GEOGRAPHY

Paper 2217/11

Paper 11

General comments

The examination was considered appropriate for the ability range of candidates and a high level of differentiation was achieved throughout.

Some excellent responses were seen to all questions (whichever were opted for) and capable candidates were able to show their level of ability and gain high grades, however the quality of responses from some candidates was a little disappointing.

The more structured questions worth fewer marks allowed all candidates to achieve positively likewise, questions referring to source materials provided all candidates with positive opportunities to gain marks and source material was generally well used.

Inevitably there were candidates who performed poorly in the examination, this may be due to a variety of factors i.e. they were poorly prepared for this type of examination, lack of effort and/or understanding or linguistic difficulties in understanding the question fully in another language.

Some candidates use geographical terminology appropriately and confidently and are able to recall case studies in detail, particularly when they are case studies local to them or from within their own country. Nevertheless there are still many candidates who fail to give place specific information in order to gain the full Level 3 marks (having given some very detailed Level 2 responses). Level 3 responses were unusual and Level 1 was often scored, even by good candidates, as points were not developed. Weaker candidates tended to list their responses in bullet point form or short sentences, and as a result did not gain more than Level 1.

The most popular questions selected were 1, 2 and 5 or 6. The paper produced a range of marks, though there were relatively few high marks where candidates produced excellent answers throughout. Nevertheless there were some marks in the 50's and 60's and almost all candidates made a genuine attempt at the paper, the main range of marks being 30's and 40's.

There were few rubric errors, however the handwriting, from some candidates, was so poor in some cases that it was impossible to read all parts.

The following items of general advice, which have been provided previously in this report, need to be given to future candidates who should:

- make the choice of questions with care, ensuring that for each question they choose they have a named case study about which they can write in detail and with confidence.
- answer the three chosen questions in order, starting with the one with which they are the most confident, and finishing with the one with which they are least confident (in case they run out of time).
- read the entire question first before answering any part, in order to decide which section requires which information to avoid repetition of answers.
- highlight the command words and possibly other key words so that answers are always relevant to the question.
- use the mark allocations in brackets as a guide to the amount of detail or number of responses required, not devoting too much time to those questions worth few marks, but ensuring that those worth more marks are answered in sufficient detail.
- consider carefully their answers to the case studies and ensure that the focus of each response is correct, rather than including all facts about the chosen topic or area, developing each point fully rather than writing extensive lists of simple, basic points. It is better to fully develop three ideas rather than write extensive lists consisting of numerous simple points.

- study the resources such as maps, graphs, diagrams and extracts carefully, using appropriate facts and statistics derived from resources to back up an answer and interpreting them by making appropriate comments, rather than just copying parts of them.

The following detailed comments for individual questions will focus upon candidates' strengths and weaknesses and are intended to help centres better prepare their candidates for future examinations.

Comments on specific questions:

Question 1

This was by far the most popular question selected by candidates and often the highest scoring one.

(a) (i) The vast majority of candidates answered this correctly. The correct order being Shandong, Guizhou, Qinghai. A small percentage of candidates reversed the order of Guizhou and Qinghai.

(ii) Almost all candidates knew how to calculate population density and most used calculators to give an accurate answer. A few did not show their calculations as instructed and lost a mark. Some candidates arrived at the correct answer but in a different way to simply dividing the number of people by the area i.e. 60 million / 187 400 = 320.17 (.2).

(iii) Many candidates made correct references to the difficulty of building houses and communications on steep slopes and elements of climate/soils which result in low population density. This part was generally well answered though some irrelevance or vague statements were included. Weaker candidates often eluded to an idea but did not develop the point far enough to gain the mark e.g. 'slopes are steep' or 'poor climate' needs to be developed further to gain the mark as follows: 'Climate is often cold or icy conditions' or 'slopes are steep which makes them difficult to build on'. The vast majority of candidates scored 2 out of a possible 3 marks.

(iv) This part was generally well answered, many scoring 3 or 4 marks with reference to mark scheme ideas. Most popular responses were achieved for jobs, ports tourism and fishing references.

