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Examiners' Report
January 2013

GCE Geography 6GE01 01

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Introduction

Each Unit 1 examination to date has contained a handful of questions that have uncovered knowledge gaps in large numbers of candidates' learning. On this occasion, areas of particular concern include the natural greenhouse effect, local population data sources and ENSO cycles (based on the very large numbers that steered clear of Question 7, which is usually the most popular of the option essays).

Question 1 (a) (ii)

Relatively few candidates could offer three ideas, despite the prompting of Figure 1 and the fact that California is a compulsory case study. Better answers offered some details of the San Andreas Fault and could provide some useful information about the global distribution of hydro-meteorological hazards clearly pertaining to the USA. Credit was given for well-made points about the extent of financial risks in the USA. It was quite evident that many candidates still do not appreciate the 'currency' of the examination (1 point per mark); with many offering just two simple statements, despite the fact that 3 marks were available.

Question 1 (c)

The best answers were interesting, informative and well-focused on the nature of the natural hazards present in the school's local area. Credit was also given for a well-located account of the two disaster hotspots referred to in the Specification. The best answers located a local area within a disaster hotspot, for example Luzon in the Philippines, and could give specific detail about the physical causes of a range of hazards such as earthquakes, volcanoes, tsunamis, landslides and typhoons, including their frequency and magnitude. Other popular and successful case studies included the California coast (earthquakes along the San Andreas Fault, droughts and wildfires in La Nina years, floods and mudslides in El Nino years), Boscastle (details of river confluence, high precipitation totals over a short period of time, location within valley and underlying geology) and Shropshire (flooding along River Severn with good detail of rainfall amounts and duration, earth tremors caused by Church Stretton Fault including magnitude, snow storms in winter). Some candidates ignored the wording of the question and devoted much of their answer to a description of the vulnerability of people and their property.

(c) Describe the natural hazards that threaten a named **local** area you have studied. **(5)**

Named local area York

York is at risk from flooding due to its geographical positioning - it is situated in the North of England, which is an area prone to higher rain fall than other areas of the country. The river ouse which runs through York has many tributaries, such as the Nidd and the Swale, which contribute to the flooding risk. York is a drainage basin and suffers surface run off from the surrounding North Yorkshire moors, and this surface run off has increased over recent years due to the removal of permeable peat, and deforestation. York also may suffer from droughts in the summer due to low rainfall, for example August 2007, when many crops in the area failed, and a hosepipe ban was issued

(Total for Question 1 = 11 marks)

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Examiner Comments

This example, which scored full marks, describes the natural hazards (and factors and processes which give rise to them) in an appropriate level of depth.

Question 2 (a) (i)

The majority of responses provided competent descriptions of the trend shown It was pleasing to see good analytical techniques being used: many candidates made good use of the data; allied to a well-qualified description of the trend (many noted the steep acceleration after the 1980s).

Question 2 (a) (ii)

The basic point that technology has improved was grasped by most candidates although many were unable to offer any concrete suggestions of what such technology might comprise. Some made effective use of their knowledge of climate change evidence and could contrast 'unreliable' proxy data from 200 years ago (such as paintings or diaries) with accurate and reliable temperature readings made during the twentieth century. A handful of candidates offered additional well-reasoned ideas such as increased sample sizes (reducing the statistical margin for error).

(ii) Suggest why data uncertainty decreases over time.

(3)

Data uncertainty ~~not~~ decreases over time because the world is becoming more technologically advanced by finding patterns such ice cores + pollen analysis meaning they are more detailed in their findings today. Global media coverage and increased study has lead to more accurate results of data.

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Examiner Comments

This is a good example with plenty of point-marked ideas (other than the starter point that 'technology has improved') which was awarded 3 marks.

Question 2 (b)

Examiners were concerned by the level of inaccuracy on display in many responses to this question. In numerous cases, there was evidence of complete misunderstanding of the processes involved in the natural greenhouse effect. The operation of the greenhouse effect is core knowledge that underpins one quarter of the content for Unit 1, yet only a tiny minority of candidates could make five correct points and gain the full number of marks available. Frequently occurring misconceptions included:

- the claim that sunlight is reflected off the Earth's surface and then trapped by GHGs (very few candidates grasped the idea of radiation heat loss)
- the assertion that GHGs are trapped by the ozone layer (the sheer number of candidates who believe this to be the case continues to be a cause for concern).

