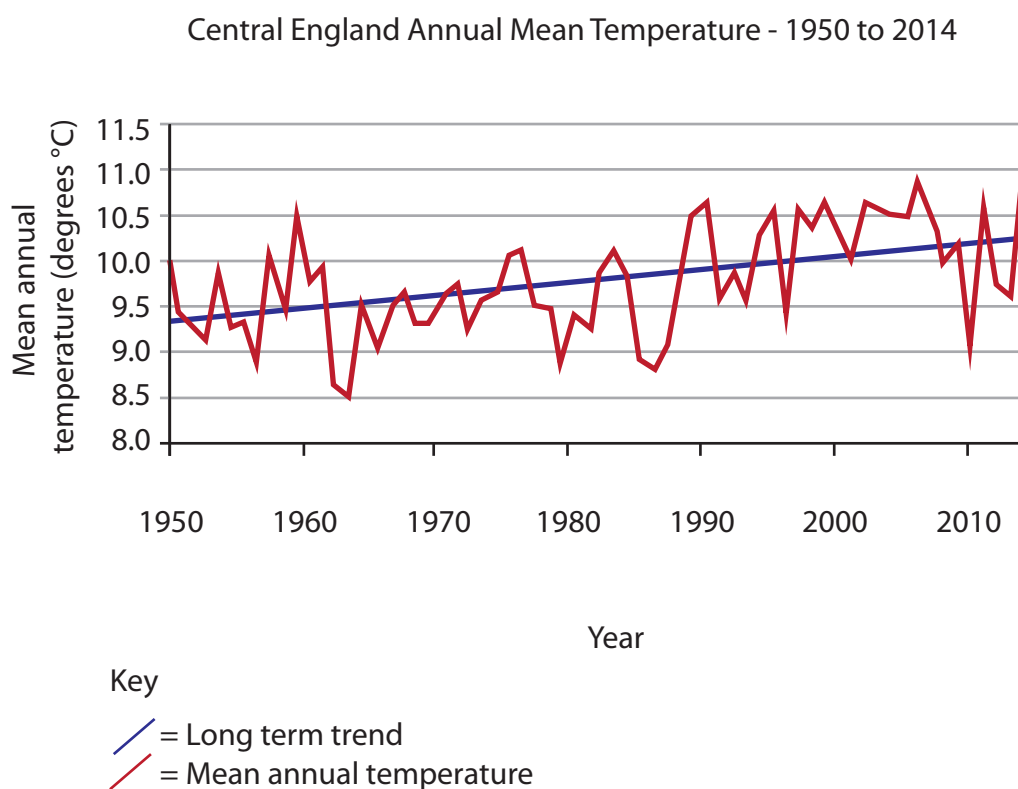
Figure 11a

(i) What was the mean annual temperature in 1950?

(1)

☒ **A** 9.0 °C

☒ **B** 9.4 °C

☒ **C** 9.7 °C

☒ **D** 10.0 °C

(ii) Identify a year when the mean temperature varied significantly from the long-term trend shown in Figure 11a.

(1)

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(iii) Suggest why the data in this graph supports the idea of global warming.

(3)

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P 5 3 3 0 8 A 0 4 5 6 0

(b) (i) What is meant by the term **sustainability**?

(2)

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(ii) Describe the fragile nature of environments.

(4)

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(iii) Outline **two** ways of ensuring a more sustainable future for fragile environments.

(4)

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(c) Study Figure 11b which shows evidence of desertification.

(Source: © Luis Dafos/Getty Images)

Figure 11b

Explain why desertification has both natural and human causes.

(6)

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(d) Discuss the extent to which global warming and climate change are threatening **one** named country.

(9)

Named country ....

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(Total for Question 11 = 30 marks)

P 5 3 3 0 8 A 0 4 8 6 0

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P 5 3 3 0 8 A 0 4 9 6 0

If you answer Question 12 put a cross in the box ☒ .