(b) (i) Whilst there was some misunderstanding of what "underpopulation" meant the most common relevant point made was "not enough people for the jobs", followed by 'resources not being fully exploited'. Many candidates felt that there would be a surplus of goods as there would be insufficient demand from the population as output would continue at the same level, (if there were more people). However, most candidates scored 2 or 3 marks.

(ii) This part was generally well answered with lots of full mark answers showing a good understanding by most candidates. Inevitably there was some misunderstanding of what "overpopulation" meant. Common errors were pollution without the type, or a list prefaced with worse 'e.g. worse education, health etc.' rather than 'poor access to education or healthcare' or 'air pollution'.

(c) Most candidates chose Mexico to USA with some selecting Turks moving to Germany. Few candidates failed to score at least 3 marks by making 3 appropriate simple statements. Too many did not go beyond that though, many simply writing an opposite list of pushes and pulls, neither showing any valid development. Most common responses were 'more jobs available' better quality of life' and 'better services e.g. Schools/hospitals'.

Question 2

This question proved to be the second most popular choice on the paper by candidates with a varying degree of success in responses.

(a) (i) Some candidates repeated the word 'influence' in their response however in general the term was fairly well known. There were references to the distance people travelled which were accepted, however, candidates should know that sphere of influence is 'the area where people live who use the service'.

(ii) Many candidates scored both marks although some did not give precise enough answers (e.g. a 'supermarket' could be low or middle order depending on its size, a 'shop' or 'school' could be low or middle). Examples of high order services given were sometimes middle order. Hence too many

candidates were vague in their responses e.g. market, School, car/jewellery without the rest to gain the mark, i.e. primary School, car showroom.

(iii) This question was generally not well answered as few candidates really knew what 'threshold population' meant and generally answers were weak. The first two lines of the mark scheme were the most common correct answers. There was little reference to frequency of use, small proportion of population using it or the specialist nature of high order services.

(b)(i) This was generally well answered with the vast majority of candidates scoring the full three marks. However, a small minority of candidates simply quoted services from the key without checking whether they were actually on the map e.g. 'museum/church'.

(ii) Most candidates scored at least one or two marks here, referring to the expressway and the presence of the various services listed in the mark scheme or parks and plazas. However, the gridiron pattern was rarely mentioned and few candidates discussed traffic intersections.

(iii) There were many reasonable attempts to this question but few candidates developed their answers, most achieved marks from single points. The most common answers were 'deforestation', 'animals killed' with too many stating 'pollution' without the type. Marks were lost by references to global warming and acid rain despite the local focus of the question. Also some references were made to people and not the natural environment but overall this was not a common error.

(c) This was generally not well answered. Many candidates did not give the basic ideas of why settlements originally develop and the factors affecting growth as and there was little development of ideas hence, most candidates scored within Level 1.

The most common way in which candidates developed a point was to refer to rural to urban migration and explain the pushes/pulls, which whilst not the intention of the question seemed to be a valid approach. A few wrote about a tourist settlement, explaining its growth by reference to tourism, which was equally valid. Some of the better responses referred to Rio de Janeiro or another South American city with varying levels of success. These responses explained how the settlement had originally developed due to flat land near the coast, which enabled the development of roads and route centres enabling the growth of industry. This coupled with the location of a deep harbour/ports enabling raw materials to be imported and finished products to be exported led to the settlements growth. Other ideas may include the development of the tourist industry due to the attraction of beaches e.g. Copacabana beach. Other place specific information could include the names of ports/harbours/rivers/roads etc. Many candidates suggested that settlements had grown due to the development of services e.g. Schools, hospitals, shops etc. Whilst it is recognised that these serve as pull factors attracting migrants to these areas they are not the reasons why a settlement has grown.

Question 3

This did not tend to be a popular choice by candidates. Those who attempted it tended to score well on the earlier parts of the question but less so on the case study.

(a)(i) The vast majority of candidates answered correctly with the range being allowed between 50 and 60 metres.

(ii) Most candidates scored one or both marks, usually for reference to soft cliff materials and either lack of protection or large waves.

(iii) Most candidates scored at least two out of the possible three marks available. The most popular responses referred to the need to evacuate and the destruction of houses, the hotel or shop only a minority of candidates referred to loss of income from tourists or the loss of part of the car park.

