

# **Pearson Edexcel International GCSE in Geography (4GE1)**

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For first teaching September 2017

First examination June 2019

**Examiner marked student exemplars with  
commentaries**

**Paper 2**

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**Issue 2**

## **Summary of Pearson Edexcel International GCSE in Geography examiner marked student exemplars with commentaries Paper 2 Issue 2 changes**

<b>Summary of changes made between previous issue and this current issue</b>	<b>Page number</b>
Question 3(d) has been inserted to provide full information.	2
The image exemplifying student answer worth 1 mark has been changed to provide clear guidance.	3

If you need further information on these changes or what they mean, contact us via our website at: [qualifications.pearson.com/en/support/contact-us.html](https://qualifications.pearson.com/en/support/contact-us.html).

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## Introduction

This guide has been created using sample student responses to the 2017 International GCSE Geography (4GEO1) Sample Assessments.

The answers and examiner commentaries in this guide can be used to show the expected standards in the International GCSE Geography assessment. The guide will focus on a variety of questions across the range of papers. It should be noted that students have done these responses at school, rather than under formal exam test conditions, although the mark scheme has been applied in the same way as it would be in a live paper. Therefore, the commentaries and scores should be representative, as much as is possible, of live-paper marking.

The exam shows a wide range of question types, generally ramping in demand and difficulty within each question. This applies to both Paper 1 and Paper 2.

The emphasis on interpreting geographical information (through the use of a wide range of resources) should not be underestimated, especially compared to the legacy International GCSE specification. Also important is the role of Assessment Objectives and how these determine the skills that students will need to demonstrate in particular question types.

Please see our Getting Started guide for more information. This document should be used alongside other International GCSE Geography teaching and learning materials available on the Pearson / Edexcel website.

4GE1/02 Paper 2 - Section A

Example 1 – Question 3 (d)

(d) Study Figure 3a in the Resource Booklet.

Explain **one** piece of evidence that shows this is a central urban area.

(2)

Guidance: Explain (with a figure)

When you see 'Study Figure...' answers must use the resource in their response. This is demonstrating AO3 by interpreting the resource. The additional AO2 mark comes from the explanation.



**Figure 3a**

**An urban area in Amman, Jordan**

## Mark scheme

Question number	Answer	Mark
3(d)	<p><b>AO2 (1 mark)/AO3 (1 mark)</b></p> <p>Award 1 mark (AO3) for one piece of evidence and a further 1 mark (AO2) for an appropriate extension, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>The housing in the picture is very high density (1), which is typical of city areas where land values are high (1).</li> <li>The image shows multiple-storey houses (1), which are likely to house large numbers of people (1).</li> <li>There is little green space (1), indicating the built-up nature of the area since land values are so high (1).</li> </ul> <p>Accept any other appropriate response.</p>	(2)

### Student answers to 3 (d)

(2)

Highrise buildings and apartments

#### Examiner's comments:

This response was given 1 mark.

There is direct evidence from the resource (AO3), but no development of this idea (i.e. the "why") into an explanation.

It has a high building density & tall commercial buildings, therefore it is a central urban area.

#### Examiner's comments:

This response was also given 1 mark.

The candidate has correctly interpreted the resource (again A03 mark), but the candidate does not present a reason, it merely restates the question. The reasoning must be related to factors that typically influence the characteristics of central urban areas.

(2)  
*A lot of high-rise flats as all the  
land is highly valuable and there  
is limited space*

**Examiner's comments:**

This response was given 2 marks.

AO3 and AO2 targeted by this question so the response must use direct evidence from the Figure 1a. "A lot of high rise flats" (AO3 interpreting the resource), "...the land is highly valuable and there is limited space" (AO2 demonstrating understanding – shows the "why").

Example 2 – Question 3 (e)(ii)

(ii) Explain **two** factors that have led to the growth of megacities.

(4)

Guidance: Explain  
 Questions that use the 'Explain' command word target AO2 (demonstrating understanding) and therefore full marks will not be awarded for simply stating a factor. Development is needed through clear explanation to secure the second mark.

**Mark scheme**

Question number	Answer	Mark
3(e)(ii)	<p style="text-align: center;"><b>AO2 (2 + 2 marks)</b></p> <p>Award 1 mark for a basic factor that has led to the growth of megacities and a further 1 mark for a development of this point, up to maximum of 2 marks per explanation.</p> <ul style="list-style-type: none"> <li>• Natural increase is high (1) as birth rates are higher than death rates (1).</li> <li>• High birth/increasing birth rate (1), with stated reason (1).</li> <li>• With fewer people dying, death rates are falling (1), with stated reason (1).</li> <li>• Rural to urban migration (1), with extension through details of a push or pull factor (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)

**Student answers to 1 (e)**

(4)

1 Higher standard of living

2 Better healthcare → lower IMR



**Examiner's comments:**

This response was given 2 marks.

Two very brief statements, but no clear development. The second idea does present a partial reason, but this should be expressed more clearly as an explanation, e.g. ".....therefore this leads to a lower infant mortality rate (IMR) which increases the megacity population".

- 1 Higher living standard. Megacities have better services and is very developing, therefore, it's average living standard also increase with the development. As a result, people will find their standard of living will be higher than other places.
- 2 Better access to services e.g. medical, hospital. Megacities provide better services for e.g. healthcare. Therefore, it reduces the infant mortality rate because people can access to hospital and healthcare easier, as a result, the population will increase, which come a long with the growth of megacities

(f) Study Figure 3b in the Resource Booklet.

**Examiner's comments:**

This response was given 4 marks.

In both parts of this response the candidate has provided explanation. However, the second reason feels more secure since the use of the word "therefore" is used confirm the explanation more clearly. Perhaps both of these ideas could have been written slightly more succinctly. Nonetheless, a high quality answer showing good reasoning.

Example 3 – Question 3 (f)

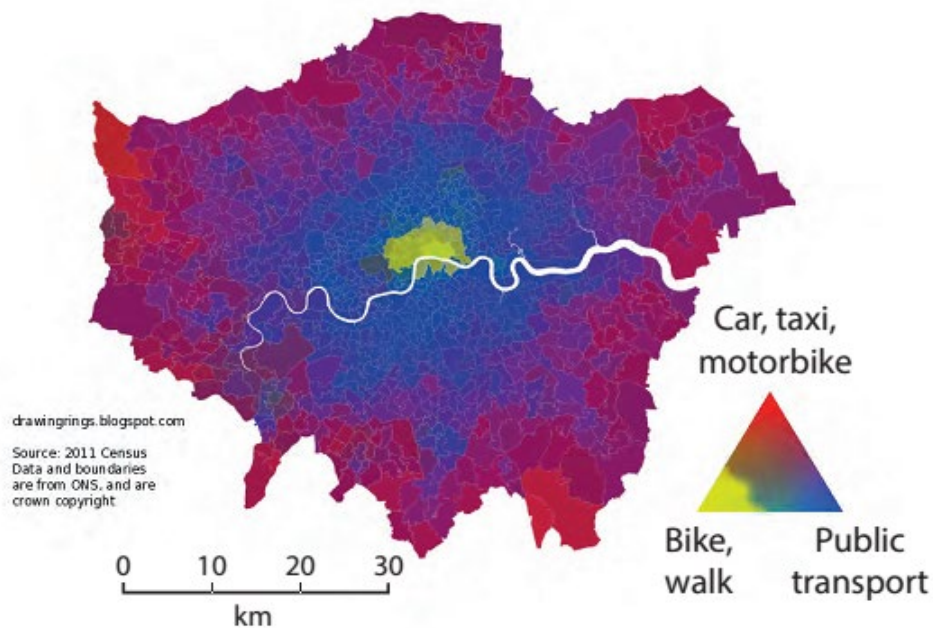
(f) Study Figure 3b in the Resource Booklet.

