Please check the examination details below before entering your candidate information					
Candidate surname			Other names		
Pearson Edexcel International GCSE (9–1)	Cen	tre Number	Candidate Number		
Time 1 hour 45 minutes		Paper reference	4GE1/02		
Geography PAPER 2: Human geo	gra	phy			
You must have: Resource Booklet (enclosed), calculator					

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.
- In Section A, answer two questions from Questions 1, 2 and 3.
 In Section B, answer one question from Questions 4, 5 and 6.
 In Section C, answer one question from Questions 7, 8 and 9.
- Answer the questions in the spaces provided
 - there may be more space than you need.
- Calculators may be used.
- Where asked you must show all your working out with your answer clearly identified at the end of your solution.

Information

- The total mark for this paper is 97.
- The marks for **each** question are shown in brackets
 - use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.
- Good luck with your examination.

Turn over ▶



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SECTION A

Answer TWO questions from this section.

Some questions must be answered with a cross in a box \boxtimes . If you change your mind about an answer, put a line through the box \boxtimes and then mark your new answer with a cross \boxtimes .

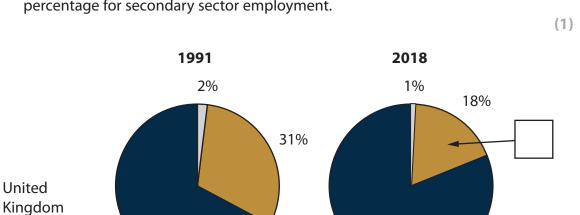
		If you answer Question 1 put a cross in the box $ oxtimes $.	
cond	omic a	ctivity and energy	
a) (i)	Defir	ne the term energy security .	(1)
(ii) Iden	tify the two forms of non-renewable energy.	(2)
	×	A Coal	
	×	B Hydroelectric	
	×	C Geothermal	
	X	D Oil	
	×	E Solar	
	X	F Wind	
) St	udy Fi	gure 1a in the Resource Booklet.	
Su	ıggest	one way this house has been adapted to manage energy consumption.	(2)



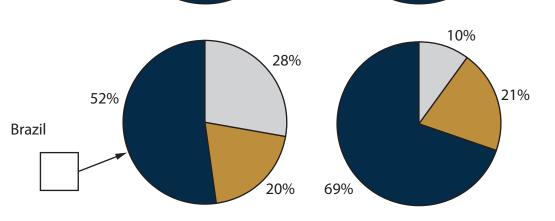
(c) (i) State one characteristic of the tertiary economic sector.	(1)
(ii) Explain two factors that affect the location of tertiary sector activities.	(4)

- (d) Study Figure 1b below. It shows employment structures for selected countries in 1991 and 2018.
 - (i) Label the box with an X to show which pie chart displays the largest percentage for secondary sector employment.

67%



81%



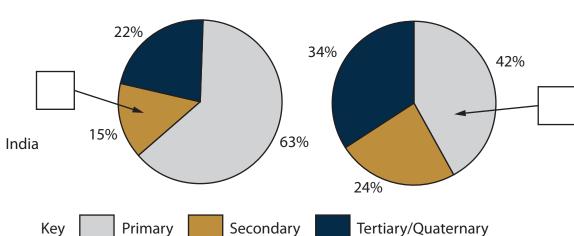


Figure 1b

Employment structures for selected countries in 1991 and 2018

B India's employment in tertiary/quaternary sectors has increased by 12 percentage points. C The UK's employment in the primary sector has decreased by 12 percentage points. D India's employment in the primary sector has decreased by 12 percentage points. (iii) State one reason for decline in primary sector employment.	\boxtimes	A Brazil's employment in the tertiary/quaternary sectors has increased by 12 percentage points.	
12 percentage points.	×		
(iii) State one reason for decline in primary sector employment. (1) or a named megacity explain two advantages of informal employment. (4) lamed megacity	\boxtimes		
or a named megacity explain two advantages of informal employment. (4)	×		
lamed megacity	(iii) S	State one reason for decline in primary sector employment.	(1)
			(4)
			(4)
			(4)
	lamed r	megacity	
	Named r	megacity	
	Named r	megacity	
	Named r	megacity	



Analyse the possible	reasons why en	eray consumn	tion has grow	/n	
Analyse the possible	reasons willy em	ergy consump	tion has grow	VII.	(8)
					(-)

(Total for Question 1 = 25 marks)

Rural environments (a) (i) Define the term organic farming. (ii) Identify two forms of farm diversification. (2) A Buying more land. B Buying more tractors. C Creating a farm shop. D Increasing irrigation. E Using more fertiliser. F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	Rural environments (a) (i) Define the term organic (ii) Identify two forms A Buying m B Buying m C Creating and continuous c	ganic farming.	it a cross in the bo	
(a) (i) Define the term organic farming. (ii) Identify two forms of farm diversification. (2) A Buying more land. B Buying more tractors. C Creating a farm shop. D Increasing irrigation. E Using more fertiliser. F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	(ii) Identify two forms A Buying m B Buying m C Creating			(1)
(ii) Identify two forms of farm diversification. A Buying more land. B Buying more tractors. C Creating a farm shop. D Increasing irrigation. E Using more fertiliser. F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	(ii) Identify two forms A Buying m B Buying m C Creating			(1)
 A Buying more land. B Buying more tractors. C Creating a farm shop. D Increasing irrigation. E Using more fertiliser. F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	■ A Buying m■ B Buying m■ C Creating a	of farm diversification.		
B Buying more tractors. C Creating a farm shop. D Increasing irrigation. E Using more fertiliser. F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	■ B Buying m ■ C Creating			(2)
C Creating a farm shop. D Increasing irrigation. E Using more fertiliser. F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	C Creating	ore land.		
 ■ D Increasing irrigation. ■ E Using more fertiliser. ■ F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income. 		ore tractors.		
■ E Using more fertiliser. ■ F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	■ D Increasing	a farm shop.		
F Opening a bed and breakfast for tourists. (b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.		g irrigation.		
(b) Study Figure 2a in the Resource Booklet. Suggest one way this dairy farm has diversified its income.	■ E Using mo	ore fertiliser.		
Suggest one way this dairy farm has diversified its income.		a bed and breakfast for t	tourists.	
Suggest one way this dairy farm has diversified its income.	(b) Study Figure 2a in the f	Resource Booklet.		
			l its income.	
\\		,		(2)