12 Globalisation and migration

(a) Study Figure 12a which shows the destinations of international migrants between 1960 and 2010.
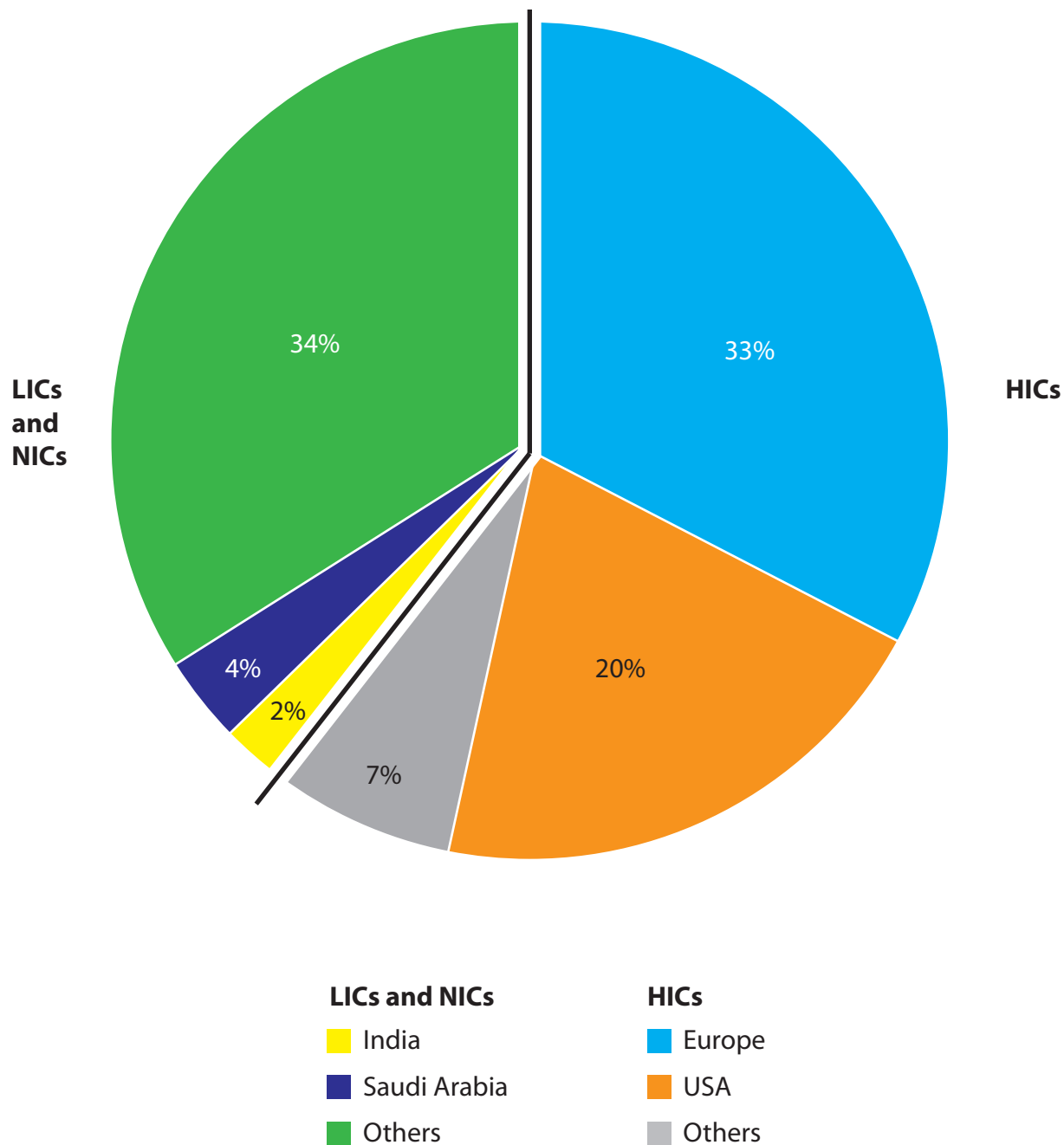
LICs and NICs	HICs
🟨 India	🟦 Europe
🟦 Saudi Arabia	🟧 USA
🟩 Others	⬜ Others

Figure 12a

(i) Which area receives the most international migrants?

(1)

☒ **A** USA

☒ **B** Europe

☒ **C** India

☒ **D** Saudi Arabia

(ii) What is the evidence that HICs are the main destinations for international migrants?

(1)

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(iii) Suggest why some international migrants settle in NICs and LICs.

(3)

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P 5 3 3 0 8 A 0 5 1 6 0

(b) (i) What is meant by the term **production chain**?

(2)

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(ii) Outline **two** reasons for the growth of production chains.

(4)

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(iii) Describe the nature of the global shift in manufacturing.

(4)

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(c) Study Figure 12b which is a photograph of sustainable tourism in the Galapagos Islands.

(Source: © ROUSSEL BERNARD / Alamy Stock Photo)

Figure 12b

Explain the reasons for making tourism more sustainable.

(6)

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(d) Discuss the effectiveness of attempts to control migration flows.

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(Total for Question 12 = 30 marks)

If you answer Question 13 put a cross in the box ⊠ .

13 Development and human welfare

(a) Study Figure 13a which shows data for three indicators of human welfare in six London boroughs in 2014.

Borough	Rank*	Average income per person p.a.(£)	Unemployment rate (%)	Rank**	Average life expectancy (years)
Kensington & Chelsea	1	98 400	5.0	1	84.1
Wandsworth	2	35 600	5.2	4	81.1
Hammersmith & Fulham	3	32 500	6.2	3	81.2
Lambeth	4	28 800	8.0	5	80.3
Croydon	5	26 400	8.4	2	81.4
Barking & Dagenham	6	23 300	10.0	6	79.6

* Rank is based on average income and unemployment rate only.

** Rank is based on average life expectancy.

Figure 13a

(i) Which is the most deprived borough?

(1)

....

(ii) Name the borough whose average life expectancy rank differs most from the rank shown for average income and unemployment rate.

(1)

⊠ **A** Wandsworth

⊠ **B** Hammersmith & Fulham

⊠ **C** Lambeth

⊠ **D** Croydon

(iii) Give **three** pieces of evidence that the level of human welfare varies greatly between these London boroughs.

(3)

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2 ....

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3 ....

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(b) (i) What is meant by the term **development gap**?

(2)

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(ii) Describe **two** recent changes taking place to the pattern of global development.

(4)

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(iii) Outline the difficulties of measuring development.

(4)

P 5 3 3 0 8 A 0 5 7 6 0

(c) Study Figure 13b which shows a water pump which was supplied as part of an appropriate aid project in West Africa.

(Source: © Eitan Simanor / Alamy Stock Photo)

Figure 13b

Explain why appropriate aid is important to LICs.

(6)

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P 5 3 3 0 8 A 0 5 8 6 0

(d) Discuss the extent to which population changes are being managed in **one** named country.

(9)

Named country ....

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(Total for Question 13 - 30 marks)

TOTAL FOR SECTION D = 30 MARKS
TOTAL FOR PAPER = 180 MARKS

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