Suggest **one** reason for the differences in commuting patterns shown on Figure 3b.

(3)

Guidance: Suggest

Questions that use the 'Suggest' command word target both AO2 (demonstrating understanding) and AO3. In this instance as its 3 marks there is a need for double-development. Suggest is similar to an explain, i.e. to apply understanding, expect suggest is used when there is a resource that is likely unfamiliar to the candidate.



**Figure 3b**

**Data on how people commute in London (based on 2011 census)**

### Mark scheme

Question number	Answer	Mark
3(f)	<p><b>A02 (2 marks)/A03 (1 mark)</b></p> <p>Award 1 mark (A03) for a basic reason for the differences in commuting patterns and a further 2 marks (A02) for extension through explanation or description, up to a maximum of 3 marks.</p> <ul style="list-style-type: none"> <li>• In the outer areas there is a predominance of cars (1) because there may be less road congestion and/or limited public transport options (1). People living in these areas might have a further distance to travel into the centre of London for work (1).</li> <li>• Central London has many people cycling/walking (1) due to potentially higher levels of traffic congestion in the central area (1), which would slow down journey times (1).</li> <li>• Central London has many people cycling/walking (1) as they only need to travel a short distance (1), with the bulk of their journey being completed via public transport (1).</li> <li>• In the middle/inner suburbs, public transport is dominant (1). This might be because people need the connectivity of public transport (1) as it still would be too far to walk/cycle into the centre of London (1).</li> </ul> <p>Accept any other appropriate response.</p>	(3)

### Student answers to 1 (f)

People living in the CBD will not need to travel far to get to their job, so instead of wasting money on transport they will either walk or ride a bike and due to high population it makes it easier to commute by bike or foot.

### Examiner's comments:

This response was given 2 marks.

This response has only picked up on one idea – people living close to work (CBD) will walk / cycle. This gets an A03 mark. There is enough development to get the A02 mark, i.e. easier or cheaper. The response however lacks much clarity in the explanation; it also fails to do differences shown on the resource.

There is very little space between buildings and streets, as result, people could only walk and bike to ~~have~~ go around, as it is further away from the centre of the city, there are more space and motorways, cars and public transports could be used.

**Examiner's comments:**

This response was given 1 mark.

This response doesn't use evidence from the map sufficiently well to pick up an AO3 mark. Spaces between buildings / streets cant be seen at this scale so that comment cannot be credited. There is some limited and partial explanation around ease of movement in the outskirts – space etc so there is an AO2 mark.

Accessibility: nearer to the CBD there are better public transport to get workers / shoppers into the CBD. Within the CBD there is not much space + people have to walk or use a bike. In the outer suburbs people have cars as there is no public transport.

**Examiner's comments:**

This response was given 3 marks.

The reason is much clear in this response – accessibility and availability of public transport (linked ideas so can be credited as one reason). That idea is developed with ideas around space. Difference is also explicit between the inner and outer areas (uses map evidence) for the AO3 mark.

Note words like “core” and “periphery” would have useful additions to this student's vocabulary in respect of a question such as this.

### Example 4 – Question 3 (g)

(g) For a named developed country, explain **two** strategies used to manage the demands of waste disposal.

(4)

Named developed country .....

Guidance: Explain

Questions that use the 'Explain' command word target AO2 (demonstrating understanding) and therefore full marks will not be awarded for simply stating a factor. Development is needed through clear explanation to secure the second mark.

### Mark scheme

Question number	Answer	Mark
3(g)	<p><b>AO2 (2 + 2 marks)</b></p> <p>Award 1 mark for initial explanation of a scheme, and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named developed country is used in context.</p> <p>Answers will depend on chosen case studies, but expect the following points to arise.</p> <ul style="list-style-type: none"> <li>• A named policy/strategy used by national and/or local government (1) details how this reduces household and/or municipal waste (1).</li> <li>• Introduction of schemes to 'reduce, reuse and recycle' (1), with further explanation of how this will reduce waste/why this strategy is better than other options, e.g. landfill or incineration (1).</li> <li>• Equipping residents with facilities to recycle and compost their own waste (1), e.g. through doorstep recycling schemes, bottle banks and household waste recycling centres (1).</li> <li>• Development of waste-burning, as opposed to power stations burning fossil fuels (1), will reduce the amount of waste that is disposed of via landfill (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)



Student answers to 3 (g)

Named developed country ..... United Kingdom (4)

1 Recycling centres can reuse materials from rubbish, thus reducing total waste.

2 Construct landfills to be specifically for rubbish, thus saving effort.

**Examiner's comments:**

This response was given 3 marks.

In the first part of the response there is enough extension to secure 2 marks reuse – “.....thus reducing total amount of waste” is the development.

The second part gives the idea of landfill (1) but “saving effort” is not sufficient development for the second mark.

Named developed country Cardiff, Wales

- 1 Recycling house-hold recyclable waste : Contents that could be recycled are collected once a fortnight through bin bags and is taken to Materials recycling factories. Glass, plastic and paper are recycled to make new products while cans are melted
- 2 Reduce size of black bin bags : it has been reduced from 240L to 140L. As it has been reduced, people would not dispose as much non-recyclable waste and try to reuse them and think before they throw trash away.

(h) Study Figure 3c in the Resource Booklet.

Analyse the <sup>④</sup>social and <sup>④</sup>economic challenges associated with rapid urbanisation. <sup>down to make new products</sup>

#### Examiner's comments:

This response was given 4 marks.

In both parts of this response the candidate has provided sufficient explanation. However, the second reason feels more secure since the explanation is more explicit and is supported with data (240-140L bins)

Example 5 – Question 3 (h)

(h) Study Figure 3c in the Resource Booklet.

Analyse the social and economic challenges associated with rapid urbanisation.

(8)

Guidance: Analyse

Investigate an issue by breaking it down into individual components and making logical, evidence-based connections about the causes and effects or interrelationships between the components.