) (i) State one factor leading to rural isolation.	(1)
(ii) Explain two ways tourist pressure is affecting rural areas.	(4)
	(ii) Explain two ways tourist pressure is affecting rural areas.

- (d) Study Figure 2b below.
 - (i) Label the box with an X to indicate the year with the largest urban population.

(1)

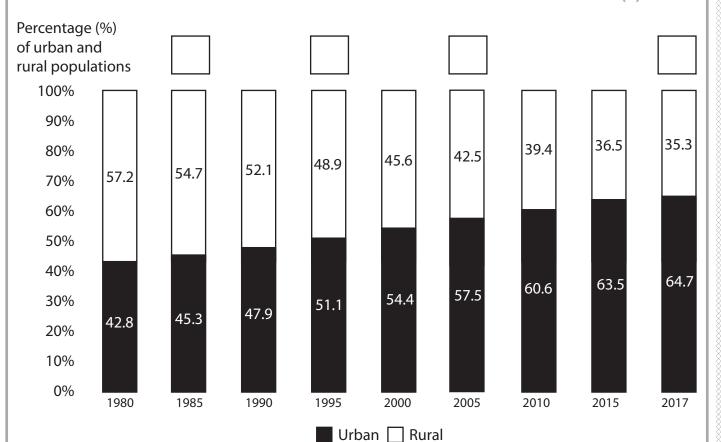


Figure 2b

Global urban and rural populations, 1980–2017

(ii) Identify the year in which the urban population first becomes larger than the rural population.

×	A 1985
×	B 1995
X	C 2005
X	D 2017



(iii) State one factor leading to rural-urban migration.	(1)
(e) For a named developing or emerging country explain two environmental challenges facing rural areas. Named developing or emerging country	(4)
2	



Analyse the importance of natural ecosystems for providing goods and services.	
Analyse the importance of flataral ecosystems for providing goods and services.	(8)



(Total for Question 2 = 25 marks)

			If you answer Question 3 put a cross in the box $ \square $.	
3	Urban	envii	ronments	
	(a) (i)	Defir	ne the term counter-urbanisation .	(1)
	(11)	ideni	tify two environmental problems associated with rapid urban growth.	(2)
		×	A Air pollution	
		X	B Lack of housing	
		X	C Overcrowding	
		×	D Poor services	
		×	E Ethnic segregation	
		X	F Water contamination	
	(b) Stu	dy Fig	gure 3a in the Resource Booklet.	
	(i)	Sugg	gest one reason why this area is likely to be part of a central urban area.	(2)

(ii)	denti	fy the meaning of the term rural-urban fringe .	(1)
	×	A The area where factory developments dominate the landscape.	
	×	B The area where farming activities dominate the landscape.	
	×	C The land around the city centre.	
	X	D The land at the edge of an urban area where the rural area begins.	
hou		environments in developed countries, explain how transport and trategies could improve quality of life.	(4)
Hou	sing		



(i) Label the box with an X to show which city was a megacity in 2018.

(1)

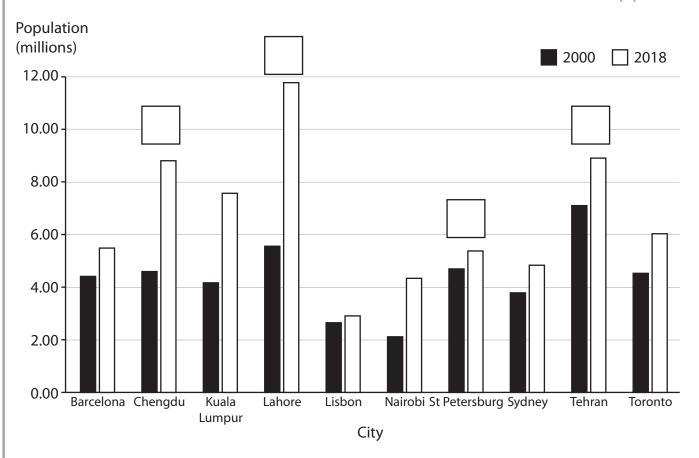


Figure 3b

Population sizes for selected cities in 2000 and 2018

(ii) Identify the city, from selected cities below, that has experienced the greatest growth between 2000 and 2018.

×	A Chengdu
X	B Lisbon
×	C St Petersburg
×	D Toronto



(iii) State one factor that affects the emergence of megacities.	(1)
(e) For an urban area in a named developing or emerging country explain how two different groups of people manage social challenges.	(4)
Named developing or emerging country	
Group 1	
Group 2	



Analyse the reasons why there are varied patterns of urban growth.	
Allalyse the reasons why there are valled patterns of diball growth.	(8)
	, ,

	(Total for Question 3 = 25 marks)
T	OTAL FOR SECTION A = 50 MARKS

SECTION B

Geographical enquiry

Answer ONE question from this section.

