GEOGRAPHY

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Paper 9768/1

Geographical Issues

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Key messages

* Time management appeared to be an issue for a minority of candidates and it is worth reinforcing the time that should be given to each question in exam practice sessions.

* When a resource is provided as a stimulus for candidates when answering a particular question examiners expect to see reference to this resource in a response. Some candidates are not make use or reference of resources provided in responses and are losing out of marks as a result.

* Candidates should consider the number of marks available for a question when structuring a response. The following can be used to guide candidates on the length of response required for Paper 1 Section A and B questions
➢ Part **(a)** no more than a sentence
➢ Part **(b)** short, concise paragraph
➢ Part **(c)** one long or two moderate length paragraphs
➢ Part **(d)** up to one side for 9 mark question

General comments

The paper was a very fair test of candidate's knowledge and understanding at this level and across the broad range of geographical concepts. The majority of the candidates rose to the occasion and excellent marks were achieved by a significant number. It was very encouraging to see an impressive range of knowledge and understanding, coupled with the ability to present a cogent argument. This latter point is important because all questions possessed a component where reasoned assessment was required. This analytical ability not only reflects well on the candidates but also on the teaching. Whereas both Physical Geography and Human Geography questions received excellent responses, there was a slight difference in the levels of knowledge and understanding. In general, the answers to the Physical Geography questions were often deficient in some respects. This may reflect the different nature of the questions and perhaps a lack of realisation of the precision needed when discussing physical topics. Some of these issues are taken up when specific questions are discussed.

Overall the paper was completed by most candidates, although there were occasional indications of poor time management. Some candidates failed to match the marks available with the length of time required for sub-questions. This led to the question in **Section C** being rushed.

Comments on specific questions

Section A

Question 1

This was a very popular question that elicited a range of responses, mostly good.

(a) Two relevant primary hazards were invariably provided including directed blast from Mount St Helens volcano. This is one way in which understanding of volcanic eruptions has been enhanced by the observations of this volcanic eruption. There was no problem in separating primary from secondary hazards. All the hazards noted were clearly primary.

(b) There was a good response to this question although there was a tendency to ignore 'extent' in the answers. Many candidates failed to achieve full marks because of a lack of completeness in describing the distribution of volcanoes. The volcanoes in east Africa were often ignored.

(c) This question, rather surprisingly, caused a few problems. Many candidates seemed to have limited knowledge of the nature and formation of island arcs. A sizeable minority thought that Hawaii was an island arc. Also, volcanoes on mid-ocean ridges were often described as island arcs. Even those candidates who understood the formation of island arcs failed to explain their 'arc' nature.

(d) There were very good answers to this question, although the relative risk was often downplayed. Many simply described a number of primary hazards. There was sometimes confusion over the nature of lahars and pyroclastic flows and their relative hazard and risk. Better answers related the hazards to the type of volcano and magma types.

Question 2

This was the second most popular answer in this Section and was answered with good knowledge and understanding.

(a) Most candidates were able to produce two relevant changes when a tropical storm develops into a tropical cyclone.

(b) This question posed few problems although the differentiation of the tracks of specific hurricanes was sometimes only vaguely discussed.

(c) Answers to this question demonstrated a thorough understanding of hurricane behaviour with often detailed discussion of the lack of latent heat when passing over land. The information provided by the resource was used very sensibly by most candidates.

(d) There are many examples that could be chosen to underpin this question and many were present in the answers. Hurricanes Katrina and Nargis were often the two chosen, but the better answers used a range of tropical cyclones. Both consequences and impacts were covered well with short-term and long-term impacts being discussed. The level of detail in reporting these events was often very impressive. There was, sometimes, a lack of integration to the answers with events being treated separately with little attempt to produce a synthesis.

Question 3

(a) This was the least popular of the *Section A* questions and was also the least well answered question. This seemed to reflect a lack of understanding of the detail required.

(b) A few candidates answered this question in a very general way with no reference to the Resource. Also, many provided only a partial synthesis of the river basins. This might reflect the earlier comment about the detail required. Thus, some candidates failed to achieve their potential on this question.

(c) This question saw the most disappointing responses on the entire paper. Many candidates failed to realise that simply listing factors was insufficient for many marks. The relevance and nature of the factors was also required for a full answer.

(d) There was no shortage of relevant examples, although some candidates had trouble separating human and natural causes. The role of levees was especially confusing in the answers. Many candidates seemed to blame a lot of the flooding on levees forgetting that the vast majority do prevent flooding in most cases. Precipitation input was sometimes ignored or downplayed. But, again, the level of knowledge of specific flooding events was impressive.

Section C

Question 4

I am unable to make any meaningful comments about this question because only one answer was available. However, the question did not raise any issues. The lack of response to this component is disappointing as, inherently, it is a very interesting topic for which there is a lot of up-to-date information.

Question 5

This was a very popular question with some excellent answers. It clearly caught the candidates' imagination and clearly had been taught well.

(a) Most were able to define *pandemic* although sometimes the broad scale was ignored. The infectious nature of the disease was also sometimes forgotten.