In addition, significant numbers of candidates misunderstood the question in its entirety and wrote all they knew about the natural causes of climate change, such as sunspots.

(b) Explain the processes involved in the **natural** greenhouse effect.

(5)

the natural greenhouse effect occurs as natural heat from the Sun ~~warms~~ reaches the ozone where the rays become less intensified, the rays bounce back of objects such as snow and the heat remains with the ozone layer, when the greenhouse effect occurs if the rays bouncing back of the snow becomes extremely intense through natural heat the holes can form in the ozone layer, causing more of the suns heat to reach earth, raising the temperature as it does so.

(Total for Question 2 = 11 marks)

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Examiner Comments

This is an example of the sort of response which was, sadly, quite common. It scored no marks because it contains no factually correct information whatsoever.

Question 3 (a) (ii)

The overwhelming majority of candidates identified Kyoto by name, quite correctly.

Question 3 (a) (iii)

Many candidates were confused by the terminology and wrongly identified a mitigation strategy, such as increased tax on fossil fuels. Candidates should make sure they know the difference between adaptation and mitigation.

Question 3 (a) (iv)

Responses were generally very sound, with many scoring 2 or 3 marks and using appropriate terminology such as 'carbon sink'. However, as with Question 1(a)(ii), it was clear that many less able candidates adopt a 'that'll do' attitude to short-answer questions. With 3 marks available, three things need to be said to gain full credit, or else, a single point really does need to be well-developed. More able candidates were careful to 'tag on' an extra idea, such as flood risk adaptation, thereby gaining 3 marks.

(iv) Explain how afforestation might help tackle global warming.

(3)

Afforestation is when new trees are planted into an area. This is done so the CO_2 in the area can be absorbed by the trees and released as oxygen. It might help tackle global warming, because it will reduce the amount of CO_2 present meaning less impact on global warming

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Examiner Comments

This is an example of an answer that simply contains an insufficient number of ideas to ever be awarded three marks. This response was awarded 1 mark.

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Examiner Tip

Look carefully at the mark allocation and tailor your answer accordingly.

In contrast to the previous response this example shows good examination technique.

(iv) Explain how afforestation might help tackle global warming. (3)

Carbon sinks help to absorb the amount of carbon dioxide realesed by burning fossil fuels. We can carbon offsett the amount of carbon we use in traveling by planting trees.

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Examiner Comments

There are sufficient discrete points in this response to gain the full number of marks available.

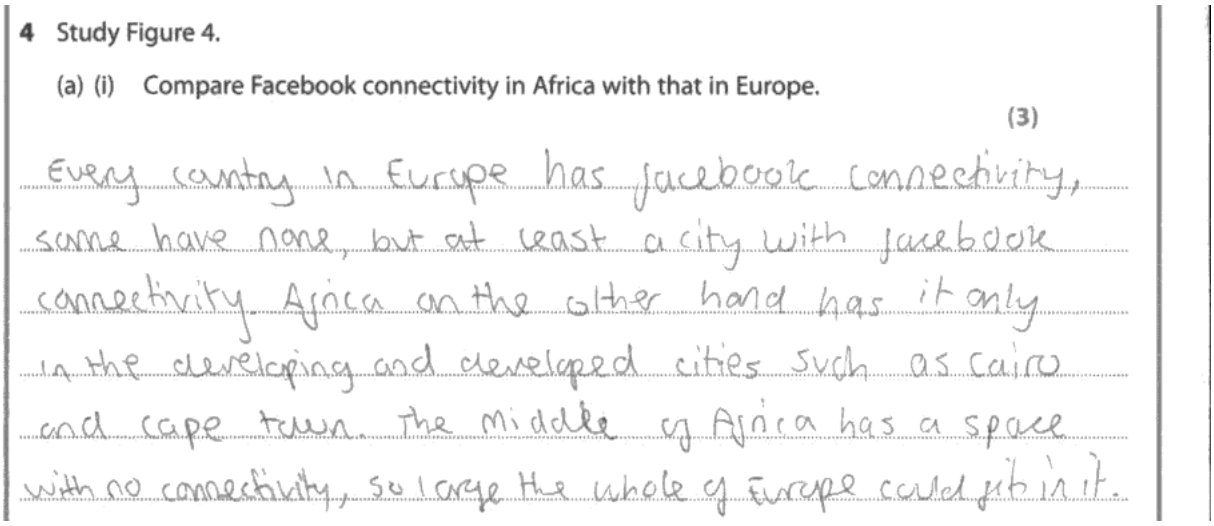
Question 3 (b)