Some questions must be answered with a cross in a box \boxtimes . If you change your mind about an answer, put a line through the box \boxtimes and then mark your new answer with a cross \boxtimes .

If you answer Question 4 put a cross in the box $\ oxdiv$.

4	Investigating economic activity and energy				
	(a) Study Figure 4a in the Resource Booklet.				
		(i)	State one piece of secondary data that would be useful to investigate the impacts of this on the environment.	(5)	
				(1)	
		(ii)	Explain why photographs are a useful source of primary data.	(2)	

(b) Study Figure 4c below. It shows data from an environmental quality survey carried out in five sites around a new renewable energy power plant.

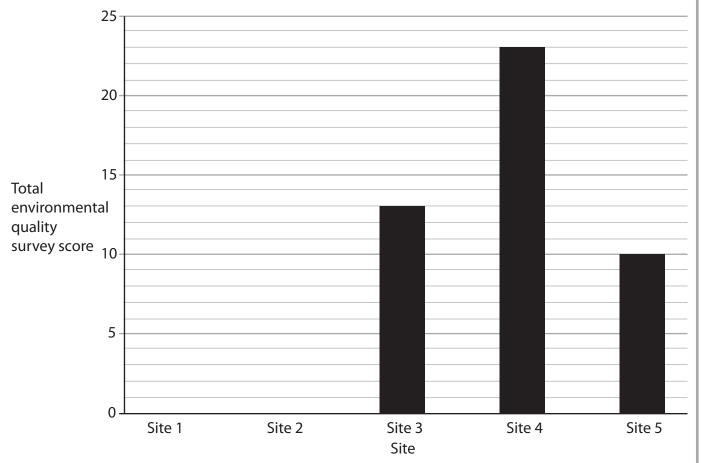


Figure 4c

A graph of environmental quality survey data

(i) Plot the data for sites 1 and 2 (from Figure 4b in the Resource Booklet) to complete the graph above (Figure 4c).

Some data has been plotted for you.

(2)

(ii) Identify the type of graph shown in Figure 4c.

(1)

X	Α	Bar
×	В	Line
×	C	Pie
X	D	Scatter

(iii) Identify the site in Figure 4c that has the highest environmental quality score.

(iv) Calculate the range in environmental quality scores.

Show all your workings.

(2)

(c) Explain **one** way you could manage a risk during fieldwork in an area close to a renewable energy power plant.

(3)

(Total for Question 4 = 12 marks)

22



If you answer Question 5 put a cross in the box $ \square $.	
Investigating rural environments	
(a) Study Figure 5a in the Resource Booklet.	
(i) State one piece of secondary data that would be useful to investigate this rural environment.	(1)
(ii) Explain why photographs are a useful source of primary data.	(2)



(b) Study Figure 5c below. It shows data from an environmental quality survey carried out in five sites around a new factory development.

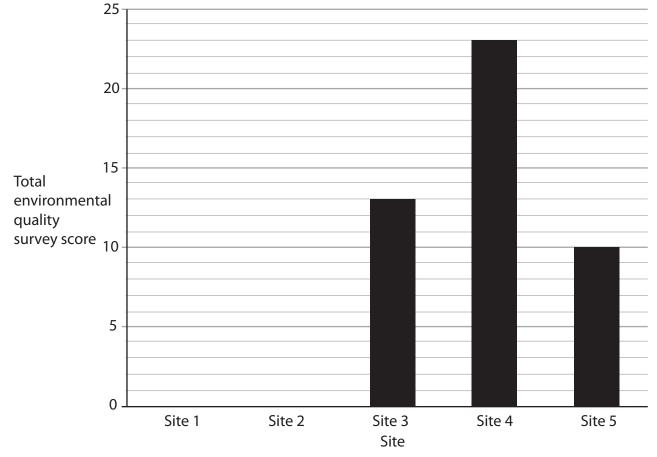


Figure 5c

A graph of environmental quality survey data

(i) Plot the data for sites 1 and 2 (from Figure 5b in the Resource Booklet) to complete the graph above (Figure 5c).

Some data has been plotted for you.

(2)

(ii) Identify the type of graph shown in Figure 5c.

(1)

X	A Bar
X	B Line
X	C Pie
X	D Scatter

(iii) Identify the site in Figure 5c that has the highest environmental quality score.

(iv) Calculate the range in environmental quality scores.	
Show all your workings.	
	(2)
(c) Explain one way you could manage a risk during fieldwork in a ru	ral area with a
(c) Explain one way you could manage a risk during fieldwork in a runnew development.	
(c) Explain one way you could manage a risk during fieldwork in a runnew development.	ral area with a
(c) Explain one way you could manage a risk during fieldwork in a runnew development.	
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(c) Explain one way you could manage a risk during fieldwork in a ru new development.	
(c) Explain one way you could manage a risk during fieldwork in a ru new development.	



	If you answer Question 6 put a cross in the box $ oxdots$.	
6	Investigating urban environments	
	(a) Study Figure 6a in the Resource Booklet.	
	(i) State one piece of secondary data that would be useful to investigate this urban environment.	(1)
	(ii) Explain why photographs are a useful source of primary data.	(2)
•••••		
•••••		

(b) Study Figure 6c below. It shows data from an environmental quality survey carried out in five sites around an urban area being regenerated.