(b) Excellent response to this question with many full marks being achieved.

(c) This was also a very accessible question with a good response. Few candidates had trouble in identifying a relevant country and explaining the high number of confirmed cases.

(d) Answers to this question were often very impressive. Malaria and HIV/AIDS were usually chosen although diseases and illnesses associated with wealthier countries and life-style choices were also covered. Very rarely was there a poor answer to this question. Only occasionally was there confusion between social and economic impacts.

Question 6

(a) Although most candidates were able to name two indicators used in the Human Development Index there was occasional confusion with death rates sometimes being cited. The education component was often imprecise.

(b) This resource-based question caused few problems with full marks being awarded quite frequently.

(c) There were two components to this question. The changes in HDI scores needed describing before reasons could be provided for the changes. Very often, candidates failed to describe the changes before launching into an explanation. This was disappointing as the answers were incomplete. Also, reasons were often discussed in a very general and sometimes simplistic way.

(d) This question was a good differentiator of candidate ability. 'Lower levels of development' caused problems for some candidates. Many failed to define what they were taking as lower levels of development. The vagueness in its interpretation led to problems throughout the answers. Many discussed poverty without examining the consequences. However, in contrast, there were excellent answers with the usual impressive level of exemplar knowledge.

Section C

Question 7

It was a pleasure to read most of the answers to this question. The level of knowledge and understanding of the chosen area was impressive. The most common examples chosen were Los Angeles and the Caribbean with Haiti to the fore. The only fault with some of the answers was a failure to address the success of the various strategies that were discussed. The description of the issues was often extremely thorough and it was good to read about some of the human issues as well as the issues related to the physical environment. The specific demands of the question were mostly met and sketch maps and diagrams were used effectively and appropriately. Most answers possessed a logical organisation with candidates, in general, demonstrating good analytical qualities. There was much 'good' geography in these answers.

Question 8

There was great scope in this question to address issues that are specifically related to high population densities such as pollution, disease, lack of resources, poverty and many others. While many candidates rose to the challenge, quite a few wrote very general answers showing a lack of knowledge and understanding of the question. Some answers referred to the risk from natural processes like earthquakes and coastal flooding without referring to the specific location of the areas of high population density. Thus the answers were sometimes very partial with analysis, evaluation and application of concepts sometimes limited. Candidates that took the components in **Section B** of the syllabus fared much better with a clear focus on the demands of the question. It was the physical geography issues that were answered much more generally and often lacked a clear focus.

Question 9

There was, occasionally, a misinterpretation of the question. Some candidates read the question as 'more people' are at risk rather than people are 'more' at risk. Thus, they concentrated on population numbers and population density more akin to **Question 8**. Of course, there is an element of population numbers in this question because high population densities do often lead to greater risks but it is not the clear focus of the question. Many candidates chose the risks associated with enhanced global warming but there was a tendency to write uncritically about those risks. Many conclusions were thus assertive rather than based on sound, logical argument. But, there were a number of well argued answers with good knowledge and depth of understanding of the subject content.

Concluding remarks

It is important to reiterate what was written in the General Comments at the beginning of this report. Many answers demonstrated wide-ranging, detailed and accurate knowledge and clear, high order understanding of the subject content. Examples were generally used effectively and were relevant and detailed. Most answers were logical and with clear organisation. Most questions were interpreted correctly apart from the occasional slight errors of judgement. Most candidates were able to provide logical systematic analysis when required. The only slight concern was the occasional difference in standard between the Physical and Human Geography answers. The general impression is that candidates had found the teaching and the syllabus stimulating. There is, clearly, much good geography being taught.

GEOGRAPHY

> **Paper 9768/02**
>
> **Global Environments**

Key messages

Candidates should:

- Respond to the question set and read every word of the question carefully
- Candidates need to try to present a well-expressed clear argument focussed on the demands of the question
- Use well-annotated diagrams integrated and referred to in an answer where possible. These can often illustrate points more clearly and succinctly than a passage of writing
- The best answers contained a clearly stated and developed argument as well as a conclusion summarising the arguments made in the answer

General Comments

This essay based paper produced a wide mix of answers this year. The best included a well- expressed clear argument focused on the question set. Mostly there was little misinterpretation of the questions. The one exception was **Question 4**. The words 'human-induced' climate change confused some candidates who tended to write about climate change and its possible causes rather than glacial and periglacial landscapes. (Further comment about this question will be made in the section on individual questions).

Most candidates illustrated their answers with well-annotated diagrams, used appropriate examples and detailed case studies, in some cases derived from work in the field which is highly commendable and useful to this paper. This was especially true of coastal environments and to some extent of Glacial and Periglacial environments.

What marked out the best answers was a clearly stated and developed argument although some candidates scored well but not highly when there was detailed knowledge. However without a relevant thread and /or development of the key idea it was difficult to score the highest marks. At this level is should be noted that the expectation is that candidates will be able to set out and sustain a discussion and examination of the topic under consideration. Conclusions based on the foregoing discussion are crucial to a successful answer and should not be omitted however pressing the time allowance becomes.