With its emphasis on issues and governance (players), rather than physical processes, this question was generally answered better than either Question 1(c) or Question 2(b). Candidates used a range of scales (from local NIMBY attitudes to national / state responses to the need for 'carbon pledges') allied to an interesting range of strategies such as wind turbines, recycling and carbon capture and storage (CCS). One or two candidates had even heard of the unpopularity of the EU's planned carbon tariff (on manufactured imports) with China and other manufacturing nations.

Question 4 (a) (i)

Many candidates answered this effectively, showing good located knowledge (by naming countries and regions where connectivity was shown to be high or low). Less able candidates' ability to describe geographical patterns was somewhat wanting, with references made to 'the left hand side of Africa' or 'up at the top' or 'along the edge' or 'on the outside of the region'. Candidates should be encouraged to use terminology such as 'interior' or 'coast' and to use compass points when locating areas. Some candidates wasted time in explaining the differences in connectivity.

The following example of a response to this question was awarded 3 marks.



4 Study Figure 4.

(a) (i) Compare Facebook connectivity in Africa with that in Europe.

(3)

Every country in Europe has facebook connectivity, some have none, but at least a city with facebook connectivity. Africa on the other hand has it only in the developing and developed cities such as Cairo and Cape Town. The middle of Africa has a space with no connectivity, so large the whole of Europe could fit in it.

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Examiner Comments

This is an effective answer using located detail.

Question 4 (a) (ii)

An effective way to answer this question would have been to provide a numbered list of three physical factors - such as coastal / interior location, extreme climatic conditions and the availability of oil or other valuable resources - and then briefly outline how each can influence population numbers and / or wealth and thus demand. (Three short, succinct statements should do it!). Sadly, too many candidates filled the answer space with one or two rambling and poorly evidenced points about 'droughts in Africa' (the result being a score of just one or two marks).

(ii) Suggest how **physical** factors might contribute to the pattern of connectivity shown.

(3)

In Africa a lot of the land area is desert and uninhabitable, therefore people don't live there and there are no developments. Due to this there is very little facebook connectivity in Africa. In Europe, most countries have very developed infrastructure and therefore connectivity is higher as there is access to electricity and technology.

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Examiner Comments

Sadly, this answer was fairly typical of the efforts of a large number of candidates. Very little specific information is offered, and the term 'physical' does not even seem to be well-understood. It scored 1 mark.

Question 4 (b)

There have been questions on this area of the specification before and there was evidence that candidates were well-prepared for a question asking them to consider how governance issues impact on network connectivity. Those that offered evidence - such as the EU ('help') and Chinese censorship ('hinder') - accessed full marks very easily. Sadly, the message that the use of evidence increases point marks has still not got through to some candidates.

The following response scored full marks.

(b) Explain how **political** factors both help and hinder the growth of global connections.

(4)

help

Political groupings such as the EU help global connections as trade between nations is increased, as well as the free movement of people.

hinder

In countries like China the internet is censored by the government so that the people are limited to what information they can view. This is to stop them from knowing what life is like in other countries, possibly due to the fact the government is a dictatorship.

(Total for Question 4 = 10 marks)

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Examiner Comments

This is a good example, showing how each idea has been carefully backed up with evidence thereby increasing the number of point marks that were awarded.

Question 5 (c)

Three sensible suggestions that related clearly to the understanding that the Census is still conducted via the medium of a form that must, by law, be filled out and returned every ten years were required for full marks. Thus suggestions that 'people forget to post the form back' were deemed logical and creditable. It was, of course, pleasing to see more explicitly geographical answers being offered (such as the influx of A8 migrants in 2004 jeopardising the accuracy of the 2001 data!).

Question 5 (d)

Performance here was markedly better than the last time that this topic was examined in Section A, suggesting improved delivery of this part of the course. Many good answers linked an interesting range of local data sources, including the qualitative recollections of older family members, to important population research themes such as origins, ethnicity and changing family sizes.