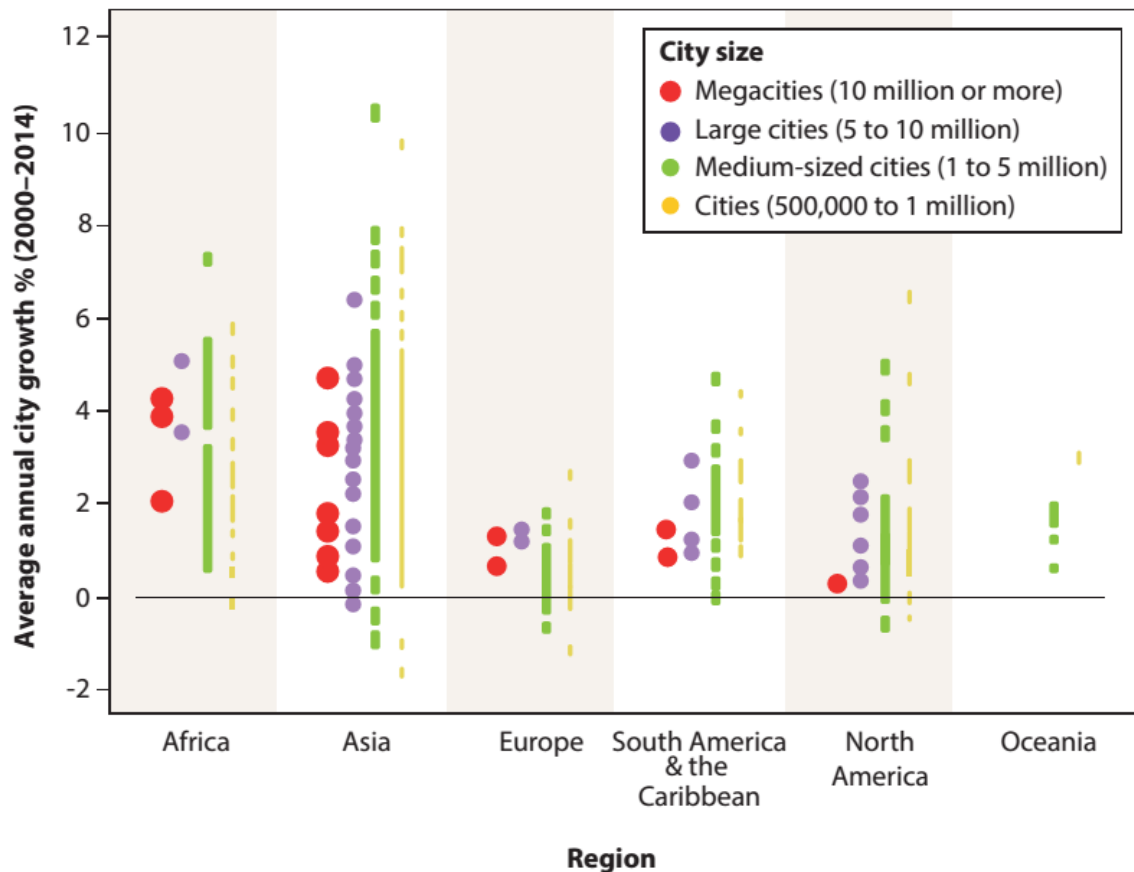


Figure 3c

The world's fastest growing cities



## Mark scheme

Question number	Indicative content
3(h)	<p style="text-align: center;"><b>A03 (4 marks)/A04 (4 marks)</b></p> <p><b>Marking instructions</b>  Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b>  The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>A03</b></p> <ul style="list-style-type: none"> <li>• Social and economic challenges are likely to be greatest in developing nations because of a combination of factors. They have fewer resources to cope with more people and their rates of urbanisation are much greater than that of their developed counterparts.</li> <li>• Much of the rapid growth in cities in developing and emerging countries has been caused by rural-urban migration, leading to the creation of shanty towns and squatter settlements. Because of the unplanned nature and scale, this is one of the biggest problems.</li> <li>• Rapid urbanisation creates traffic congestion and transport challenges in a range of developed, developing and emerging countries. This is a problem for various groups in society, rich and poor alike. Solutions are very expensive in nearly all cases, so this is also a big problem.</li> <li>• Lack of access to quality health provision affects developing and emerging countries more. This is linked to mushrooming cities where there is the problem of access to clean water, enabling disease to spread rapidly.</li> <li>• There are other challenges, such as low levels of employment or employment in the informal sector, which is unregulated and poorly paid. This economic challenge can be difficult to solve without clear government intervention.</li> </ul> <p><b>A04</b></p> <ul style="list-style-type: none"> <li>• From 2000–2014, the majority of cities in each region have experienced growth, although this growth has been uneven. For example, in Oceania and Europe there has been much smaller growth when compared to Africa and Asia.</li> <li>• Asia has seen the largest increase in cities, both in terms of the number of cities on the continent and the amount by which these cities have grown, with many growing by more than 6%.</li> <li>• Cities in developed countries tend to grow more slowly (0–4%) compared to cities in developing/emerging countries (many by 4–8%).</li> <li>• Europe has the most cities that experienced a decrease in size (usually 0–1%) between 2000 and 2014.</li> <li>• Oceania has the fewest number of cities with a population between 1–5 million (and no megacities). These cities appear to be growing relatively slowly, with only 0–2% change between 2000 and 2014.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> <li>Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3)</li> <li>Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li> </ul>
Level 2	4–6	<ul style="list-style-type: none"> <li>Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</li> <li>Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li> </ul>
Level 3	7–8	<ul style="list-style-type: none"> <li>Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)</li> <li>Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)</li> </ul>

### Student answers to 3 (g)

Pollution is a big problem in big cities. It can affect in health and deterioration in the quality of life of citizens. Significant deterioration of the ecological situation in the cities: population growth morbidity and mortality growth, deterioration of mental and social health.

Urbanisation contributes to the formation of a modern economy, overcoming backwardness and multistructure national consolidation, and the development of the socio-political structure of society.



**Examiner's comments:**

This response was given 2 marks (L1)

Its only A03 judgments that can be partially credited, and these are implicit, rather than explicit. Answers which fail to refer to the resource, or deconstruct meaning, are going to score very low marks.

Candidates need to move away from thinking these questions require descriptive case study information or knowledge to be recalled. Analysis of the resource is key, quoting data and evidence and then linking this to your understanding.

Social aspects: rapid urbanisation will lead to over population. People in the ~~city~~ city will have limited space, and also there would be a lot of competition, it would be a challenge for people to have enough sources, e.g. education for the younger generation as there are too much people competing for a place for school, such as in Asia according to figure 3c. Since the average growth rate is getting higher and also it has the most population which has 7 megacities with more than 10 million people per place.

Economic aspects: people moved from rural areas to the CBD, ~~which~~ which leaves work like harvesting and farming with less and less people, ~~and~~ and one

day it might all be replaced by machines and people would've lost that skill. Moreover, in the city, people finding jobs would become harder and harder as there are more people and so there would be more competition. Also ~~people~~ ~~the~~ the price of goods would also be more expensive as ~~there~~ ~~are~~ there are more people wanting the same goods.

**Examiner's comments:**

This response was given 4 marks (L2)

The candidate has picked some accurate information about the general trends in the area graph (AO4), but this is rather limited in terms of range.

The response provides some clear challenges, but they are somewhat generalised. AO3 is slightly stronger than the AO4 part of this response.

## 4GE1/02 Paper 2 - Section B

### Example 6 – Question 6 (a)

You have investigated the changing use of central/inner urban environments as part of your own geographical enquiry.