A developed argument requires an answer of some length. There were some cases where a short answer was unable to meet the standard required.

Finally well-annotated diagrams enhance and enrich an essay provided they are integrated and referred to in the answer. Sometimes a diagram was missing, this tended to be true of Temperate Grassland and Forest Environments and The Atmospheric Environment whilst it is acknowledged that it is easier to illustrate the geomorphological topics readily, well- learnt accurate Gersmehl diagrams are always useful and instructive for questions on ecosystems.

One candidate took a sceptical point of view to **Question 12** on climate change and expressed concern that this was not a 'politically correct' point of view. It must be pointed out that any well-argued case is acceptable at this level.

Candidates on the whole wrote fluently, with good standards of spelling and grammar and were able to use geographical terms effectively. Theories were applied appropriately, for instance, in answer to **Questions 2** and **10**. It was a pleasure to see such expertise.

Comments on Specific Questions

Section A

Arid and Semi-Arid Environments

This was not a popular section.

Question 1

Answered by very few candidates. The answers lacked detailed reference to case studies or particular locations. However the most noticeable omission was that of the recognition of **sub-surface water**. Candidates forget that the hydrological cycle is a three-dimensional concept which has flows stores **beneath** the surface so they concentrated on inputs and outputs above like rainfall, evapo-transpiration and they all mentioned oases. Little was acknowledged about groundwater and aquifers.

Sustainability, an important facet of the argument, was largely ignored as were the factors such as population pressure, allogenic rivers, stores and degree of aridity which could have helped the argument for sustainability.

Question 2

In this section Question 2 was the more popular question. It is surprising how many candidates forgot to define a desert/aridity in terms of its rainfall amount of less than 250 mm. Without such specificity the answer loses some credibility. Candidates had a tendency to stray into the realm of the causes of aridity therefore losing the focus of the question which was the hydrological cycle. As in **Question 1** the sub-surface was largely ignored. Some candidatea made a reference to vegetation and evapotranspiration amounts and rates but the idea tended to be weakly developed. Few candidates recognised any difference between deserts which would have been an essential part of a good answer. For instance, the Atacama versus Patagonia, the former is almost rainless but not without moisture whereas the latter has up to 500 mm of rain but is also defined as a desert.

One candidate made an excellent observation within his argument,

'Plants which often have a role to play in the area's hydrological cycle are not often found in deserts….It should be noted also that low rates of evapotranspiration are exacerbated by plants that have adapted to live without losing water due to the dry environment'.

This latter is an insightful comment made by few candidates and is exactly the type of response sought at this level.

Glacial and Periglacial Environments

Question 3

Question 3 was the most popular on the paper and was very well- done by several candidates. This answer produced some excellent well illustrated, well-argued essays. It is clear that candidates appreciated the sequence of process which produces these landforms. However, there was a notable exception to this. Corries were far better covered than ribbon lakes which in itself need not be a handicap to a good answer. However, many candidates saw ribbon lakes as only originated as moraine-dammed and forgot that in most cases they are rock basins. Indeed, there may be an element of moraine damming but usually the post glacial water seeps through the unconsolidated material unless a rock basin is present. Ideally candidates should write a balanced answer although if it is weighted in favour of one of the landforms and is exceptionally well done the candidates is still able to score the highest marks.

Question 4

This question produced less competent answers mainly because candidates failed to recognise the term' landscape' in the question. The term covers, topography, vegetation human settlement, ice cover and needed appreciation of the word 'changes' too.

Few candidates referred to places where ice cover is increasing as well as decreasing and the more obvious ideas of subsidence whilst recognised was not always well developed. Candidates found it more difficult to sustain an argument in this answer and largely wrote about ice retreat and landforms like pingos, eskers, an increasing size of outwash plains and more overflow channels and more pro-glacial lakes etc. which did not form the basis of an in-depth examination of the question.

Some candidates misinterpreted the question. They wrote about the pros and cons of climate change, another looked at different human activities and their impact on climate change and another wrote mostly about human activity in glacial and periglacial landscapes, e.g. Mining, pipelines and tourism.

Coastal Environments

This was as popular as the cold environments option.

Of the two questions **Question 5** was marginally more popular.

Question 5

It is easy, in a question such as this, to focus on the subject of the question which is hard and soft engineering both of techniques are well known and forget that the object is cliff erosion. So sub-aerial process and mass movement as well as marine erosion are relevant here in requiring some form of management. Successful candidates wrote well about section of the south coast such as Christchurch Bay, understanding concepts such as sediment cells and that the coastline may require and have implemented a mix of both hard and soft engineering and the interplay between them. Those were the most successful answers. Some candidates evaluated the technique having described it which is a useful strategy. For instance, one candidate wrote:

'Soft engineering techniques allow the sea to reach its natural equilibrium which may be eroding the coast; this is not very practical when urban areas are present only a few metres from the cliff such as at Barton-on-Sea'.
In discussing managed retreat in Essex the candidate writes,:

' This managed retreat was objected to by the farmer however now the land has been breached a salt marsh has formed and wave energy is being absorbed, thus protecting the cliffs instead of reflecting the wave energy which is the hard engineering alternative'.