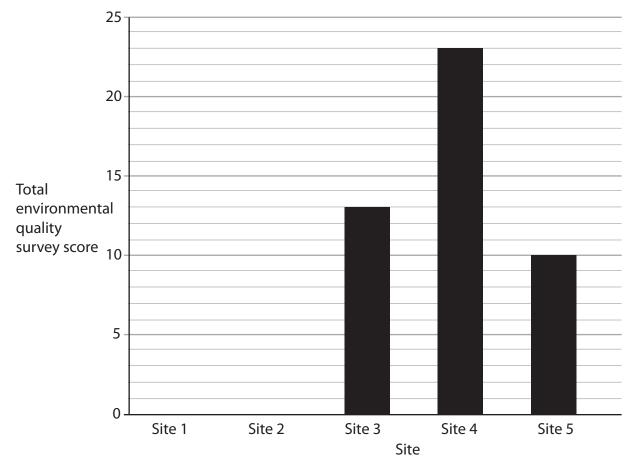


Figure 6c

A graph of environmental quality survey data

(i) Plot the data for sites 1 and 2 (from Figure 6b in the Resource Booklet) to complete the graph above (Figure 6c).

Some data has been plotted for you.

(2)

(ii) Identify the type of graph shown in Figure 6c.

(1)

×	A Bar
×	B Line
X	C Pie
×	D Scatter

(iii) Identify the site in Figure 6c that has the highest environmental quality score.

	(iv) Calculate the range in environmental quality scores.	
	Show all your workings.	(2)
		(2)
(c)	Explain one way you could manage a risk during fieldwork in a regenerated urbar area.	1
(c)	Explain one way you could manage a risk during fieldwork in a regenerated urbar area.	(3)
(c)		

TOTAL FOR SECTION B = 12 MARKS

(Total for Question 6 = 12 marks)

SECTION C

Global issues

				Answer ONE question from this section.	
	_			nust be answered with a cross in a box 🖂. If you change your mind line through the box 🔀 and then mark your new answer with a cr	
				If you answer Question 7 put a cross in the box $ \square $.	
7	Fragile	e envir	onn	nents and climate change	
	(a) (i)	Identi	fy th	ne meaning of the term Milankovitch cycles .	(1)
		×	Α	Variations in ocean circulation movements.	
		X	В	Variations in the length of time it takes for the earth to orbit the sur	١.
		×	C	Variations in the movement of air in the atmosphere.	
		×	D	Variations in the tilt and/or orbit of the earth around the sun.	
	(iii)	Identi	fy o	ne source leading to a significant increase of methane (CH ₄) in the	
	(111)	atmos	•	·	(1)
		X	Α	Burning wood as fuel.	
		×	В	Decaying organic matter.	
		×	C	Use of artificial fertilisers.	
		×	D	Use of aerosols.	
	(b) Stu	, ,		7a in the Resource Booklet. hich month had the highest average rainfall in 1991–2016.	(1)



(ii) Compare the temperature profile for 1901–1931 with the temperature profile for 1991–2016.	е
	(2)
(iii) Identify one human cause of climate change.	(2)
	(2)
(in) Comment and recognize the data in Figure 7a could are at a recognize	
(iv) Suggest one reason why the data in Figure 7a could create an inaccurate interpretation of global climate change trends.	(0)
	(2)
c) State two impacts of deforestation.	(2)

	(d) Explain two different approaches to managing deforestation in a named developing or emerging country.	(4)
1	Named developing or emerging country	
2		

(∈	e) Study Figure 7b in the Resource Booklet.	
	Assess the reasons for the global variation in the vulnerability to desertification.	(6)

'Deforestation represents the most significant threat to fragile environments.'	
Use Figures 7b and 7c in the Resource Booklet, and your own knowledge and understanding to support your answer.	(12)
	(12)



a) (i)	ldent	ify the meaning of the term TNC .	(1)
			(-/
	×	A Translocal Corporation	
	×	B Transnational Corporation	
	X	C Transnational Country	
	×	D Transporting National Corporation	
(ii)	Expla	in what is meant by the term forced migration .	
			(2)
(iii)) Ident	ify one push factor for rural-urban migration.	(1)
(iii)) ldent		(1)
(iii)	×	A Poor employment opportunities.	(1)
(iii)	×	A Poor employment opportunities. B Desire for large amounts of space.	(1)
(iii)	× ×	 A Poor employment opportunities. B Desire for large amounts of space. C Lower air pollution. 	(1)
		 A Poor employment opportunities. B Desire for large amounts of space. C Lower air pollution. D Lower land prices. 	(1)
	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	 A Poor employment opportunities. B Desire for large amounts of space. C Lower air pollution. D Lower land prices. gure 8a in the Resource Booklet.	(1)
	udy Fig	A Poor employment opportunities. B Desire for large amounts of space. C Lower air pollution. D Lower land prices. gure 8a in the Resource Booklet. ify which region had the highest percentage (%) of internet users in	(1)
o) Stu	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	A Poor employment opportunities. B Desire for large amounts of space. C Lower air pollution. D Lower land prices. gure 8a in the Resource Booklet. ify which region had the highest percentage (%) of internet users in	(1)



(ii) Compare the percentage (%) of internet users in Africa and the Americas.	(2)
(iii) Identify one advantage of increased access to the internet.	(2)
(iv) Suggest one reason why the data in Figure 8a might be a poor indicator of a growing global economy.	(2)
(c) State two pull factors for economic migration.	(2)
2	

developed country and (one in a developing or emerging	country.	(4)
Developed country			
Developing/Emerging co	ountry		