This is an example of a response which was awarded 5 marks.

(d) Explain how **personal and local** data sources can be used to study population changes and people's roots.

(5)

personal data sources such as family trees can be used to study population changes. For example by using a family tree you could compare the amount of children your mother had to your great great grandmother and therefore look at changes in local population structure. You could also look at records of towns or maps to show development of an area. Records can also be used from birth cirtificates and personal records or marriage records to show the roots of people. The amount of migration occuring in your area can also be evaluated using the consus data which may suggest population flows or the date in which the population started rising.

(Total for Question 5 = 10 marks)

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Examiner Comments

This is a good answer that links a range of sources with some valid population research themes.

This is another good answer that was awarded all 5 marks.

(d) Explain how **personal and local** data sources can be used to study population changes and people's roots.

(5)

- Family history about people's roots may be passed down to each generation.
- Photos/videos of past relatives may exist proving where people lived
- National census results from 1911 will show where family members lived/how old they were and what their occupation was.
- Parish registers will show when family members got married or when they died.

(Total for Question 5 = 10 marks)

- Old registers of ships may prove when past relatives migrated to different areas.

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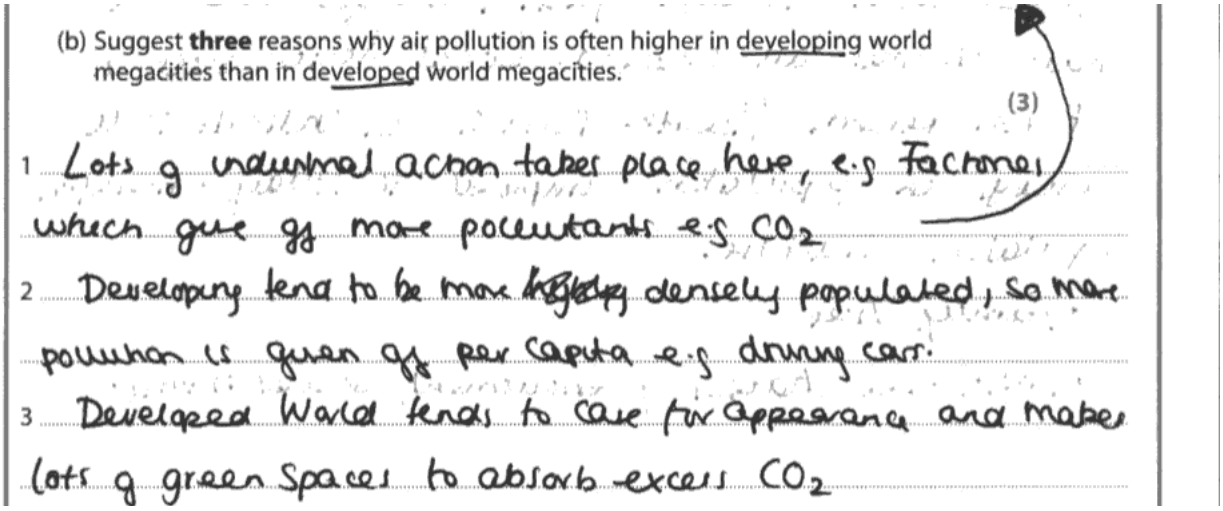
Examiner Comments

This answer also links a range of sources with some valid population research themes.

Question 6 (b)

Some weaker answers were not credited here - notably assertions than developing cities 'suffer' from 'more people' or 'more cars'. The key issue for pollution is concentrations, or density, or people and cars. As Figure 6 shows, pollution is measured in terms of concentration (micrograms per cubic metre). It does not therefore follow that a 'big' city is highly polluted: some very large cities in the developed world have seen their pollution levels fall in recent decades, in part through urban sprawl and the growth of lower-density suburbs.

The following response was awarded 3 marks.


(b) Suggest **three** reasons why air pollution is often higher in developing world megacities than in developed world megacities.

(3)

1 Lots of industrial action takes place here, e.g. Factories which give off more pollutants e.g. CO_2

2 Developing tend to be more densely populated, so more pollution is given off per capita e.g. driving cars.

3 Developed World tends to care for appearance and makes lots of green spaces to absorb excess CO_2

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Examiner Comments

There are three well-made points here. Note that the challenge of population density, rather than just numbers, is made clear.