This is a good evaluation.

Candidates might have effectively discussed the roles of salt marshes and mangroves to illustrate their answers demonstrating a breadth as well as in-depth knowledge. Detail is crucial to a successful answer in a question like this.

Question 6

The best way of tackling such a question is via factors. For instance, wave action, direction in which the coast faces, physical nature of cliffs, the topography of the coastline, and climate. Stretches of coastline such as Holderness are useful for exemplification in a question such as this because candidates can consider the interplay of factors such as the nature of the geology, the fetch, wind direction etc. Also coastlines in plan and profile can be a useful way of illustrating the factors. Granite and boulder clay cliffs were mentioned but not how they develop over time and how and why they maintain their vertical or near vertical profile. The weaker answers tended to focus on concordant and discordant coastlines without developing a broader argument. Often in these answers there was knowledge but no developed argument so the answers were descriptive rather than evaluative.

Section B

Tropical Environments

Questions 7 and **8** were not attempted.

Temperate Grassland and Forest Environments

Question 10 was by far the most popular

Question 9

This question required candidates to show a detailed knowledge and ability to illustrate the nutrient cycles for each ecosystem.

Ideally diagrams needed to be used as a crutch for the discussion so that an effective comparison and evaluation could be made. Flows stores and transfers all need reference and the major ones were considered but candidates often forget, fundamental inputs like sunlight, rainfall and weathering and losses like leaching. Terminology was sometimes lacking. For instance the use of the terms *fallout* and *uptake*. Reference to the influence of Geology was almost universally lacking from answers to **Question 9**.

Question 10

A popular, generally well-done question with the use of a wide range of examples of factors other than non-native species and the use of theories to illustrate. Factors such as human interference, coppicing, pollarding, recreational pressure, climate change and acidification were mentioned. In some cases, these were added rather gratuitously rather than as part of the argument. Candidates should be aware that understanding of theories demonstrate real appreciation if used to illustrate a particular development of succession, for instance. Without an evaluation of non-native species as a factor the answer could not achieve the highest marks and most candidates were able to achieve some evaluative element in this answer which was very pleasing. A case of the opposite approach was where a candidate began without an introduction, went through each of the factors in detail and then wrote an excellent conclusion invoking theory and an evaluation of all the factors described and hence received a successful result.

'In conclusion, non-natives have significant impacts but there are many other disturbance factors that I feel to pinpoint invasive species as the most important is not possible. Having said this, it is true to say that non-natives affect the three biomes across the board more so than any other disturbance factor. Large herbivores, by Vera's paradigm shift' cited at the OVP have turned TDF into a more temperate savanna or 'parkland' whilst one could argue that wallowing bison in the Steppe and digging prairie dogs which oxygenate the soil and improve drainage have an impact I feel is less considerable than the role of tapirs etc. and deer and wild boar play in the TDF. Certainly, boreal biomes do not have this factor to anywhere near as significant extent. Overall, whilst invasive species have changed the three biomes, the effects of fire, gap dynamic, humans and large herbivores are considerable enough that I do not feel that non-native species can be singled out as the most important'.

This is an example of an interesting, thoughtful and sustained conclusion.

One idea that was almost universally missing was that of the plagio-climax which was surprising. Concepts such as plant succession might form the fundamental underpinning of such a question.

The Atmospheric Environment

This was the most popular section alongside Glacial and Periglacial environments.

Question 11

This question was tackled by very few and was poorly done because candidates were uncertain about the terms 'global climatic zones'. Most approached the question by using the general circulation model although one candidate drew a map of Africa with its climatic zones as an example which is perfectly acceptable approach if well done. Classification is always a difficult concept as it demands so many criteria to make it effective and most candidates did not really appreciate that statistical support was needed in the form of rainfall amounts, seasonal distribution, temperatures and evapotranspiration rates to justify any classification.

Question 12

A very popular question which needed a clear well-developed argument underpinned by knowledge of the greenhouse effect and enhanced greenhouse effect. It is surprising that candidates at this level consider that the earth 'reflects' incoming solar radiation and mix up incoming daytime short-wave radiation with outgoing night-time long-wave radiation.

The term 'trends' were a focal part of the question and statistical support was very useful to demonstrate the force with which it was possible to argue the case for increasing greenhouse gases in the atmosphere.

Candidates who can quote temperature rise i.e. 0.5°C or 0.74°C and then increases in CO_2 content from 190 ppm to 360 ppm gives a veracity and reinforcement to the argument. Without some reference to a time scale, past climatic changes, post-glacial fluctuations, and to causes other than human to account for possible fluctuation and trends then the answer lacked veracity. Some answers were very good and most candidates reached the conclusion that the enhanced greenhouse effect is responsible for climate change since the Industrial Revolution. There are still candidates who are confused about the ozone layer and its role in filtering incoming solar radiation. They consider that the bigger the ozone hole the greater the increase in temperature changes.