(iv) Most were able to name two processes although a number incorrectly named longshore drift as one of them. Fewer candidates successfully described the processes. Some candidates mixed up corrasion and corrosion.

(b)(i) Candidates usually achieved two marks by reference for example to the north and south coast. However, too many candidates focused upon where there were no coral reefs, which was not an acceptable approach.

(ii) This was generally well answered by many candidates though some failed to develop the basic ideas and did not score full marks as they did not make sufficient points. Once again there was some use of negatives which was not acceptable and some candidates included explanation which was not relevant. Most candidates had a correct basic knowledge of the conditions required for the development of a coral reef.

(c) This part was generally not well answered with very few candidates giving a named example. Responses tended to be vague, simple statements and in many cases were repetitive. Those candidates who included a labelled diagram merely repeated what they had already stated in their written text.

Those candidates who chose spits were marginally more successful than those who wrote about sand dunes as they were able to develop the longshore drift idea and get into Level 2. Few candidates got beyond four marks.

A good response for the development of a spit would explain how spits develop where there is a break in the coastline or a change in the shape of the coastline (i.e. across a river estuary or from a headland) and a drop in energy meaning that longshore drift will deposit material at a faster rate than it can be removed and gradually a ridge is built up (Level 2). As candidates refer to the process of longshore drift moving materials in the direction of the prevailing wind and develop their answer a labelled diagram could show this, but candidates should remember to label swash, backwash, direction of movement and prevailing wind, (Level 2). Overtime as the materials are deposited along the shoreline they build up until it is above sea level and this will continue until deposition can no longer occur due to either deeper water or the presence of a river mouth where the materials will be washed away faster than they can be deposited (Level 2). Often a 'hooked or curved' end may develop due to a change in prevailing wind direction (Level 2). A named example could be Spurn Head, Holderness in the UK but any local example would be acceptable. The diagrams would replace the need for place specific information but candidates could name the river estuary or beach/headland that they are referring to.

Question 4

This question was more popular than **Question 3** but not as popular as **Questions 1, 2, 5** and **6**.

(a)(i) Virtually everyone answered this correctly, identifying SW USA, Sahara, Thar or Arabian. A small minority of candidates incorrectly named the Atacama.

(ii) This part was generally well answered with the majority of candidates scoring marks for 'in South America' and in the 'Southern hemisphere'.

(iii) The majority of candidates were able to describe the temperature differences and gain two marks but surprisingly few were able to explain and give a valid reason to gain the full three marks.

(iv) This was a poorly answered question as few knew why it was dry. A few made appropriate reference to mark scheme ideas particularly 'rain shadow' or 'high pressure' ideas. Very few candidates gained more than one or two marks and there were a lot of vague and irrelevant statements.

(b)(i) Generally well answered, most candidates correctly focused on the vegetation and commented on the cacti, date palms etc. A few included irrelevant details of things which could not be seen like the roots, whilst others included explanation which would have been appropriate in the next question.

(ii) Reasonably well answered, almost all candidates scored some marks, commonly for reference to ideas such as the spikes, the long roots and the ability to store water. Most candidates did attempt to link climatic and vegetation features and attempted to explain the relationship as the question asked. However, weaker candidates did not make this link and many scored one or two marks.

(c)   In many cases a desert was named but few candidates were able to name correctly the human activities in the desert and then link to the correct environmental conditions. Generally the points were simple ones at Level 1 with virtually no responses gaining Level 3. Many candidates wrote about agriculture, the Sahel, chopping trees down etc. which were clearly not focused on a desert region, some candidates responses were more relevant to a tropical rainforest. The best answers related to overgrazing or tourism with some responses referring to Las Vegas but even so these were often simplistic Level 1 statements.

Question 5

This question proved to be the second/third most popular choice by candidates and was generally quite well answered, including the case study.

(a)(i)   Mainly correct most candidates understood the term 'processes' and correctly stated that it is 'the methods used to convert raw materials into finished products'.

(ii)   Virtually all candidates gained the full two marks for this question correctly identifying an input and an output.