Question 6 (d)

This question was generally well answered with many candidates scoring full marks. Popular case studies included Curitiba in Brazil, Dharavi in Mumbai (Vision Mumbai) and Dongtan in China. Stronger answers provided a good definition of sustainability. A few candidates demonstrated that they recognised urban sustainability has an economic/social dimension, not just an environmental one.

Question 7

7(a) Answers to this question were generally competent, suggesting that candidates who were unfamiliar with ENSO cycles avoided the question! The majority of candidates had a sound understanding of how El Nino cycles cause floods and droughts and could begin to explain reasons for this, with good use of geographical terminology. However, only a minority were able to explain fully how the frequency of these events was affected. The best answers were also precise in their account of air pressure differences and provided accurate, located examples of increasing hazard frequencies during recent ENSO cycles.

7(b) Most answers focused either on the physical causes of cyclone and storm risk or the human dimension of the risk equation. Few candidates could offer both and hence reach Level 4. Again, there was some excellent use of geographical terminology and sound scientific explanations were provided by many candidates for the occurrence of storms (including details of ocean temperatures and depth, specifics of latitude, coriolis force etc.). The majority of candidates focused purely on the distribution of hurricanes and tropical cyclones in and around tropical regions, which was perfectly acceptable and sufficient to gain a Level 4 mark if done well.

This response to part (a) scored Level 3 marks.

a) El Niño cycles ~~happen~~ last arand 7 years. During the oscillation, air pressure varies, and sea temperatures change. The change in pressure causes a change in the amount of rainfall - in El Niño years there is low pressure over South America meaning increased rainfall - this can cause flash floods. Low pressure also causes sea levels to rise ~~locally~~ in that region, so South America may also experience coastal flooding. Meanwhile Indonesia and Australia have high pressure over it, which means rainfall is decreased, so droughts may occur more frequently due to less rainfall. This can also mean there are more wildfires in the region. In La Niño years there is low pressure over Australia and Indonesia, causing increased rainfall and increased risk of flooding. In those years there is high pressure over South America, meaning they are more prone to drought. Floods destroy homes and crops, meaning many people have to be evacuated. Livestock may also die, meaning decreased incomes. Droughts also ~~destroy~~ affect crops, decreasing yields and increasing the risk of insects eating crops, or diseases affecting them. They also mean low water supplies for personal use, increasing the risk of death.