(e) Study Figure 8b in the Resource Booklet.	
Assess the impacts of global international migration on host countries.	(6)

technology.'	onomy has been as a result of inci	eases III access to
Use Figures 8a and 8c in t understanding to suppor	the Resource Booklet, and your ow t your answer.	n knowledge and (12)



	ident	ify the main characteristic of top down development .	(1)
	×	A Usually involves decisions at the local level.	
	×	B Usually involves government decisions.	
	×	C Usually involves small amounts of funding.	
	×	D Usually involves the ideas of local people.	
(ii)	Expla	in what is meant by the term international aid .	
(11)	Едрій	in what is meant by the term international ard.	(2)
/:::·		if and the of project that could be greated by a page governmental	
(iii)		ify one type of project that could be created by a non-governmental nisation (NGO).	(1)
(iii)			(1)
(iii)		nisation (NGO).	(1)
(iii)	organ	A Large investments in high speed rail network.	(1)
(iii)	organ	A Large investments in high speed rail network. B Facilitating increases in trade between two national governments.	(1)
	organ	A Large investments in high speed rail network. B Facilitating increases in trade between two national governments. C Improving water supplies in an informal settlement.	(1)
o) Stu	orgar	A Large investments in high speed rail network. B Facilitating increases in trade between two national governments. C Improving water supplies in an informal settlement. D Large investments in national agricultural development.	
o) Stu	orgar	A Large investments in high speed rail network. B Facilitating increases in trade between two national governments. C Improving water supplies in an informal settlement. D Large investments in national agricultural development. gure 9a in the Resource Booklet.	(1)



(ii) Compare the population structures of the United Kingdom in 1980 and 2015.	(2)
(iii) Identify one reason for the changes in population structure between 1980 and 2015.	(2)
(iv) Suggest one reason population structure can be an indicator of the level of development.	(2)
(c) State two reasons why development can be uneven within a country.	(2)

(d) Explain one advantage and one disadvantage of a bottom-up development project in a named developing or emerging country.	(4)
Named developing or emerging country	
Advantage	
Disadvantage	

(e) Study Figure 9b in the Resource Booklet.	
Assess the importance of food security on the global pattern of human welfare.	(6)

'Demographic characteristics are the most important factors	that can affect economic
development'.	
Use Figures 9a and 9c in the Resource Booklet, and your own	knowledge and
understanding to support your answer.	(12)
	(12)



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Pearson Edexcel International GCSE (9-1)

Time 1 hour 45 minutes

Paper reference

4GE1/02

Geography

PAPER 2: Human geography

ΔΔ

Resource Booklet

Do not return this Booklet with the question paper.

Turn over ▶







Figure 1a

Photograph of a house adapted for more sustainable energy consumption

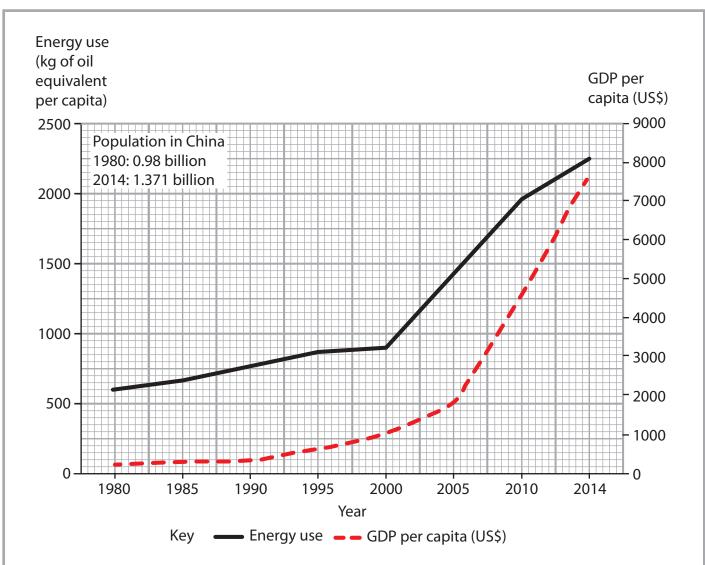


Figure 1c

Energy use and GDP per capita in China, 1980–2014



Figure 2a

New activities on a dairy farm

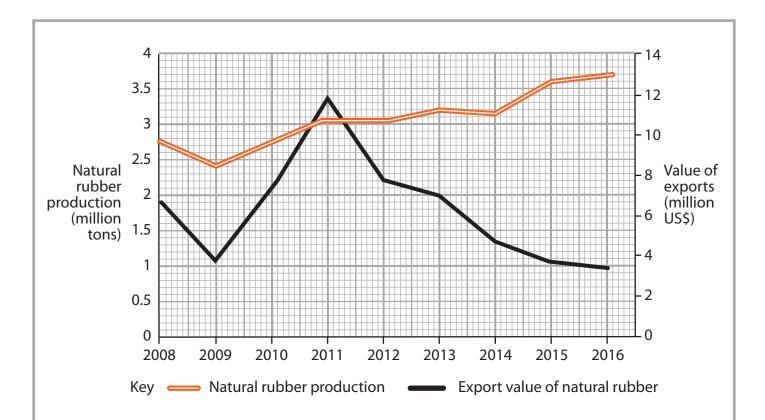


Figure 2c

Production and export value of natural rubber extracted from forests in Indonesia, 2008–2016