(a) Describe **one** advantage of a sampling strategy used in your investigation.

(2)

Named sampling strategy .....

Guidance: Describe (fieldwork)

This is a familiar fieldwork question, so some depth of knowledge is required around the “how” and “why” of fieldwork, especially the technical knowledge. In this instance sampling is being tested.

### Mark scheme

Question number	Answer	Mark
6(a)	<p><b>A04 (2 marks)</b></p> <p>Sampling strategy: random, systematic or stratified. NB There are no marks for stating the strategy.</p> <ul style="list-style-type: none"> <li>Stratified – used to allow fair data collection (1) as the population of the interview sample was mixed in terms of age (1).</li> <li>Systematic – adopted as the most practical approach in order to collect a large number of questionnaire responses (1), not knowing anything about the underlying population.</li> <li>Random – chosen as the expectation was that the population would be similar in all areas where the interviews were carried out (1), therefore creating an equal chance of reaching a particular type of person (1).</li> </ul> <p>Accept any other appropriate response.</p>	(2)

### Student answers to 6 (a)

Named sampling strategy Random sampling:

No human bias involved in the selection process

**Examiner's comments:**

This response was given 1 mark.

The idea of bias is correct (1 mark) but the idea does show enough development of the description, e.g. ...create an equal chance of selecting someone and so reducing bias.

Named sampling strategy Stratified sampling

Putting into categories

Advantage - Helps to reduce bias choices because of all the sub groups  
of the population are included in the sample.

**Examiner's comments:**

This response was given 2 marks.

The idea of putting into categories is valid in the context of stratified, and then the student explains how this reduces bias and link their comments to the population sub-groups.

Example 7 – Question 6 (b)

(b) Describe **one** way in which the secondary data you collected supported your understanding of the investigation.

(3)

Guidance: Describe (fieldwork)

This is another familiar fieldwork question, so some depth of knowledge is required around the “how” and “why” of fieldwork, especially the technical knowledge. In this instance knowledge of secondary data is being tested.

### Mark scheme

Question number	Answer	Mark
6(b)	<p><b>A04 (3 marks)</b></p> <p>Award 1 mark for initial clear type of a specific data and an additional 2 marks for development through further description or exemplification.</p> <p>The secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural change.</p> <ul style="list-style-type: none"> <li>• 2015 geodemographic IMD data was used (1) to find out about the spatial variation in urban areas (1). This allowed the groups to design an appropriate sampling frame that helped to further understand the area from the fieldwork data (1).</li> <li>• A 2015 urban transport strategy document from the government (accessed online) (1) allowed access to information about how the region was changing its transport policy towards a more sustainable framework (1). This understanding helped me in forming the questions included in the questionnaire (1).</li> </ul> <p>Accept any other appropriate response.</p>	(3)



**Student answers to 6 (b)**

Goad mapping: this would help me better understand land use in the area and I could cross check my information collected. This is very helpful for identifying land use above ground level!

**Examiner's comments:**

This response was given 3 marks.

Goad mapping is clear secondary data (1) to understand land use (1). Then the idea of cross checking against the information collected (primary data) is sufficient development for the 3 marks.

The secondary data that was collected supported my understanding because I have used newspaper samples, Goad maps. The Goad maps have helped locate the ~~use~~ location of central/inner urban environments as part of ~~my~~ own geographical enquiry.

**Examiner's comments:**

This response was given 2 marks.

Goad mapping (1) and the development ...helped to locate the central inner urban area is a valid extension (1). However this response does not show sufficient development to get the maximum marks.



### Example 8 – Question 6 (c)

(c) Explain **two** reasons for the technique(s) chosen, for example graph, map or diagram, to present your primary or secondary data/information.

(4)

Guidance: Explain (fieldwork)

Questions that use the 'Explain' command word normally target AO2 (demonstrating understanding). However, since this is a fieldwork question the AO mapping is instead AO3. The same rules should be applied, i.e. a reason and then development is needed through clear explanation to secure the second mark.

#### Mark scheme

Question number	Answer	Mark
6(c)	<p style="text-align: center;"><b>AO3 (2 + 2 marks)</b></p> <p>NB There is no credit for stating the type of graph or diagram.</p> <p>Award 1 mark for the identification of a reason and a further 1 mark for an explanation of the reason, up to a maximum of 2 marks. There are two reasons required in this question.</p> <ul style="list-style-type: none"> <li>• A gain-loss graph was used because this showed the positives and negatives in people's attitudes (1) and made comparisons between the questions much easier to see (1).</li> <li>• A located proportional bar was used for some questions so that changes along the road could be seen (1), as well as the places/sites where most change happened in terms of the development of different attitudes (1).</li> </ul> <p>Reward candidates who give reasons for use of maps/GIS/photos.</p> <p>Accept any other appropriate response.</p>	(4)

**Student answer to 6 (c)**

- 1 It show visual patterns and trends making the comparison between points easier to read.
- 2 Quick and/or easier to draw, this is again making it easy to see.

**Examiner's comments:**

This response was given 3 marks.

The first idea....."show visual patterns and trends" (1) is then developed by the comparison and easier to read.

For the second part of the response, quick and easier to draw is generic and does not link to a particular type of graph or technique. Therefore 1 mark only.

There is no requirement to state a particular type of graph or technique, but in cases such as this, it does provide more context for the marking of the response and so might be considered good practice.

Example 9 – Question 6 (d)

(d) Explain **one** factor that may have influenced the reliability of your results.

(3)

Guidance: Explain (fieldwork)

Questions that use the 'Explain' command word normally target AO2 (demonstrating understanding). However, since this is a fieldwork question the AO mapping is instead AO3. The same rules should be applied, i.e. a reason and then development is needed through clear explanation to secure the second mark.

Mark scheme

Question number	Answer	Mark
6(d)	<p><b>A03 (3 marks)</b></p> <p>Award 1 mark for the identification of a reason and a further mark(s) for an explanation of the reason, up to a maximum of 3 marks.</p> <ul style="list-style-type: none"> <li>The quality of sampling procedure, i.e. the number of sites (1) would have impacted on the results and the fact that there was lots of variability in people's responses at any one site (1) could have caused inaccuracies (1).</li> <li>The quality of recording sheet used and potential for errors to be introduced (1) due to poor questionnaire design, e.g. sequencing of questions (1) could have caused inaccurate findings (1).</li> </ul> <p>Accept any other appropriate response.</p>	(3)

Student answers to 6 (d)

(3)

Primary data could have been poorly collected and recorded, leading resulting in errors.

Because data ~~could~~ could have been qualitative and subjective.

**Examiner's comments:**

This response was given 1 mark.

The first idea about poor data collection and resulting in errors is worth 1 mark, but it could have easily been developed, e.g. by writing about the type of data or more explicitly how errors were introduced, i.e. operator, equipment, sampling etc.

The second point around qualitative and subjectivity is taken to be an additional factor (doesn't link to the first idea in a coherent way). Therefore this cannot be given credit as it is one factor only.

(3)

The time of the day: The most crowded time is always the morning and afternoon when people go to work by cars which will be influenced for my results of the number of vehicles passed if I didn't choose the suitable time.