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Examiner Comments

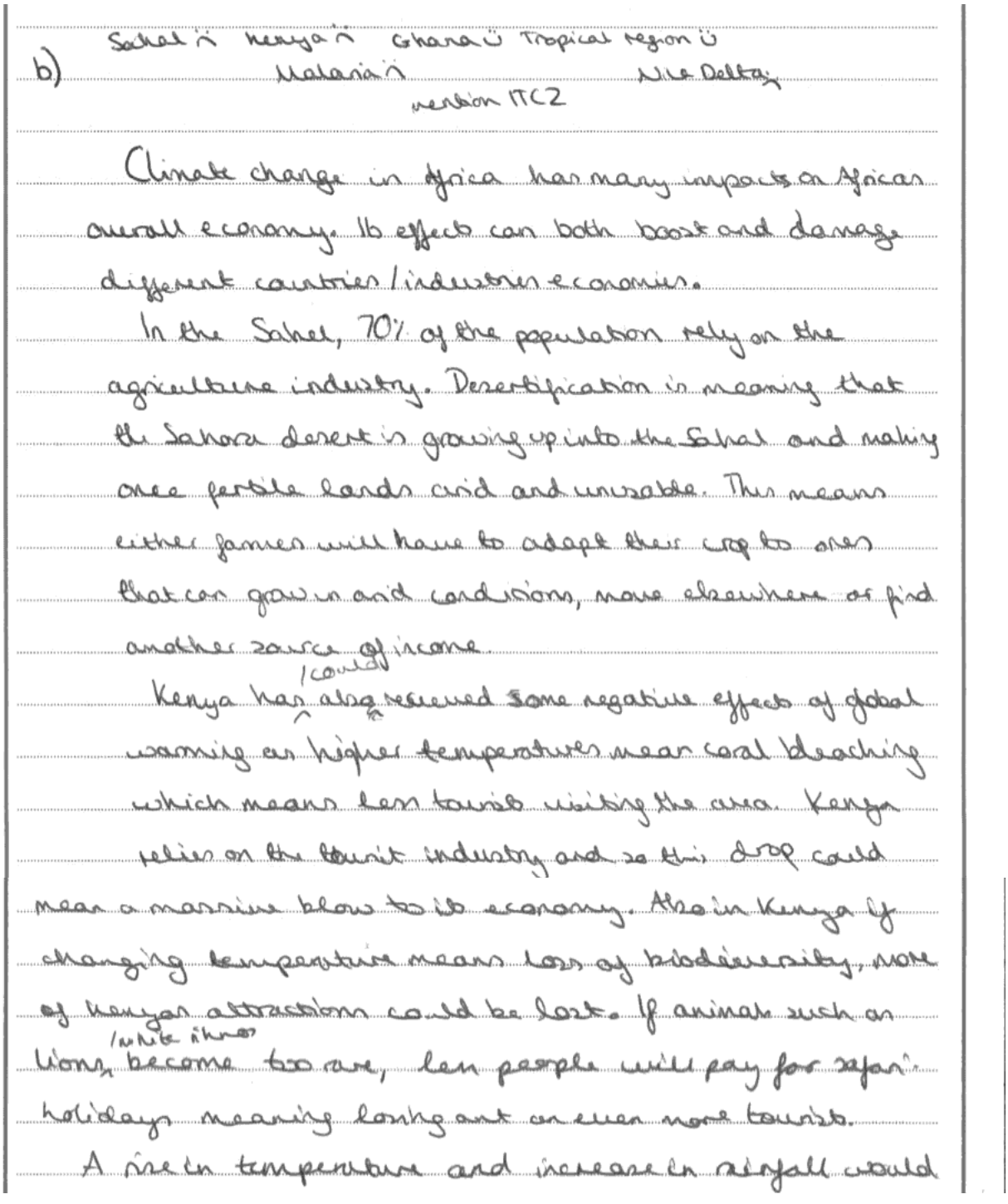
This example gives an accurate explanation of the meteorological changes occurring in the Pacific region during an El Nino cycle. The answer to part (a) was awarded 8 marks.

Question 8

8(a) This question was competently handled by many candidates, suggesting that it was largely selected by those who were at least fairly familiar with Unit 1's Arctic 'tipping point' topic!

8(b) Responses as a whole showed significant improvement compared with the last time this topic was examined in Section B. Most candidates showed the African continent to be a varied region comprising a range of countries at different stages of economic development, resulting in an uneven distribution of economic risk and an uneven ability to cope with the economic costs of adaptation or post-event reconstruction. Few candidates asserted that Africa was a 'country' populated by farmers (suggesting, again, that those who attempted Question 8 generally knew their stuff!).

This is an answer to part (b) that scored high Level 4 marks.



b) Sahel ✓ Kenya ✓ Ghana ✓ Tropical region ✓
Malaria ✓ Nile Delta ✓
version ITCZ

Climate change in Africa has many impacts on Africas overall economy. Its effects can both boost and damage different countries / industries economies.

In the Sahel, 70% of the population rely on the agriculture industry. Desertification is meaning that the Sahara desert is growing up into the Sahel and making once fertile lands arid and unusable. This means either famers will have to adapt their crop to ones that can grow in arid conditions, move elsewhere or find another source of income.

Kenya has (could) also received some negative effects of global warming as higher temperatures mean coral bleaching which means less tourists visiting the area. Kenya relies on the tourist industry and so this drop could mean a massive blow to its economy. Also in Kenya by changing temperature means loss of biodiversity, more of kenyas attractions could be lost. If animals such as lions, (white rhinos) become too rare, less people will pay for safari holidays meaning looking out on even more tourists.

A rise in temperature and increase in rainfall would

mean an increase in mosquito breeding grounds. The anopheles female mosquito can carry malaria. Malaria spread would halt economic growth as government spending would need to be focused on healthcare.

The Nile delta could also suffer from global warming as ~~increased~~ sea level rise could mean the delta becomes salinised. ~~and~~ Therefore this fertile land would become very unproductive at growing crops. This would damage the Egyptian economy greatly.