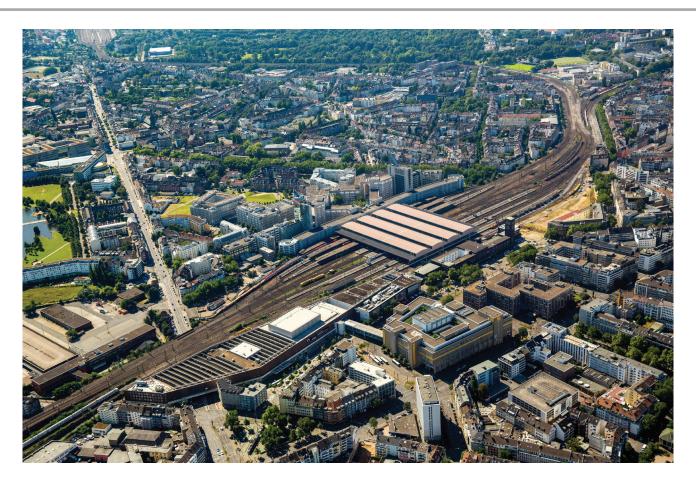
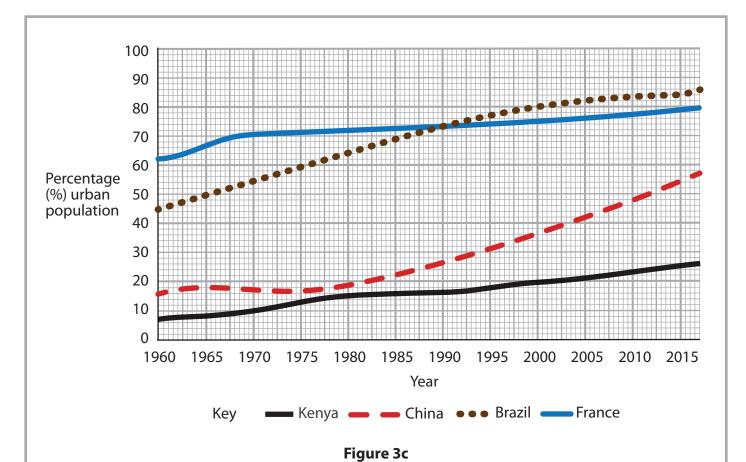


Figure 3a

An urban area



Trends in urban population for selected countries, 1960–2016



Figure 4a

Photograph of a new renewable energy plant

Environmental quality indicator	Site 1	Site 2	Site 3	Site 4	Site 5
Building condition (1 = Poor condition/5 = Good condition)	4	5	3	5	2
Road quality (1 = Poor condition/5 = Good condition)	4	2	3	5	2
Noise (1 = Very noisy/5 = No noise)	4	3	3	4	1
Litter (1 = A lot of litter/5 = No litter)	4	4	3	5	3
Air pollution (1 = Poor air quality/5 = Good air quality)	4	1	1	4	2
Total environmental quality score	20	15	13	23	10

Figure 4b

Extract from a table of results from an environmental quality survey



Figure 5a

Photograph of a new development in a rural area

Environmental quality indicator	Site 1	Site 2	Site 3	Site 4	Site 5
Building condition (1 = Poor condition/5 = Good condition)	4	5	3	5	2
Road quality (1 = Poor condition/5 = Good condition)	4	2	3	5	2
Noise (1 = Very noisy/5 = No noise)	4	3	3	4	1
Litter (1 = A lot of litter/5 = No litter)	4	4	3	5	3
Air pollution (1 = Poor air quality/5 = Good air quality)	4	1	1	4	2
Total environmental quality score	20	15	13	23	10

Figure 5b

Extract from a table of results from an environmental quality survey



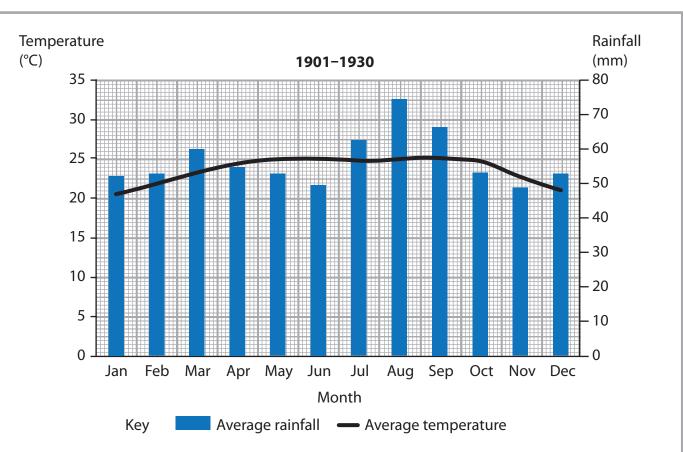
Figure 6a

Photograph of a regenerated urban area

Environmental quality indicator	Site 1	Site 2	Site 3	Site 4	Site 5
Building condition (1 = Poor condition/5 = Good condition)	4	5	3	5	2
Road quality (1 = Poor condition/5 = Good condition)	4	2	3	5	2
Noise (1 = Very noisy/5 = No noise)	4	3	3	4	1
Litter (1 = A lot of litter/5 = No litter)	4	4	3	5	3
Air pollution (1 = Poor air quality/5 = Good air quality)	4	1	1	4	2
Total environmental quality score	20	15	13	23	10