Finally some candidates seem to use emotive language such as 'harmful CO_2 emissions' and see climate change in terms of a 'doomsday scenario' which is not a well-considered, scientific approach to the topic.

One candidate prefaced his argument with the following introduction:

'The view that climate change is entirely natural is a very controversial opinion often met with disbelief and even hostility by staunch activists of the man-made theory. However the fact that it is natural phenomenon has a very strong argument'.

So it is clear that both sides of the argument will be made in his following discussion.

Another candidate wrote a balanced conclusion to his argument which illustrates the type of approach which might have been made:

'In conclusion, natural climate change cycles have been responsible for cooling and warming before the Industrial Revolution but human activities have changed the climate cycles by emitting so much CO_2. This imbalancing of the atmosphere is going to have an effect and is made worse by activities such as deforestation. Natural processes like sunspot activity, Milankovitch cycles and El Nino/La Nina events are still going to have an effect on climate trends so cannot be completely discounted'

GEOGRAPHY

> **Paper 9768/03**
>
> **Global Themes**

Key messages

- Knowing the content of the Generic Mark Scheme (GMS) and understanding its application is fundamental to success. All pieces of extended writing for Paper 3 are assessed using this framework.

- The skills of deconstructing the question set and planning to address all its elements are highly valuable.

- As extended writing, Paper 3 essays need to be of appropriate length in order to develop in both depth and detail. Short pieces of work (in most candidates' handwriting, two sides of an Answer Booklet or less) are unlikely to achieve high Level awards.

General comments

This second examination of Cambridge Pre-U Geography saw a significant increase in candidates from 2010, yet the cohort remained small. Coverage of the syllabus is uneven in terms of choices, with a single essay seen in response to one Theme, **The World of Work**.

Knowing and understanding the GMS is foundational to achievement on Paper 3 (and Paper 2). Teachers are encouraged to use the GMS with candidates throughout the teaching programme, both as a measure of achievement for a piece of work and as a means of demonstrating areas for improvement. One school has developed its own cover sheet to this end which is used throughout the 2-year course as the framework for assessing and commenting on each piece of work that a candidate submits.

All the questions on Paper 3 were one sentence essay titles. One way to enhance performance is to develop the skills of deconstructing the chosen title into its constituent elements, e.g. command word to follow, subject area, key idea(s). Then a candidate can plan to answer the actual question set, and to cover all aspects of the question. This both assures success with the bulleted descriptor in the GMS concerning focus and keeps the response away from irrelevance or the tendency to go off into straight recall of learned material. Two examples where this approach could have been applied to good effect were **Question 1**, on international migration, where several candidates omitted the management element of 'character and management'; and **Question 11** where the nuance of 'more' in 'make tourism more sustainable' tended to be picked up in only the best responses.

Rewards to individual essays were made using all 5 Levels of the GMS, with Levels 2–4, as expected, being used the most intensively. One response of exceptional quality achieved 25/25 marks in Level 5 and could be seen as of first year undergraduate quality. At the other end of the mark range, for the first time a Pre-U essay was seen which, after a narrative start, broke down into notes and became fragmentary. This, whilst not covered explicitly by the GMS, achieved a Level 1 reward.

In assessing responses, the GMS is used along with indicative content for each question. This indicative content is prepared from the syllabus content and from contemporary geographical thought, research and publications. Whilst the GMS captures the essential qualities of responses in 5 mark bands, the indicative content is what the name implies: some indication of the probable content or possible approaches to the questions and titles set. Examiners do not expect to find all the indicative content in any one response and candidates are free to develop their own approaches in their essays.

The quality of written communication was satisfactory to excellent. Outstanding work being seen in the vocabulary for and expression of analysis, evaluation and argument in particular. At the lower end some work was continuous, without the paragraph structure which is expected in extended writing and necessary in order to structure an essay effectively.

Geographical terms and vocabulary were employed appropriately in almost all cases. Given that sustainability was an emphasis this session in *Section B* many responses to **Questions 7**, **9** and **11** would have benefited from a robust definition of the term *sustainability*, both at the outset and as the framework for the development of the essay that followed.

Organisation is one of the assessment criteria for extended writing in Pre-U Geography. Well-structured responses tended to have a discernible beginning (introduction), middle (evidence, analysis and argument) and an end (conclusion). The Examiner involved in the marking of the paper commented, "The quality of introductions proved a good discriminator. A purposeful targeted start, which defined key terms in the question … generally led to a well-structured, focused essay." Many effective conclusions were seen, that drove home the candidate's position and did far more than simply recap the key points of the essay. All essays need a conclusion; those that lacked one perhaps did so as a result of lack of time.

Comments on specific questions

Section A

Migration and Urban Change

The majority of responses were to **Question 1**.

Question 1

International migration is a broad and readily defined field which gave candidates good scope to organise and develop their responses. Features of higher-scoring work included a reasonably balanced approach to 'character and management'; following the command word 'Consider' by providing a true consideration, rather than simply a description and/or explanation of the chosen population movements; the deployment of detailed examples and case studies which showed a sense of contemporary realities; and the thorough integration of theories, e.g. Ravenstein, and concepts, e.g. chain migration, into the whole in a manner that was meaningful, geographically robust and skilled.