As temperatures increase there could also be more conflict for water as droughts may become more common. Conflicts mean more money is spent on fighting rather than boosting the economy.

~~But~~ On the other hand, there are some positive effects of global warming on African economy. Ghana ~~relies on~~ earns much of its money from cocoa bean (a cash crop) if ~~their~~ temperatures were to increase, this bean would become more productive and make more cocoa as they work better at higher temperatures. This means Ghana will have more exports and this will boost Ghanas economy.

Finally tropical regions could get a longer growing season (more rainfall) as a result of global warming (the ITCZ is moving). This means these areas will be more agriculturally active for longer times and will have a boost to their economys.

To conclude, different parts of Africa can face many different impacts of global warming that will effect their economies. While there are some positive impacts

there seems to be a net loss in terms of economy of Africa as a whole continent.

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Examiner Comments

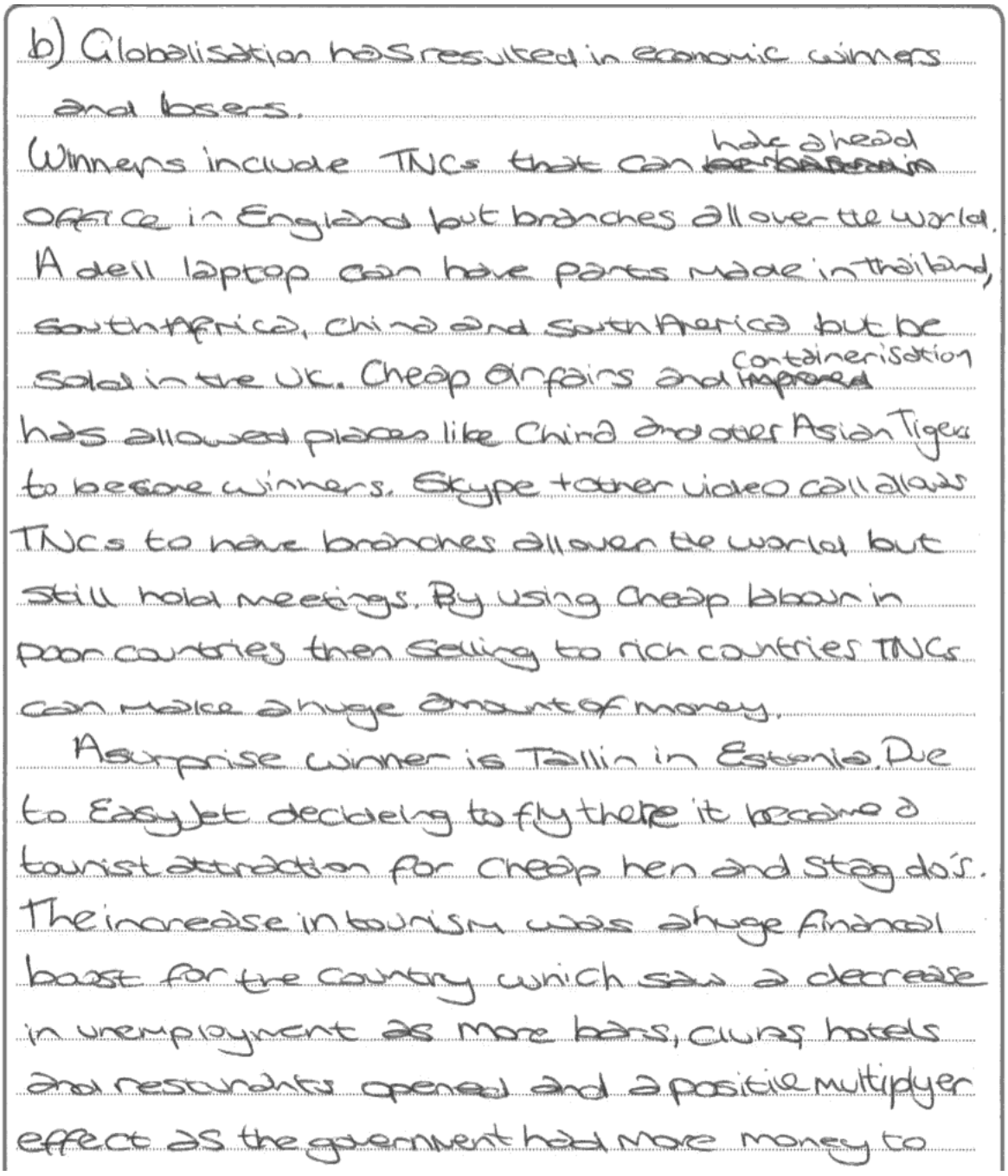
This answer paid good attention to the diversity of potential economic impacts of climate change in Africa, referring both to different sectors of industry and to a varied selection of countries. This answer to part (b) was awarded 15 marks.