**Examiner's comments:**

This response was given 2 marks.

The first idea about time of data is a valid reason that can affect reliability, so 1 mark here. This is then developed by explaining that fact that traffic flows vary and the reasons why, so a second mark for this. However, the response fails to close the idea of how this might have influenced reliability, e.g. causing inaccuracy or less reliability. This would have secured the third mark.

Example 10 – Question 6 (e)

- (e) Study Figure 6 in the Resource Booklet. It presents the data from a student's investigation on the changing use of central/inner urban environments.

The aim of the student's investigation was to investigate how the urban environment has been changed by people in Dublin, an urban area in Ireland.

The student carried out an environmental quality survey and annotated a digital photograph of the urban environment at one location within Dublin.

Evaluate the student's methods and results.

(8)

Guidance: Evaluate (fieldwork)

This is an unfamiliar fieldwork question and has the same AO mapping as analyse, but is instead associated with fieldwork resources. Just as in the other questions which follow this AO mapping, students are required to draw data, information and evidence from the resources in order to make links and connections between what is presented to them.

*This is not an opportunity to write about their own fieldwork. Instead, that experience should provide them with a context by which they can understand the resources in the exam.*

**Enquiry question:** To what extent is the urban environment in Dublin, Ireland, changing in a sustainable way?

A large number of new and regenerated high-rise buildings, providing extra housing and office space for many people.



This area has been pedestrianised, which provides safe access for people.

#### Environmental Quality Survey (EQS) – my results

Positive features	+2	+1	0	-1	-2	Negative features
Low traffic count		✓				High traffic count
Quiet		✓				Noisy
Odourless			✓			Unpleasant smells
Little/no air pollution			✓			Considerable air pollution
Safe for pedestrians	✓					Dangerous for pedestrians
Strong evidence of renewable energy use					✓	No evidence of renewable energy use

**Figure 6**

## Mark scheme

Question number	Indicative content
6(e)	<p style="text-align: center;"><b>A03 (4 marks)/A04 (4 marks)</b></p> <p><b>Marking instructions</b>  Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b>  The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>A03</b></p> <ul style="list-style-type: none"> <li>• The sampling strategy, e.g. random, stratified and/or systematic, is important when planning data collection for an investigation. For example, if something is either under- or over-represented, results, despite being accurately collected, might not provide valid conclusions.</li> <li>• Recognition of limitations in the data collection/sampling techniques may be flawed in terms of the number of sites (spatial) and the time of year (temporal).</li> <li>• The reliability and accuracy of the student's methods may be evaluated with reference to potential evaluation, including equipment errors and operator errors.</li> <li>• A judgement about limitations of equipment used/operator error in relation to the enquiry question.</li> <li>• An evaluation of how far the student's results can be trusted may be provided (or repeated to obtain the same results – reliability).</li> </ul> <p><b>A04</b></p> <ul style="list-style-type: none"> <li>• The student only carried out a data collection (EQS and annotated digital photograph) at one location in Dublin therefore variations across the urban environment will not have been measured. The student could have repeated the method at 500 m intervals (systematic sampling) along a transect across the urban environment for a more accurate result that would have possibly identified spatial variations/changes.</li> <li>• The location of the annotated digital photograph is unknown and may be in the only part of Dublin where there is no evidence of renewable energy use, so the results may not be representative of the area as a whole and greater sampling is required to obtain valid conclusions.</li> <li>• The EQS does include a broad range of criteria that have been used to assess the location. However, the –2 score for 'strong evidence of renewable energy use' could have been explored further, e.g. with a land use map, for more meaningful results.</li> <li>• The completion of the EQS, and the overall positive +4 rating arrived at by the student, may be accurate and reliably carried out at different locations across Dublin, but it is subjective to the individual. An approach that may produce results leading to a more valid conclusion would be to ask a group of students to each carry out their own EQS and average the results, or to ask a group of students to discuss and agree on the scores for each criteria.</li> </ul>



Level	Mark	Descriptor
	<b>0</b>	No acceptable response.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)</li> <li>Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</li> <li>Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity, using relevant geographical terminology occasionally. (AO4)</li> </ul>
<b>Level 3</b>	<b>7–8</b>	<ul style="list-style-type: none"> <li>Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)</li> <li>All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity, and uses relevant geographical terminology consistently. (AO4)</li> </ul>



## Student answers to 6 (e)

The student has used an environmental quality survey to comment on the positive and negative feature in the urban area in Ireland. He has also used a picture to annotate the urban environment at one location in Dublin. His survey has resulted in 3 three positive features, two neutral features and one negative feature. He has learned that the area is pedestrianised, which provides safe access for people, and it has a low traffic count and it's also quiet. He has also learned that there was no evidence in renewable energy use. Annotating from the picture, there is a large number of new, renovated high rise building which provides extra housing and many more for people. I would say the Environmental Quality Survey is a reliable method as well as it was non-reliable because it is easy to manage, it is faster and has an effective cost as a reliability but the student only depending on one area of Dublin instead of investigating even more resulting to biased information and an ~~non~~ non-reliable method. Other methods I would suggest would be by researching online, and

using other people's case studies and evaluating them by qualitative research or by doing polls and questionnaires and using a quantitative research.

(Total for Question 6 = 20 marks)

**Examiner's comments:**

This response was given 5 marks – a secure L2. The start of the response is rather descriptive, but the answer does become more evaluative towards the bottom of the page. There is a little imbalance between the picture and the EQA.

(8)

The student included a picture with some annotations, however, he did not provide a picture of the same location to show comparison of ~~that~~ <sup>before & after of</sup> how the urban environment has been changed by people in Dublin. But he has annotated the photograph, stating how people are developing those locations and states the use of it which is a good way to show results.

The student has also created a bipolar graph, showing his results from the investigation. But the graph has only shown one set of result, ~~which~~ it would be better if the student ~~also~~ as well includes the data of before changes, to show clearly how Dublin changed (the urban environment of Dublin) in a sustainable way. Moreover for the features of the bipolar graph, some of them are rather qualitative, which people might judge it with different opinions, for example the noise count, she could use some digital sound sensor to record the noise collected at that certain area, which is much more accurate. Also, for the traffic count, it's stated high traffic

count and low traffic count, but what is  
the standard of high or low traffic count?  
Which I think that the student should state  
more clearly

(Total for Question 6 = 20 marks)

**Examiner's comments:**

This response was given 7 marks.

It shows good balance between AO3 and AO4 and examines each individual resource in an analytical way. There is good use of evaluative language throughout (lots of "buts", "moreover" etc)) and offers alternative ways of performing procedures. Technical knowledge of fieldwork and presentation is secure.

The inclusion of a very short conclusion, e.g. one sentence would provide closure on the evaluation. This is always good practice in these questions and would have allowed the student to get the maximum of 8 marks available.