Figure 6b

Extract from a table of results from an environmental quality survey



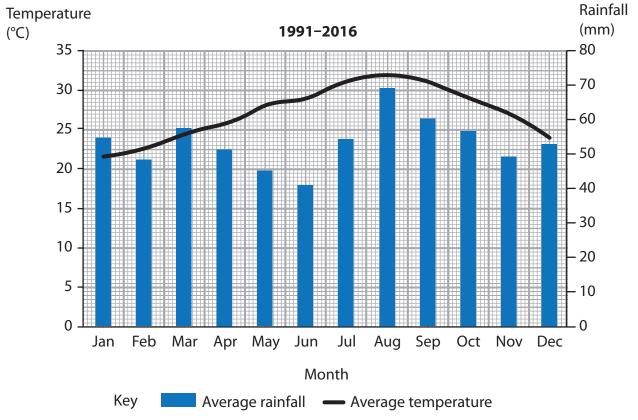


Figure 7a

Climate graphs for Africa, 1901–1930 and 1991–2016

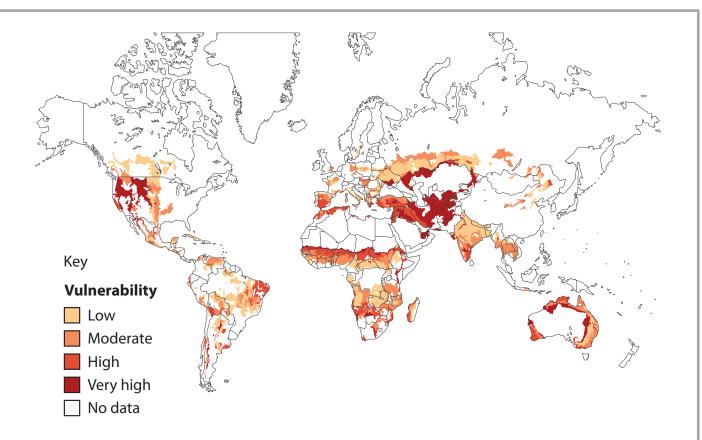


Figure 7b

A global map of vulnerability to desertification

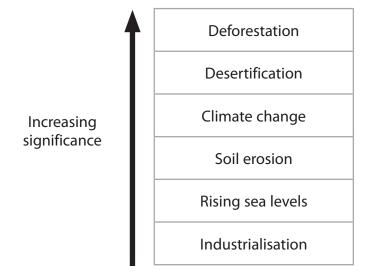


Figure 7c
Selected threats to fragile environments

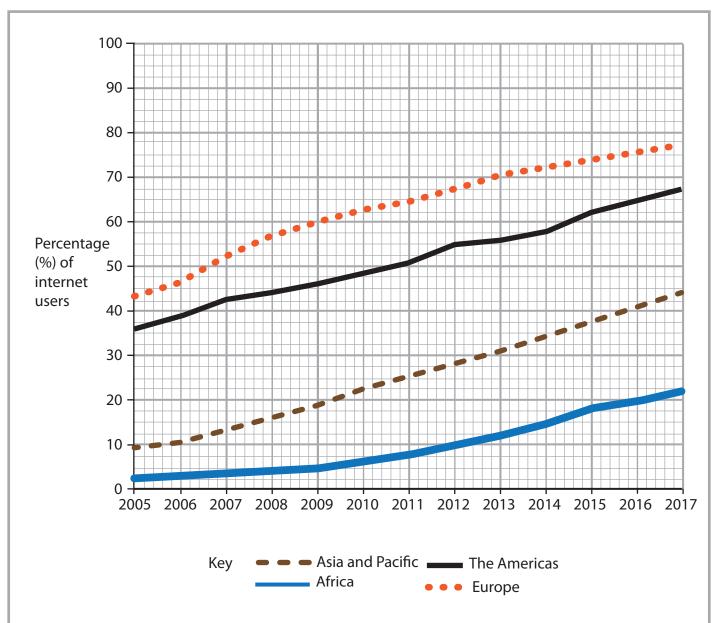


Figure 8a

Trend in internet use for selected regions, 2005–2017

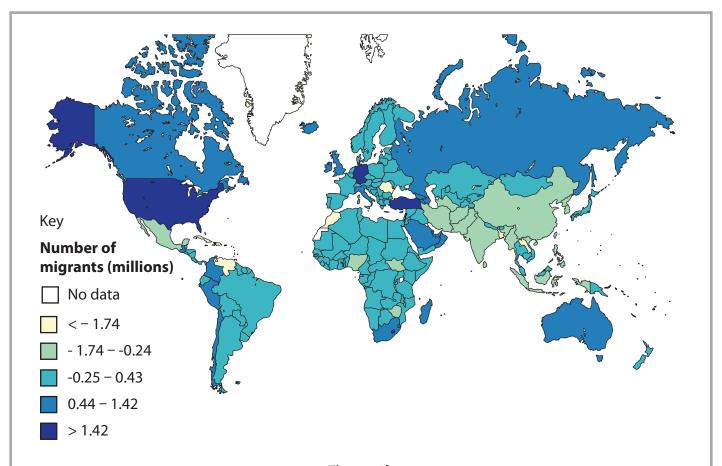
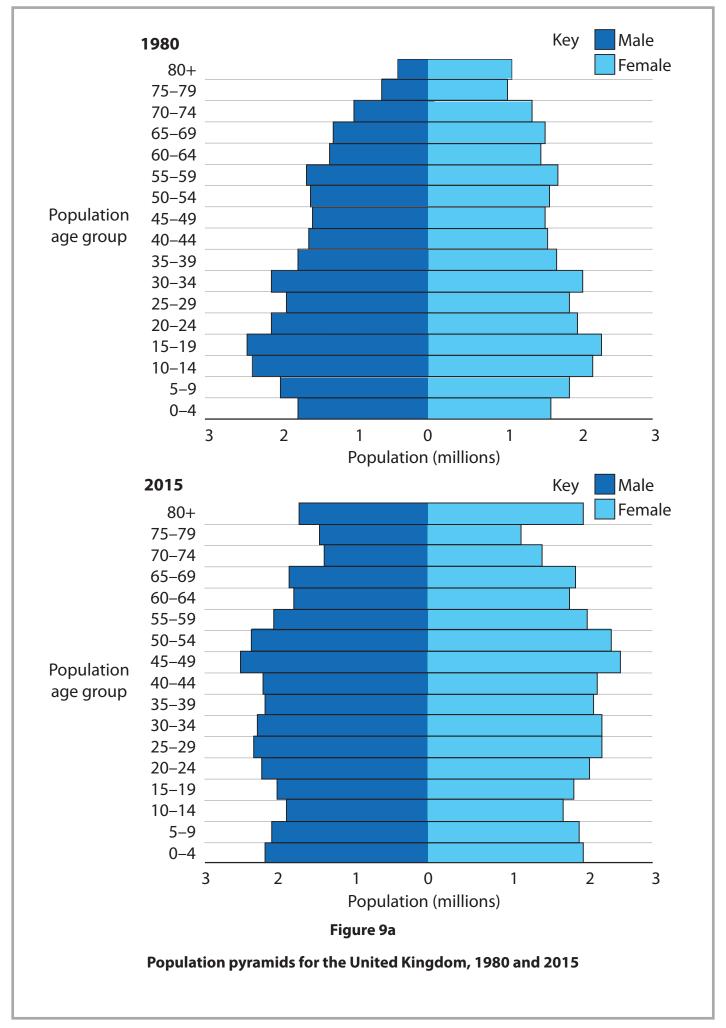