(iii)   This part was generally well answered with the most common responses referring to various types of pollution and loss of vegetation/habitat etc. However, some candidates stated pollution without making clear which types of pollution they were referring to i.e. visual pollution/air pollution/groundwater pollution.

(iv)   Many candidates scored at least two marks but few gained three or the full four marks. Candidates appeared not to fully understand what governments can do as opposed to what an industry can do e.g. create jobs. The most common responses referred to subsidies, tax incentives and various infrastructural improvements.

(b)(i)   Some candidates misunderstood this question and wrote about why the manufacturing industry developed in the area shown (i.e. the answer to the next question). Those who understood the question generally got a mark for employment – better candidates included other ideas such as development of infrastructure (or examples) or improvements in quality of life. Some references were made to economic growth, however, these were not developed with regard to benefits of this for people.

(ii)   This part question was generally well answered by most candidates as they effectively used the map and diagram. Almost all of the mark scheme ideas were covered by candidates. However, many candidates would have benefited from developing their points a little more, some of which were so brief that they received no credit (e.g. a big city nearby, near the coast). Those who scored marks for correctly expressed ideas could have gained more marks for developing them (e.g. near the iron ore (1 mark) so that transport costs of this bulky raw material are kept low (+1 more mark for development)). Those candidates who wrote about the availability of a workforce in Kolkata, especially as they can travel daily to Bokaro by rail, would appear not to have looked at the scale of the map.

(c)   There were some good responses to this case study question, with some at Level 3, but generally candidates did not develop their ideas and thus many scored Level 1 for basic ideas. Many chose appropriate examples from within their own country (or continent) but even so they did not really do justice to themselves. Others chose Costa del Sol from the textbook with the same end results – usually top Level 1. Some candidates wrote about a local ecotourism location in the rainforest and whilst this choice was perfect the problem was that the answers were no more than – 'wildlife, jungle and local culture'. Some candidates chose a country (usually Kenya) – whilst some did try to develop their answers they were restricted to Level 2 (5 marks) by their choice of a country.

A good example often selected was Machu Picchu located in Peru high in the Andes. Candidates discussed how tourism had developed due to visiting the historic and cultural sites such as temples, the palace and the huge sundial dated back to ancient times of around 1450 (Level 2). They also referred to following the Inca Trail (which would be classed as place specific detail) leading from Cuzco south of Machu Picchu (Level 2). The physical attractions include a mild climate but the best time to visit is during the dry season between December and March as temperatures range between 16 and 28 degrees celsius, this is when most visitors go (Level 2), the scenic beauty of the mountains and jungle including the wildlife e.g. tropical birds etc. (Level 2).

Also the opportunity to experience a unique culture and heritage along the Inca trail visiting traditional Inca homes (Level 2). These are just a few examples of good Level 2 responses where the candidate has developed ideas beyond the basic Level 1 statements and has used plenty of place specific detail, including reference to both human and physical attractions.

Question 6

Probably the third/fourth most popular choice by candidates and generally well answered in the earlier sections but not so well answered for the case study.

(a)(i) Generally well answered with candidates giving mainly correct definitions, just a few defined by reference to scale instead of use of the output.

(ii) Again generally well answered with the vast majority of candidates correctly selecting photograph c.

(iii) Responses to this part were more variable. Many candidates gained a mark for larger scale for E, others for D is subsistence whereas E is commercial. few referred to different crop types. There were many intensive/extensive answers which were not valid. A few compared the wrong pair of photos.

(b)(i) Generally well answered, most candidates scored the reserve mark for recognising a increase in Africa but a decrease in Asia and many got at least one mark for a correct pair of statistics.

(ii) Many good points were made here, most candidates scored at least two or three marks for references to drought, flooding and infertile soils being common correct responses. Weaker candidates vaguely referred to the 'weather' or 'rain' or 'high temperatures' which was not enough for credit, whilst others (not too many though) wrote about human factors rather than the natural environment.

(iii) This question differentiated well, most candidates scored a mark for simple ideas like 'more food to eat' or 'food to sell' whilst stronger candidates went on to develop their answers in relation to various aspects of quality of life or potential investments which they could make on their farms with the money obtained from sales of surplus products.