To quote the strong introductory paragraph from a response that received a Level 5 award:

International migration is a rising phenomena [sic] of the 21st century, a century already characterised by the hypermobility of people and information. Current estimates are that around 215 million people cross borders as migrants every year, and this is forecast to rise to 405 million by 2050. In this era of mobility, understanding the character and management of different types of migration is extremely important. There are a huge variety of types, undermining many of the traditional models of migration such as Stouffer or Lee in the 1940s, including information rich vs. information poor, size of economic gaps, forced vs. voluntary and pioneer migrants vs. established. The complexity of the pattern of migration makes any assessment of the character and management of different types of international migration complex.

Amongst the responses seen, in considering the management element of the question, knowledge of border controls dominated, with material on the management of refugees, for example by UNHCR or NGOs, or encouraging the outflow or inflow of international migrants, thin in comparison.

Lower level responses tended to be descriptive or narrative in approach and to offer little or no comments about the management of international migration. It is in such cases that preparing candidates to know the meaning of different command words, and to respond appropriately; and to deconstruct the question, and plan to answer all of it, may enhance performance.

Question 2

In the small number of responses assessed, better quality work was based on a robust definition of the term *urbanisation* as the process of concentration of population into urban settlements from rural ones. One other feature was covering 'the consequences of urbanisation' in countries at both higher and lower levels of development and, so, in different parts of the world and/or time periods. Some essays would have been improved by more careful selection, direction and application of generally urban material to address the specific demands of the question set. This was particularly noticeable in essays which covered a number of 'attempts' appropriately and stopped short of assessing effectiveness. Some dealt with effectiveness superficially with simple one sentence statements, such as "This was very effective"; when at this level skills of weighing and judging outcomes in terms of positives and negatives are expected in all responses. In highly-skilled essays it was often the case that effectiveness was differentiated creditably between locations and/or groups of people. One example was where slum or shanty town improvement schemes benefited some places and some residents, but not others, because of constraints such as funding.

Trade, Debt and Aid

Question 3

As commented above, a definition of the key term *global capital transfers* at the outset assisted the clarity of responses. Some candidates appeared initially to only be writing about one kind of transfer, usually trade, and yet in the essay content integrated material on the other two transfers in the syllabus, foreign direct investment (FDI) and aid, meaningfully. Some demonstrated good conceptual understanding of global disparities, notably though employing the idea of the development gap and its widening or narrowing. Others needed to differentiate maintaining (or not decreasing) global disparities as an outcome from that of actually increasing global disparities. Some of the best work was in the context of divergence and convergence over time as encountered in classical economics and found in the study of regional inequalities. High level responses displayed a global or 'big picture' perspective and enhanced by detailed evidence such as located statistics for particular times or time periods.

Question 4

The sense of 'global patterns of foreign direct investment (FDI)' was impressive in several responses, in scale, in terms of inward and outward movements and in location. Other essays tended to be sweeping and unsupported in the generalisations made, for example in the claim that all FDI is from countries at higher levels of development to countries at lower levels of development. Some seemed unaware of the importance of the USA or EU member countries in terms of inward FDI. Notably good use was made of the complex case of China, both as a source of outward FDI into Africa and as a major destination of inward investment as an emerging industrial power and BRIC country. There were some carefully structured accounts which built up a complex, dynamic and interactive web of reasons for FDI. Some made effective observations about profit maximisation by transnational corporations (TNCs) and competitive edge on the one hand, and the pursuit of economic development by countries through seeking to attract FDI on the other. A few did well to include the examination of reasons for the absence, or low levels, of FDI as part of these global patterns. Some candidates appeared to be addressing a slightly different title from the one set, by examining changes in global FDI and the reasons for the changes, although it was unclear why.

The World of Work

Question 5

This question was not chosen.

Question 6

A single response to this question was seen in the entry. It addressed the question simply and directly and identified wage levels, working conditions and child labour as exploitative practices. A context of one or more named located examples would have enhanced its quality, as the analysis remained general.

Section B

Energy and Mineral Resources

All candidates taking this Theme chose **Question 7**.

Question 7

From the four responses assessed, it is hard to generalise given that awards ranged from Level 1 to Level 4. The highest-scoring response conveyed a global perspective on the progress towards sustainable production admirably, establishing elements which have and have not been achieved on the basis of evidence and argument. At the lower end of the mark range, the essays required locational specificity and developed exemplar content and a greater sense of weighed and judged comparative outcomes, in place of simple assessments such as "good progress".

Question 8

This question was not chosen.

The Provision of Food

Question 9 was the more popular choice.