4GE1/02 Paper 2 - Section C

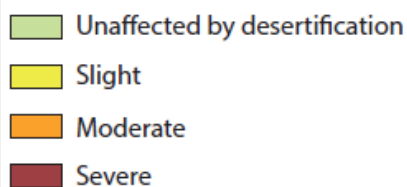
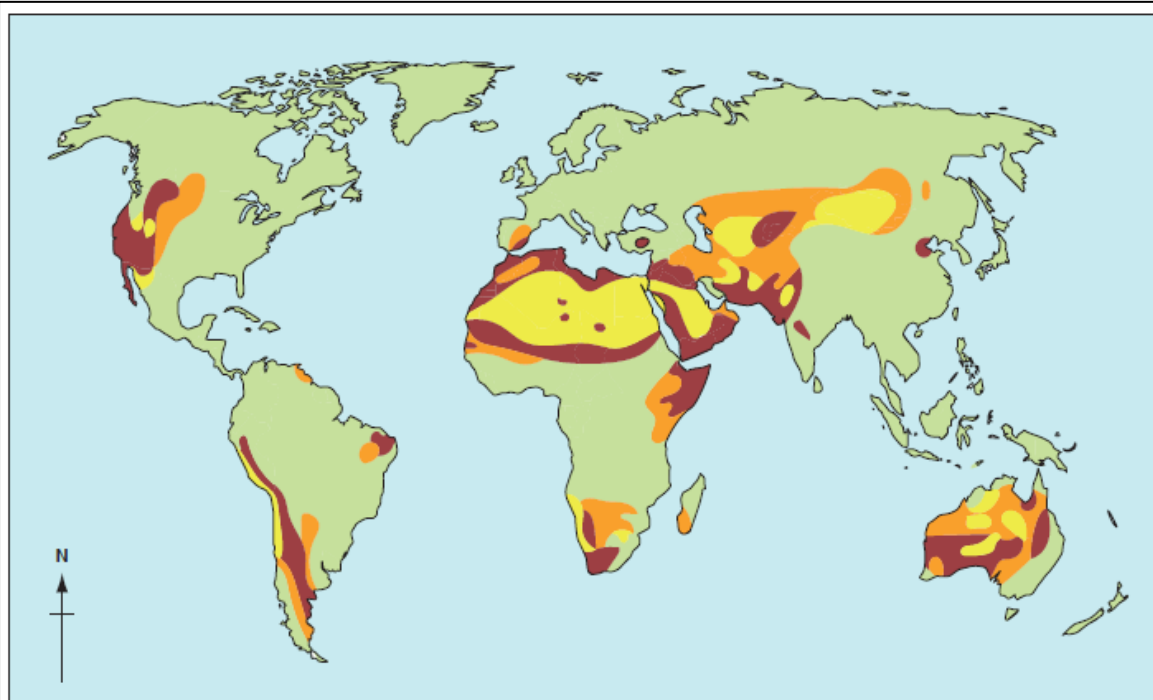
Example 11 – Question 7 (a)(iii)

(iii) Suggest **two** possible reasons for the pattern shown in Figure 7a.

(4)

Guidance: Suggest

Questions that use the 'Suggest' command word target both AO2 (demonstrating understanding) and AO3. In this instance as its 3 marks there is a need for double-development. Suggest is similar to an explain, i.e. to apply understanding, expect suggest is used when there is a resource that is likely unfamiliar to the candidate.



**Figure 7a**  
**Global desertification**

## Mark scheme

Question number	Answer	Mark
7(b)(iii)	<p><b>AO2 (2 marks)/AO3 (2 marks)</b></p> <p>Award 1 mark for the identification of a possible reason for the pattern shown on Figure 7a (AO3) and a further mark for an explanation of the reason (AO2), up to a maximum of 2 marks per idea.</p> <ul style="list-style-type: none"> <li>• A lack of rainfall in named area (1) reduces vegetation cover (1).</li> <li>• Some areas have less vegetation than others (1), which increases the chances of soil erosion happening (1).</li> <li>• Some areas experience intense rainfall/flash floods (1), which increases the rate of run-off/reducing soil moisture (1).</li> <li>• Over-farming in named area(s) (1) reduces soil fertility over time (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(4)</b>

## Student answers to 7 (a) (iii)

(4)

1 Desertification occurs <sup>in</sup> ~~next~~ to semi arid land next to existing hot desert.

2 Changing rain fall patterns. Drought in those area sometimes extend to several years. As a result, vegetation begins to die leaving the soil bare and vulnerable to environments.

### Examiner's comments:

This response was given 2 marks.

The first part of the response (Reason 1) gains no credit as it is simply a description of that pattern, rather than providing a reason.

The second part (Reason 2) can be given two marks since it suggest a reason (changing rainfall patterns) and then develops this by explaining how this has an impact on the soils and vegetation.

- 1 Overgrazing. People are taking their animals to eat at the same area so the land will become dry and no more crops will grow there.
- 2 population growth.  
The population grows and the people migrate and they destroy land.

**Examiner's comments:**

This response was given 3 marks.

The first part of the response (Reason 1) gives a reason (overgrazing) and then provides an explanation – so two marks.

The second part (Reason 2) can only be rewarded one mark as the comment about population growth (a valid reason) does not say how this contributes to desertification.

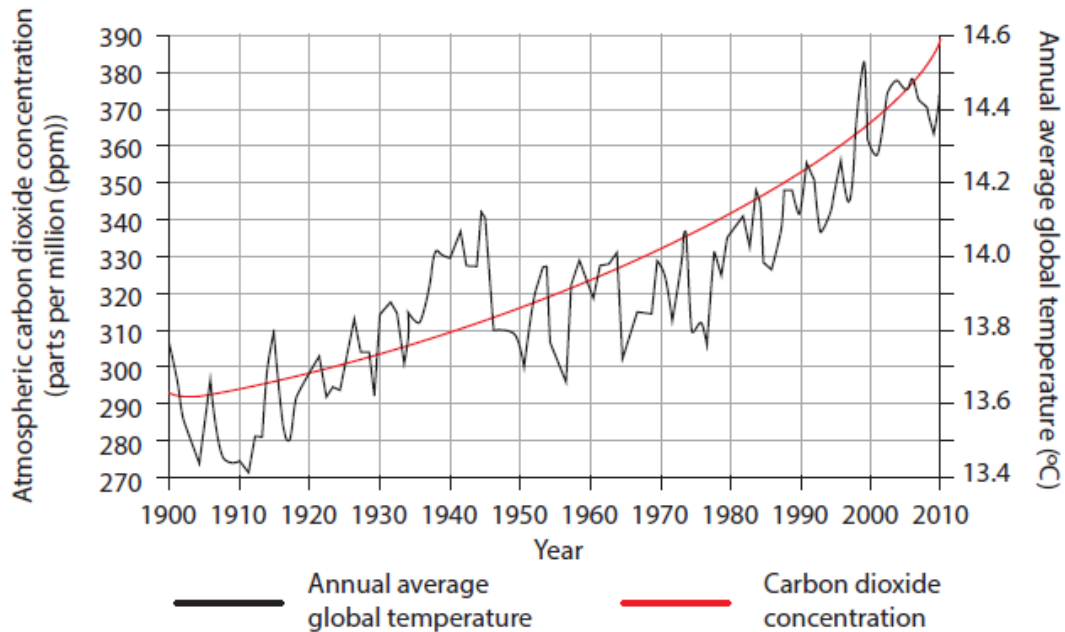
Example 12 – Question 7 (d)(ii)

(ii) Identify the extent to which carbon dioxide concentrations and annual average global temperature has changed over time in Figure 7b.