(c) Most candidates chose an appropriate example and could simply identify inputs, processes and outputs in basic undeveloped lists gaining top end Level 1. A few tried to develop their ideas but very few candidates reached Level 3.

An example of a good response would be shifting cultivation in the Amazon Rainforest, Brazil. Processes would include clearing the land by slash and burn where simple hand tools i.e. machetes are used to cut down the rainforest vegetation, which is then burnt to add fertiliser to the soil (Level 2).

The soil would then be turned over by hand (simple ploughing) and the seeds would then be planted. The area would be watered and weeded daily by hand using simple hand tools until the crops are ready to be harvested. The crops would be harvested using a sickle (Level 2). The outputs would be vegetables including root vegetables such as manioc (Level 2). The manioc can be used as a vegetable or ground up to make flour and the leaves from the bush can be eaten too so hardly anything is wasted (Level 2). The crops would be for their own consumption to feed the family/tribe and not for sale. (Level 2) This process would then start all over again and after approximately 3 years when the soil loses its fertility the family/tribe would move on clearing another plot of land allowing the previous plot to be reclaimed by nature returning to its original vegetation (Level 2).

GEOGRAPHY

General comments

The paper was regarded as being appropriate for the ability range of candidates as it allowed widespread differentiation. Nearly all candidates attempted, and completed, three questions and there were relatively few instances of rubric contraventions. Where they did occur it was often in smaller Centres, where many candidates attempted more than three questions.

Question 1 was the most popular by far and **Question 3** was the least popular, the other four questions varied in popularity, according to Centre. Generally **Question 1** was the highest scoring, with **Questions 2** and **4** the lowest scoring, however, irrespective of their popularity and general performance, excellent answers were seen to all questions. Whatever combination of questions candidates chose, there were plenty of opportunities for candidates to demonstrate their skills, knowledge and understanding. There is much evidence that excellent geographical learning is taking place in many Centres. Sound practice was demonstrated by those candidates whose answers were focused, and written in complete sentences, showing good development of ideas where appropriate in longer answers and using specialist terms where that was possible. In contrast candidates who did not achieve so much success sometimes misinterpreted questions or the command words and/or key words. Others lost marks where extended writing was required, particularly in case studies, where their answers were too short with ideas which were lacking in development and place specific detail.

The detailed comments on questions below highlight the strengths and weaknesses of candidates. Careful consideration of these comments and the advice therein should be invaluable in preparing candidates for future examinations.

The following items of general advice, which have been given before should be shared with future candidates.

- Choose your three questions with care, ensuring that for each of the three questions chosen you have a named example of a case study about which you can write in detail and with confidence in the final sub-question.
- answer your three questions in order, starting with the one with which you are the most confident, and finishing with the one with which you are least confident (in case you run out of time).
- read the whole question first before answering any part, in order to decide which section requires which information, to avoid repetition of answers.
- highlight the command words and other key words so that answers are always relevant.
- use the mark allocations in brackets as a guide to the amount of detail required.
- think carefully about your answers to the case studies and make sure that the focus of each response is correct, rather than including all facts about the chosen topic or area. Develop each point fully rather than writing brief lists of simple points. It is better to fully develop three ideas rather than write long lists of simple points.
- study the resources such as maps, graphs, diagrams and extracts carefully, using appropriate facts and statistics from resources to back up an answer and interpreting them by making appropriate comments, rather than just copying them.

Comments on specific questions

Question 1

(a) (i)   Answers were almost 100% accurate.

(ii)   In A although some candidates correctly stated that an economy such as the UK would have more factory work than farm work, others wrongly explained the difference by reference to skills. This was more appropriate in B where most correctly stated that the Poles would not be qualified to teach or have language problems if they were to do so. A minority of candidates stated the Poles were uneducated which is not true.

(iii)   Many candidates could see that emigration was generally higher than immigration. A few astute candidates spotted general trends such as the greater fluctuation of emigration than immigration, the equal numbers in 2004 and the fact that emigration was roughly three times higher in 2006. In contrast a significant minority of candidates simply listed population figures for individual years with no interpretation of them, which is an approach which gains no credit.