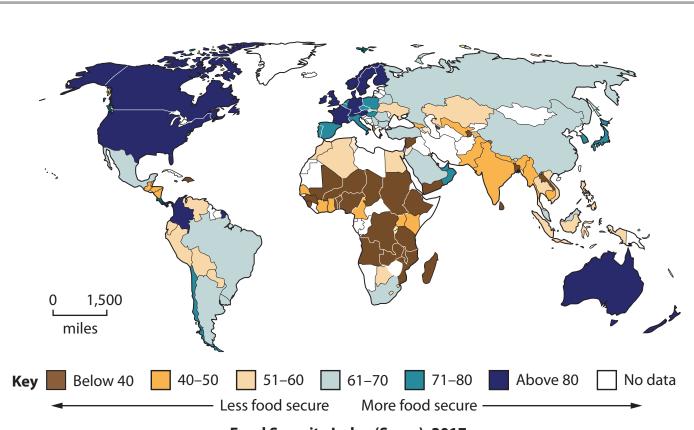
Figure 8b

Global map of net migration, 2017

Rank Importance	Factor
1	Information and communications technology
2	Transport technology
3	Trade agreements
4	Foreign investment
5	Labour
6	Migration

Figure 8c
Selected factors affecting the rise in the global economy





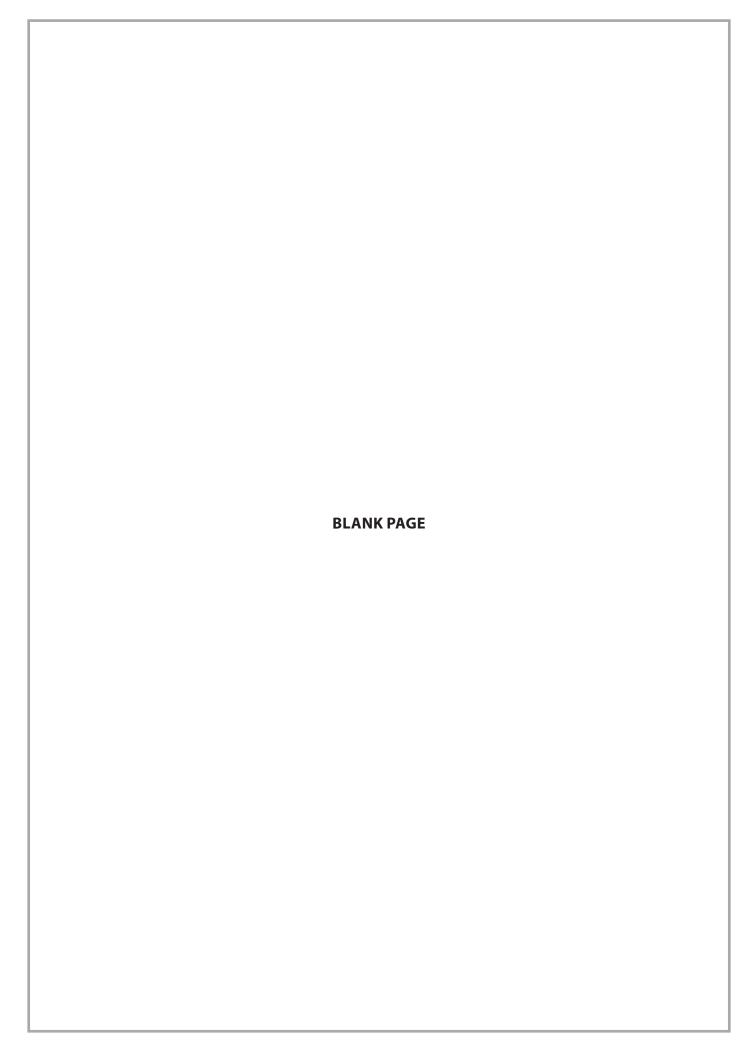
Food Security Index (Score), 2017

Figure 9b

Map of global food security



Figure 9c
Selected factors that affect development in rank order



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