(2)

Guidance: Suggest

Questions that use the 'Suggest' command word target both AO2 (demonstrating understanding) and AO3. In this instance as its 3 marks there is a need for double-development. Suggest is similar to an explain, i.e. to apply understanding, expect suggest is used when there is a resource that is likely unfamiliar to the candidate.



**Figure 7b**

**The variations in annual average global temperatures and atmospheric carbon dioxide concentrations, 1900–2010**

## Mark scheme

Question number	Answer	Mark
7(d)(ii)	<p><b>A03 (2 marks)</b></p> <p>Award 1 mark for the identification of a pattern and 1 mark for further detail through description or use of supporting data from the resource, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>• There is an overall positive relationship (1) but in some years, e.g. 1945–50, annual average global temperature falls while carbon dioxide increases (1).</li> <li>• As annual average global temperature goes up, so does carbon dioxide concentration (1), but the increase in global temperature fluctuates a lot more than carbon dioxide concentration (1).</li> </ul> <p>Accept any other appropriate response.</p>	(2)

## Student answers to 7 (d) (ii)

a) carbon dioxide concentration has increased over the past year which caused the temperature to rise resulting in rise of sea level

### Examiner's comments:

This response was given 0 marks.

The response does not identify any relationships between the two variables, instead just describes what has happened to CO<sub>2</sub> and an impact (not relevant to the response)

As the carbon dioxide concentration increases the annual average global temperature increases



**Examiner's comments:**

This response was given 1 mark.

The response identifies that they are both increasing (1 mark). However there is no development beyond this to secure the additional mark. The candidate could, for example have identified the fluctuations in temperature, compared to the straight line for CO<sub>2</sub> (in this particular graph)

Example 13 – Question 7 (e)

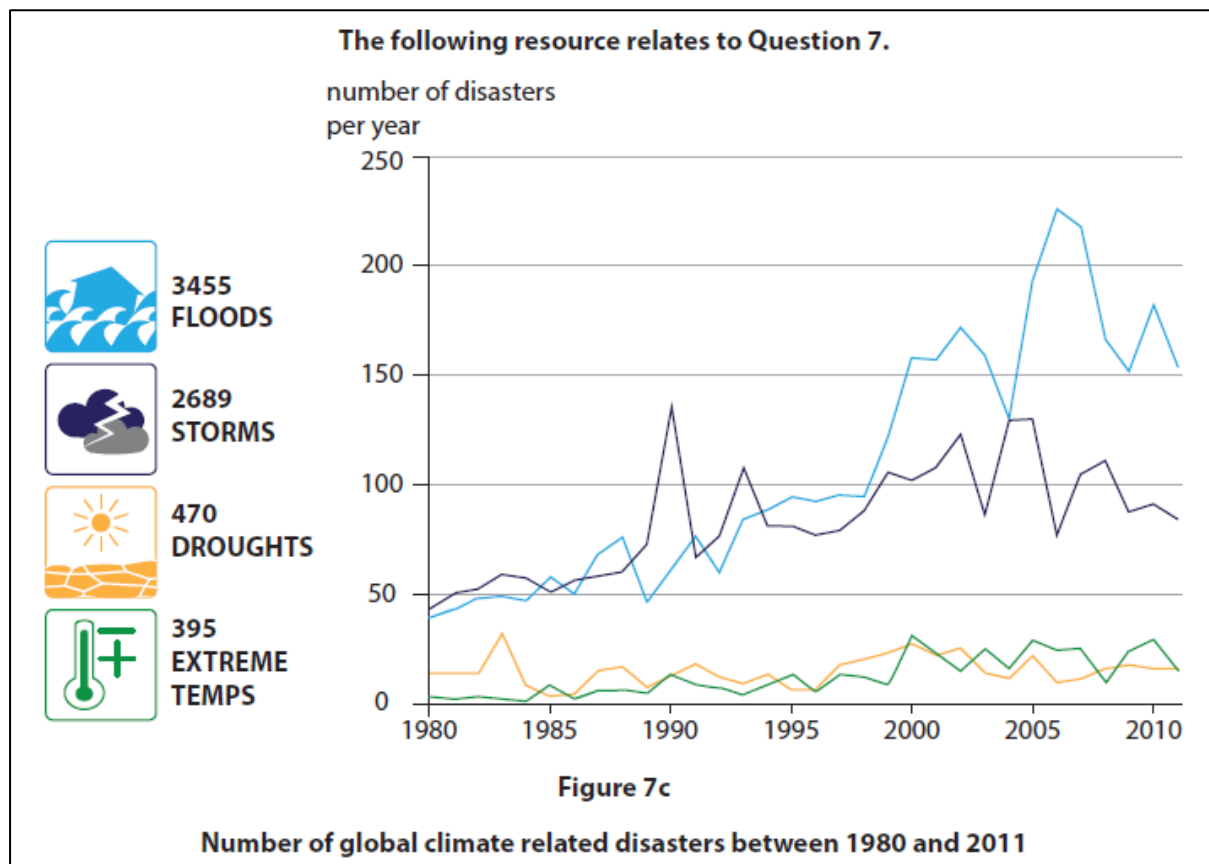
(e) Study Figure 7c in the Resource Booklet.

Assess the effects of climate change on fragile environments.

(6)

Guidance: Assess

Once again the AOs are split between AO3 and AO4 (3+3) marks. This means answers must interpret the resource and extract meaning from it, as well as to identify any possible interrelationships. Its all about using evidence from the resource.



## Mark scheme

Question number	Indicative content
7(e)	<p style="text-align: center;"><b>AO3 (3 marks)/AO4 (3 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>AO3</b></p> <ul style="list-style-type: none"> <li>• Soil erosion may increase as a result of climate change, e.g. linked to drying out, wind and droughts.</li> <li>• Soil erosion could be in the form of gully and sheet erosion with more intense precipitation events, which are associated with climate change.</li> <li>• Desertification may increase as productive land becomes degraded by drought, extreme temperatures, unreliable rainfall, further increasing the fragility of the ecosystem.</li> <li>• Rising sea levels may threaten/flood low-lying coastal ecosystems and fragile environments. This is something that could be further exacerbated by more frequent storms/hurricanes due to warmer ocean temperatures.</li> <li>• Increasing risk of fragile environments being affected by flooding as a result of glacial melting, flash floods and baked/impermeable soils.</li> </ul> <p><b>AO4</b></p> <ul style="list-style-type: none"> <li>• Figure 7c shows an overall increase in all types of climate disasters, apart from drought.</li> <li>• Figure 7c shows that the most significant rises have been in storms and floods: up to 100 storms and around 50–200 floods per year.</li> <li>• Droughts and extreme temperatures show some variability per year but storms and floods show much higher variability.</li> <li>• Figure 7c indicates that there is only a moderate increase in extreme temperatures over the 1980–2011 period.</li> </ul>

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3)</li> <li>Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</li> <li>Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li> </ul>

#### Student answers to 7 (e)

Climate change has caused environments to become more fragile. Causing the extreme in storms, droughts and floods. The climate is becoming warmer causing the seas to be warmer. As a result the number of storms and the intensity will increase as shown in the graph. Climate change will cause some places to become drier and some to become wetter. The places that will be drier will suffer from loss of water and droughts for a long period of time. Climate change is also causing extreme temperatures. Summers are going to be hotter and winters are going to be colder.