(iv)   The question was well answered with most candidates focussing on jobs, housing, culture and xenophobia. Whilst the question related to migrants such as those from Poland to the UK (which are both MEDCs) many candidates expressed ideas which would be more valid for migrants from an LEDC to an MEDC. Nevertheless this approach was credited, providing the problems were valid for the destination country. However a common error of weaker candidates was the incorrect focus on problems faced by people remaining in the country which the migrants have left, in this case Poland.

(b) (i)   Many candidates scored highly on this section. Although not all used their own words, most could extract issues of high unemployment, low wages and the search for better living standards from the article.

(ii)   There were many good and wide-ranging answers, including development of many different social and economic ideas. A minority wrongly referred to possible outcomes in the destination country. Reference to negative multiplier effects were popular and often fully developed, though candidates should beware of over-exaggerating. Some considered the likely effect to be that all children and elderly would be forced to work and that birth rate would fall drastically, or that the effects of depopulation on Poland would reach the extent that the country would become an LEDC because no workers were left.

(c)   A case study of international migration was well-known to most candidates, although many answers would have benefited from the inclusion of place specific detail. The most common examples were Zimbabwe to South Africa, Mexico to USA and Turkey to Germany. There was a great emphasis on negative impacts of squatter settlements, employment competition, demand for health services, and increase in crime. Fewer benefits to the destination country were discussed in detail. Characteristic mistakes made by weaker candidates were to focus on reasons for migration, problems faced by of the migrant population, or the country which the migrants had left.

Question 2

(a) (i)   Most candidates correctly identified the relationship.

(ii)   Whilst clarity of expression was sometimes a problem most got at least one idea, such as settlements being 'far apart' or being 'separated by farmland'. The ideas may have been derived from knowledge or the resource provided.

(iii)   The question discriminated well. Weaker candidates usually recognised only the difference in the number of services or focused on differences unrelated to services (e.g. in building style or employment), whereas stronger candidates included reference to level of services and sphere of influence. Many answers did not directly compare the services but detailed them in two sections and left the Examiner to make the comparison. Candidates could answer by reference to examples, however in order to gain credit they had to give comparative examples from villages and cities (e.g. in a village there may be a clinic but in a city there is likely to be a hospital).

(iv)   Success in answering this question was dependent on knowledge of the term 'sphere of influence' and recognition that the focus was on the capital city. Whilst some excellent answers were seen which considered issues such as the order of services, the specialist nature of services and the focus of the transport network on the capital city, many weaker candidates did little more than list services typical of capital cities or mention tourism and government services which served a wide area. There was some repetition of answers from **(iii)**, including the irrelevant ideas of more services, large population size and employment opportunities. The required focus on the capital city was missed by some candidates.

(b)(i)   It is good practice to refer to distance and/or direction from other named features when describing a location, however most candidates scored just one mark by vague reference to the shopping Centre being near/next to/close to the School or expressway. 'Near to' was only credited once, to gain more marks candidates needed to be more precise. Some candidates gave reasons for the location of the shopping centre which is not what the question asked for.

(ii)   There were many wide-ranging answers which showed good understanding of the factors influencing the location of new Centres in the suburbs – lack of competition, more space, lower cost land and proximity/easy access to a large and growing market were common answers, some being well developed for additional credit. Some candidates concentrated on negative points about a location in the CBD rather than the positive attributes of the suburbs, however this approach was accepted. Some candidates incorrectly focused on the advantages of the location to the shoppers.

(c)   The concept of the rural-urban fringe was not always fully understood therefore some candidates focused incorrectly on rural problems or on the effects of growth in the city overall rather than the rural-urban fringe. The most common examples were of shanty town developments in LEDCs, notably in South Africa. There were relatively few examples taken from MEDCs. There was a general focus on social rather than environmental problems and generally there was little place specific detail.

Question 3

(a)(i)   There were some good attempts at this definition, the critical point being the fact that the headland sticks out into the sea. It was not sufficient to just state that it was an area of hard rock.

(ii)   Most candidates gave correct answers, although a minority did mix up the two features and some thought B was a stack.

(iii)   Most candidates correctly named three processes. A few described types of erosion instead of naming them.