Question 9

9(a) Answers were sometimes a little weak, consisting of little more than a re-writing of the resource, although this was often done quite elegantly. Few candidates used the opportunity to include their own information about EU membership, which was a missed opportunity (and perhaps showed some unfamiliarity with the term 'trade bloc').

9(b) There were good answers to this question that used geographical scale very well, pointing to the 'winners and losers' than emerge within countries, in addition to those identified in an analysis of national economic performance. Some of the evidence appearing in essays did appear to be a little out-dated, although candidates were not penalised for this (for instance, although manufacturing employment in China is less well-paid than in the EU, it is rather inaccurate to characterise it all as still being 'dollar-a day' work; the lowest-pay supply chain operations are increasingly likely to be found in Bangladesh or Pakistan, rather than China).

This extract is from a response to part (b) which scored Level 4 marks.



b) Globalisation has resulted in economic winners and losers.

Winners include TNCs that can have a head office in England but branches all over the world. A dell laptop can have parts made in thailand, south africa, china and south America but be sold in the UK. Cheap airfairs and containerisation has allowed places like China and other Asian Tigers to become winners. Skype (other video call) allows TNCs to have branches all over the world but still hold meetings. By using cheap labour in poor countries then selling to rich countries TNCs can make a huge amount of money.

A surprise winner is Tallin in Estonia. Due to Easyjet deciding to fly there it became a tourist attraction for cheap hen and stag do's. The increase in tourism was a huge financial boost for the country which saw a decrease in unemployment as more bars, clubs, hotels and restaurants opened and a positive multiplyer effect as the government had more money to

spend on housing and infastructure. All because flights became easier and cheaper, the world became smaller.

Smaller companies have also become winners. The internet means people can buy products

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This is an extract from a well-informed and up-to-date account of global inequalities. It does not re-state bland clichés (as weaker answers can do) nor does it give inaccurate portraits of middle-income countries. The mark awarded for the complete answer to part (b) was 15.

Question 10

10(a) This was an extremely popular question, almost certainly on account of candidates' lack of knowledge of ENSO (Question 7), feedback (Question 8) and trade blocs (Question 9). As a result, many less able candidates tackled Question 10(a), which meant there were a large number of very descriptive answers seen by examiners. Typically, these identified the 'highs and lows' of Figure 10 and suggested some generic reasons why some places attract more migrants than others. More able candidates put their compulsory case studies to good use and contextualised the data shown for the Mediterranean, eastern Europe and the EU economic core (including the UK).

10(b) Few candidates were able to give specifics about the benefits of migration to the UK and Spain despite both locations being compulsory AS case studies. This meant that many responses could not be awarded much higher than a Level 2 mark. In contrast, top-scoring candidates could elaborate by identifying specific areas within the UK and Spain where the young Polish and British retirees have settled. They also provided details of the types of jobs that Polish migrants took and could identify areas within the UK where these migrant concentrations were located. They could illustrate the impacts on the demography of the UK of Polish migrants by quoting fertility rates and / or dependency ratios. Furthermore they could locate and name specific shops established to serve the Polish migrants in UK cities and the British retirees in their Spanish enclaves, and some even had figures to demonstrate the impact their spending had on the host economies.

Paper Summary

The following comments are based on the performance of the candidates on this paper.

There was evidence of continuing under-performance in the shorter Section A responses (typically those with 3 marks available), strongly suggestive of a persisting lack of understanding amongst candidates as to what the requirements of a point mark scheme are likely to be.

In contrast, there was strong evidence for *improved* candidate performance in answers to the shorter, resource-based questions in Section B. The assessment criteria seemed to be better understood than in some previous examination series, with fewer candidates either failing to make any use of the resource whatsoever, or failing to add any of their own ideas into the mix.

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