#### Examiner's comments:

This response was given 1 mark. L1

The response is very generalised with very little use of any information from the resource. As this information is limited to AO1 & AO2, it is very difficult to get beyond the bottom of L1.

- Most affect on the fragile environment is floods because it destroyed it by water that is all drier the countrie and it kills crops. ~~it~~ it is a natural cause.

• least affect is the extreme temprature where it is due to human and natural cause, because by the human causing desertification the temprature increase and by the change of the earth orbit around the sun the temprature increased also and it is natural cause.

**Examiner's comments:**

This response was given 2 marks. (L1).

The response uses some evidence from the resource, e.g. floods and destroying crops. There are also some comments about temperature and the causes. However, the assessment is very limited, as is explicit assessment of the resource, e.g. extraction of data or information. It all tends to be generic with AO1/2 knowledge and understanding which cannot be directly credited here.

These disasters have increased through out the years. When there is hard / heavy rain fall, then ~~a~~ this can ruin soil, with ruins the vegetation. And when there is droughts then there is no water for the vegetation with can ruin it. So there should be a balance amount of water. Between 1995 and 2010, these disasters have increased due to climate change. And they can cause desertification.

**Examiner's comments:**

This response was given 3 marks. (L2).

The response gets into L2 since there is explicit use of the resource, using dates, plus recognition that disasters have increased. However, assessment is limited and there is little of the depth or range expected at L3.



### Example 14 – Question 7 (f)

- (f) Discuss the view that it is possible to manage the threats of climate change in a sustainable way.

Use Figures 7a, 7b and 7c from the Resource Booklet, and your own knowledge and understanding to support your answer.

(12)

Guidance: Discuss

Preceding questions within this topic follow a chain of thought with resources that can be used to support the answer to this 12 mark question.

Here the AOs are split between AO2, AO3 and AO4 (4+4+4) marks. This means answers must interpret the resources and extract meaning from the, as well as to identify any possible interrelationships. Again, its about using evidence from those resources to create both reasoning and argument.

Responses that largely ignore the resources are likely to be locked down into L1; those which are descriptive or case-study based will also score low marks.

### Mark scheme

Question number	Indicative content
7(f)	<p><b>AO2 (4 marks)/AO3 (4 marks)/AO4 (4 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following.</p> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• The term climate change can be defined in a range of ways, often to suit different arguments.</li> <li>• Climate change will have an impact on soil, temperature, rainfall and weather events.</li> <li>• Climate change could threaten fragile environments, e.g. tropical rainforests or coral reefs, in terms of structure, function and biodiversity.</li> <li>• Fragile environments may be threatened by rising sea levels caused by climate change; ecosystem biodiversity could be threatened by animals migrating because they cannot adapt to the changing climate of their current habitat.</li> <li>• Responses may be either based around adaptation or mitigation.</li> </ul>

	<p><b>A03</b></p> <ul style="list-style-type: none"> <li>• Attempts to mitigate against climate change threats, e.g. through sustainable management, can vary significantly for different fragile environments (judgements will depend on case studies).</li> <li>• A specific ecosystem's natural ability to adapt to climate change can vary, which means impacts of climate change will be 'threats' only to ecosystems that cannot adapt.</li> <li>• A main cause of climate change is greenhouse gas emissions – and the challenge is to reduce these emissions. This can be done by reducing fossil fuel consumption, finding alternative energy sources, reducing deforestation, e.g. in tropical rainforests, and developing carbon capture technologies. However, different groups of people have different opinions about which strategy is the best/most effective.</li> <li>• The challenge of climate change crosses international boundaries and, therefore, international cooperation is crucial, e.g. Kyoto, 1997. However, arriving at agreement is never a straightforward process.</li> <li>• The development of alternative energy sources, such as wind farms, nuclear power, HEP and solar panels will reduce fossil fuel consumption, but the development of each type of source has its own advantages and disadvantages.</li> </ul> <p><b>A04</b></p> <ul style="list-style-type: none"> <li>• Figure 7a shows rapid increases in temperature and CO<sub>2</sub>.</li> <li>• Figure 7c shows an overall increase in all types of climate disasters during the period 1980–2011.</li> <li>• Figure 7c shows that the most significant rises have been in storms and floods: up to 100 storms and around 50–200 floods per year.</li> <li>• Droughts and extreme temperatures show some variability per year but storms and floods show much higher variability.</li> <li>• Figure 7c indicates that there is only a moderate increase in both droughts and floods over the 1908–2011 period.</li> </ul>
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Level	Mark	Descriptor
	<b>0</b>	No acceptable response.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)</li> <li>• Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</li> <li>• Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2)</li> <li>• Applies understanding to deconstruct information and provides logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)</li> <li>• Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)</li> </ul>

**Student answers to 7 (f)**

The process of climate change might not be ~~reversible~~ irreversible. It is possible to sustain a few threats ~~like~~ like conflicts and floodings.

The governments can do the effort to provide their people's needs to avoid conflict. Furthermore, if climate leads to drought, it will obviously lead to starvation and migration. A solution for that may be donation.

~~pe~~ People can also help this planet by reducing ~~the~~ a few things that may make a change like: Reducing the release of greenhouse gases, use buses or ~~big~~ bicycles instead of cars or simply switching the light after leaving a room.

Some countries may not be able to reverse the process but they can concentrate on erasing the threats by planting trees or ~~reduce~~ set laws to reduce the population growth.

**Examiner's comments:**

This response was given 3 marks. (L1).

The response fails to use the resources, therefore AO3 and AO4 marks will be very low, restricting the answer to L1. There are some AO2 ideas, but they tend to be generalised, isolated and not supported with any geographical evidence. Examiners are going to reward credit for candidates who can identify interrelationships and then link this to a wider understanding as required by the question.



- From figure 7a, I think that some countries it is just a little bit which is total affected by desertification. So they can over do activities and interesting stuff in that place by renewable sources so they don't affect it more.
- From figure 7b, they need to share knowledge of importance of trees and do big campaigns of planting.  $\text{CO}_2$  is absorbed by trees so this saves the environment.
- Send people to empty countries, so they help the countries by building trees and reducing the number of factories and transportation cars.
- Use renewable resources because it doesn't affect the environment.
- Try to manage the floods by barriers and send the people away from the places beside the sea.
- less use of fridge, air conditioner and freezers because they destroy the environment with chlorofluorocarbon. And it is one of the greenhouse gases.

**Examiner's comments:**

This response was given 5 marks. (L2).

The response uses some evidence from the resources and shows some understanding of the concepts required in the question. Much of the AO2 knowledge is limited and generalised however – so not enough to get any higher than 5 marks.