(iv)   Many candidates had a good understanding of the processes resulting in bay and headland formation and scored high marks. Most could link weak/hard rocks with different rates of erosion and many included a labelled diagram in their answer, which complimented their written text to explain the formation. Some candidates simply described erosional processes, an approach which by itself gained no credit.

(b)(i)   Few candidates made a good comparison of location. The main ideas should have focused on proximity to the sea, and a coastal compared with an estuarine location. Many candidates included incorrect reference to the height of the land and/or some wrote about one of the features rather than making a comparison.

(ii)   Terms such as deposition, shelter and shallow water appeared in some answers but they never really amounted to a coherent and full explanation for the development of a coastal marsh. Candidates need to understand that the formation of salt marsh results from deposition in a sheltered estuarine environment and they should be able to develop these ideas. Indeed too many candidates answered about either the formation of a spit, sand dunes or a coral reef.

(c)   Many candidates knew an appropriate example of a delta, the most commonly named being the Nile. There were examples of excellent developed answers which included specific details, good terminology and a labelled diagram. Weaker candidates made one of two errors, they described processes and landforms found throughout the lower course of a river, or they described different types of delta, with accurate but irrelevant diagrams, rather than explaining their formation.

Question 4

(a) (i) Most candidates gave the correct answer, October.

(ii) Many candidates correctly calculated the range of temperature. However, nearly all candidates calculated the monthly average rainfall by dividing the correct answer by twelve, rather than leaving their answer as the average annual rainfall.

(iii) A minority of well prepared candidates had a clear understanding of the reasons for high temperatures, relating their answers to issues such the angle of the sun and/ or the lack of cloud cover. Some candidates described the temperatures rather than attempting an explanation. Relatively few candidates gave correct responses, many attempting to relate high temperatures to the lack of rainfall.

(iv) Similarly answers explaining the reasons for low annual rainfall were generally weak, despite the occasional excellent references to high pressure, prevailing winds or distance from the ocean. The big picture and large-scale reasons were missed completely though a few did allude to rain shadow effects and ocean currents. Again many candidates made the mistake of describing the low rainfall pattern or focussing on high temperatures/the overhead sun or on lack of vegetation which are not appropriate explanations for lack of rainfall. Indeed many referred to a location 'on the Equator' and 'high evaporation' which would conversely result in high rainfall totals.

(b) (i) Most candidates identified some differences in vegetation, however they were usually identified in two separate sections or a table with the Examiner having to make the comparison. Some described the photographs in detail, including rock and soil types, rather than just vegetation.

(ii) There were many good and wide-ranging answers, and many candidates scored full marks on this section. The ideas had been well-learned and included developed details of leaf structure, stomata and tap roots.

(c) Many candidates gave basic answers rather than developing their ideas and including details of the impacts of human activities on their chosen desert. Consequently many answers were only credited as being in Level 1, usually for simple description of human activity in the desert, most commonly the Sahara. The most common activities described were overgrazing, mining, urban development and tourism. A common misinterpretation of the question was to focus on the risk to people rather than the risk <u>from</u> people. Consequently candidates focused on the hostility of the desert environment for human activity. Also there were some responses about the impact of human activities on the Sahel and the tropical rainforest rather than the desert. Activities such as desertification, overcultivation and deforestation are hardly relevant to any region of desert and did not gain credit.

Question 5

(a) (i) The majority of answers were accurate.

(ii) Most candidates recognised that nuclear power in France was more important than Germany and gave acceptable comparative figures, though some included irrelevant explanation.

(iii) Many candidates gave three valid reasons to explain the relative importance of nuclear power. The most popular ideas were level of development, affordability, risk factors and the availability of alternative resources.

(iv) Most candidates attempted to give some disadvantages and advantages, however, weaker answers were characterised by vagueness of response (e.g. explosions, dangerous, lot of power, cheaper and efficient). These ideas needed to be developed to gain credit. There was some confusion over its advantages and disadvantages. Some thought it was expensive without qualification (it is the building and maintenance which is expensive, the production costs are relatively low); some thought it was dangerous, without qualifying this in any way, and some stated that it was non-renewable and contributed to greenhouse gases. Others thought a disadvantage was that it would explode and over emphasised the danger to the environment, whilst in reality nuclear power poses little environmental risk in comparison with fossil fuels.