Question 9

Some truly impressive work was seen in response to this broad invitation to evaluate the sustainability of different approaches to meeting the increasing global demand for food. Many candidates did well to define the key term *sustainability* in the opening paragraph and to establish 'the increasing global demand', with some use of data. The highest quality essays were distinguished by their scope, perspective and the diversity of approaches evaluated. These involved agriculture and aquaculture; earlier and more recent innovations and technologies, such as the Green Revolution and GM crops; and drew on locations in countries at higher and lower levels of development. There were some perceptive comments in the dimensions of politics and ethics, as well as elements of environmental, social and economic sustainability. It was also good to see the important link between food and the contemporary global issue of water stress or water shortage being made. There was some effective use of related models and theories such as the work of Malthus, Boserup, Ehrlich and the Club of Rome. At the lower end, the integration of this theoretical element was seen less and tended to be more of the namedropping sort. The quality of some of these essays could have been enhanced by including locations and place information to support the broader observations made. Also, although credit was given for knowledge and understanding of the chosen approaches, the robustness of some of the evaluative comments offered was limited, for example that GM crops are simply "very sustainable" or the unqualified "sustainability will be found in all approaches".

Question 10

Candidates recognised that the title allowed them to define for themselves 'the issues' that they chose to examine and those that did so clearly, did this to good effect. It both indicated the direction of the essay and gave it a natural structure. The responses were impressive in the breadth of understanding shown and the facility with which the examination moved between 'different parts of the world' as required; different scales, for example from a fish farm to ocean expanses and international waters; and different levels of development. The use of named varieties of fish and data in the examination offered was the kind of 'detail' envisaged in the GMS and the manner that research and contemporary material and news were integrated with the analysis was a good example of a genuine Pre-U approach to learning. One high quality essay ended an effective conclusion as follows:

… there has been an improvement to the global fish stocks with Cod stocks rising from near extinction off Newfoundland and Bluefin Tuna stocks increasing in the Mediterranean, as well as many more. This improvement is not in proportion to rate of increase in population, and since 65% of the world's population have fish as a primary source of protein, there is going to have to be a breakthrew [sic] to keep fish sustainable for the future.

Tourism Spaces

Question 11 was very much the more popular. **Question 12** elicited a few responses which were impressive in their overall perspective and skills in handling diverse evidence at different scales.

Question 11

The features of high level responses included the ability to structure the whole piece of extended writing as an assessment; the depth and detail of the evidence examined in the chosen 'attempts'; and recognising the subtlety of the title in the phrase 'more sustainable' in terms of change in the tourism sector. At lower levels responses tended to be more narrative, with the assessment perfunctory or absent; the attempts rather broad both conceptually and in the generality of the content. Here the title was seen to be an invitation to write about ecotourism as sustainable tourism, using one or more learned case studies of ecotourism, with little or no attention to how the rest of the sector has been addressing issues ranging from water consumption to antagonism from local residents in resorts and tourist destinations. As in other questions, a definition of the term *sustainable* helped to establish an effective response. Some work featured environmental concerns to the exclusion of other elements, which was self-limiting. Better essays were founded on a range of case studies and approaches, demonstrating varying outcomes, or degrees of success, some of which impressed by contemporary detail and analytical insight.

Question 12

Scale is an essential element of the study of geography and the very best responses handled scale deftly. The spatial unevenness of the development of tourism could be seen at the local scale, for example in the development of an enclave resort; the city scale, for example observing that cities such as London and Florence have heritage cores with developed tourism, but also industrial zones without; regionally, nationally and globally. Some effective work considered islands as a special case, for example in relation to the development or lack of development of an airport, or the docking of cruise ships. Most candidates got the logical point in the Indicative content that "it would be surprising if the development of tourism was even spatially". One candidate wrote, "Once tourism is perceived as an economic activity like any other this is perhaps not so surprising." The integration of theoretical content varied in its effectiveness, whether for example applying Butler's temporal model spatially, or seeking to consider the implications of Plog's allocentric and psychocentric tourists in terms of tourism spaces.

GEOGRAPHY

| Paper 9768/04 |
| Research Topic |

General

This was the second sitting of the exam and it was encouraging to see that candidates and Centres are settling in well to the demands of this paper.

All three research topics were covered in approximately equal numbers. The syllabus requires candidates to complete their own investigation involving fieldwork and to carry out secondary research in order to make a wider study of their chosen topic. Centres and candidates appear to be addressing these twin demands with some success.

A theme which emerges from the question specific comments below is that the best performing candidates, as well as having an impressive knowledge base, make a genuine attempt to address the evaluative aspect of the longer questions, thus allowing themselves access to the higher levels of the mark scheme.

There was no evidence that candidates struggled for time in this exam, but there were a very few instances of rubric infringements, with candidates answering questions from more than one section of the paper.

Question 1

Part **(a)** caused few problems, with almost all candidates recognising that the range of temperature between the city Centre and the surrounding rural area was 6°C.

The best answers to part **(b)** described the shape of the urban heat island by using the isotherms given in Fig. 1, then went on to comment about the vertical dimension using the section given in Fig. 2.

Most candidates answered part **(c)** well, identifying areas on the satellite photographs where there was a clear relationship between warm temperatures and dense vegetation (e.g. in the Centre of Staten Island), then going on to point out anomalies to the pattern (e.g. the islands to the south of Queens, many of which have warm temperatures but sparse vegetation). The best answers addressed the evaluative part of the question with statements such as "there is a strong relationship over much of the area shown, but there are some anomalies". Weaker responses gave little locational support from the resources, or wandered off the point of the question and attempted explanations of the link apparent between temperatures and vegetation on the satellite images.

Part **(d)** elicited some good responses about the usefulness and limitations of Figs. 3A and 3B. Many candidates referred to the limitations of the key provided and the lack of date/time of day as well as the limitations posed by the scale. The best answers addressed the evaluative element of the question by, for example, pointing out that the resources show the form of the urban heat island but say little about the causes.

Question 2

The best answers to Part **(a)** were achieved by those candidates who attempted to identify a pattern as requested by the question. Weaker answers simply described using phrases such as "near the supermarket the wind speed is 27". Better responses were characterised by statements such as "where the buildings are close together, for example the library and the supermarket, the wind speeds are much higher, reaching 28 km/h".

Part **(b)** provided candidates with an opportunity to display their wider knowledge of their chosen topic. Given the restrictions of time there were some encouraging responses. Many candidates were able to describe and offer explanations of the ways in which urban areas modified temperatures, winds and precipitation. The best answers used exemplar support and addressed the evaluative part of the question ("consider the extent to which"), referring to seasonal variations in the intensity of urban microclimates and to differences caused by the prevailing synoptic situation.

Questions 3, 7 and 11

These questions were the least popular of the essay choices, but produced the better answers overall. An impressive array of secondary data is being used by candidates – OS Maps, land-use maps, GIS systems, weather charts, census data and previously published research to name but a few. Most responses detailed the secondary sources consulted, with the better responses making a good attempt at "evaluating the extent" to which they "enhanced" the investigation. The evaluation addressed issues such as the reliability and the appropriateness of the secondary sources, along with the issue of time scale (e.g. how up to date the source was).

Questions 4, 8 and 12

These were the most popular choice of the essay style questions. The syllabus identifies 6 stages in the investigation and this question relates to the final stage of the process. The best answers began by stating the theories and concepts under investigation and then went on to discuss how successful their investigation had been in supporting, or otherwise, these concepts. Others needed to develop their answers beyond the descriptive and address the evaluative dimension of the question. The limitations of the methodology are clearly relevant, but the higher levels of the mark scheme could only be accessed by those who adopted a more holistic approach to the assessment of their study.

Question 5

In part **(a)**, almost all candidates identified the main wind direction as 260° and that it blew for 8% of the days.

In part **(b)** most candidates scored well, identifying the contrasts between the two wind directions needed to gain full marks. A small minority of candidates referred to "average" SO_2 concentrations. Averages were not shown on the diagrams so the term is best avoided in this case.

Part **(c)** required candidates to identify links between Figs. 5 and 6. The best answers identified the high pollution events of WSW winds and linked them to the frequent winds from 260°, hence supporting a link, and then contrasted this with the relatively frequent winds from the NW quadrant and the fairly low concentrations of SO_2 from that direction. Others needed to develop what was essentially a description into an evaluation of the extent to which a link is present.

Part **(d)** widened the subject of the question from SO_2 pollution to environmental degradation as a whole. Better answers, as well as assessing the usefulness of the resources provided, went on to point out the limitations of resources which focus on only one aspect of environmental degradation, thus enabling them to access the higher levels in the mark scheme.

Question 6

Part **(a)** required candidates to make a judgement about their level of agreement with the statement in the question and then to support their argument with appropriate evidence from the map. Weaker responses tended to simply describe the pattern with little attempt to address the evaluative part of the question.

There were some useful answers to part **(b)**, with a number of candidates accessing the higher levels of the mark scheme by providing some thoughtful assessment about the role of international agreement and balancing that with discussion of national and local initiatives they had studied. Weaker responses commonly focused on the failure of international agreements, often castigating the USA and China as the main culprits.

Question 9

Part **(a)** posed few problems, being answered correctly by almost all those who attempted this section. Similarly, part **(b)** elicited a good response from most candidates.

Part **(c)** was also addressed well by most candidates. A good approach was to contrast the fairly uniform nature of income deprivation in the west of the map with the variable pattern in the east, quoting evidence from the map to support their discussion.

There were some good answers to part **(d)**. The best responses discussed the value and the limitations of the two resources to planners, then went on to suggest other resources which might help planners. As well as discussing the usual limitations of choropleth maps, a few candidates pointed out, correctly, that since Fig. 8 deals with ranks, a small change in rank might not indicate an absolute change in living environment.

Question 10

Part **(a)** was generally tackled well by candidates. Good responses suggested the resource supported the idea of a North-South divide to a large extent and quoted evidence from the graph, then went on to point out the rather obvious anomaly of London.

In part **(b)** most candidates wrote impressively about deprivation, exploring its different components and generally expressing agreement with the statement in the question. The best answers addressed the "to what extent" aspect of the question and supported their judgement with specific examples. Other candidates, whilst describing the different components of deprivation, needed to develop the evaluative part of their answer.