(b)(i) This question was answered far better than the similar question about location in 2 **(b)(ii)**. Many candidates accurately included details of distance and direction from named places, particularly Budapest, in their answers. Some candidates went on to suggest reasons for the location, which in this question were not relevant and were often repeated in **(ii)**. As stated in the general advice at the beginning of this report, candidates would be wise to read all parts of their chosen questions before embarking on their answers.

(ii) There were many comprehensive answers including a range of factors, most commonly distance from settlements, land and space requirements and water for cooling. Candidates need to be aware that the availability of a large workforce and proximity to raw materials are not relevant in the case of nuclear power, as the workforce is likely to be small once the power station is running and the raw material, uranium, is required only in small amounts. Whilst distance from large Centres of population is a relevant locational factor, few candidates developed this idea correctly, emphasising instead that these power stations 'WILL pollute' and 'WILL explode'. It is the perception of the danger of radiation and likely public response which explains distance from large areas of population, not the inherent danger to people or the environment.

(c) The case studies chosen by candidates were varied and wide-ranging. The most common energy sources were coal and oil, or the use of wood as a fuel, although examples of the impacts of other energy sources, such as HEP and geothermal energy, were seen and credited. Some candidates chose nuclear energy which was acceptable, however the effects had to focus on the natural environment rather than on people. Environmental effects were considered and accepted at local and global scales. There were many general answers (some covering the impacts of a variety of energy sources) and candidates need to ensure that as well as stating clearly the form of energy they are writing about they should qualify any references to 'pollution' which they make. The most common place specific case studies were coal mining in South Africa and Zimbabwe and oil drilling in the Gulf of Mexico and Alaska. Those candidates who chose wind power or solar power, despite them being marketed as not having major effects on the natural environment, not surprisingly struggled to suggest many real threats beyond noise and visual issues, which are superficial effects rather than real threats.

Question 6

(a)(i) Most candidates identified the correct photograph.

(ii) The most common reason given for subsistence farming was to feed the family, though many candidates were able to make relevant references to farm size, finance issues or markets.

(iii) Candidates' interpretation of the photograph was variable. The most common correct responses were about the large scale of the farm, monoculture/single crop and mechanisation (with some qualification). Incorrect ideas included power lines, roads, surrounded by trees and irrigation as these either did not relate to the features of the farm or were not evident from the photograph. Few identified the crop as oil seed rape, though this was no surprise ('flowers' was accepted as an answer). More surprisingly few observed the gently sloping or undulating land which was being cultivated, and few commented on the farm being commercial. Several candidates suggested the farm was intensive whilst others suggested it was extensive. The evidence in the photograph is insufficient to reach a conclusion either way, though 'capital intensive' was an acceptable alternative to 'mechanised'.

(b)(i) Most candidates recognised the contrast in trends between the two areas. Many included supporting data, but rarely was this sufficiently accurate to be within the accepted range. Some candidates did not focus on trends (increase in Sub-Saharan Africa/decrease in South East Asia) and compared the two regions for each year which was not a valid approach. Similarly explanations were not relevant.

(ii) There were many varied ideas suggested, most commonly war or conflict, poor farming practice and lack of government assistance. Many answers included valid political factors, reflecting the situation in southern Africa. Candidates could focus on the fact that farmers could not afford fertilizers, pesticides, machinery etc. or indeed that there was a lack of availability of these key inputs, however those candidates who focused on individuals not being able to afford to buy food, had not understood the focus of the question. There were also irrelevant responses based on physical factors, notably drought and other natural disasters.

(iii) This question was well answered. Many suggestions were made, such as the more widespread use of fertilisers, pesticides, irrigation, the use of high yielding varieties of seeds and other Green Revolution ideas. The role of government was well recognised by many candidates, in terms of education in farming practices and the funding of some improvements (e.g. irrigation schemes, low cost loans). Most candidates who scored full marks did so through suggesting several ideas rather than developing them, however either approach was acceptable. Surprisingly there were relatively few references to appropriate technology, yet too many which suggested unrealistic and simplistic responses such as 'use more land' and 'employ more workers' and 'become commercial farmers'.

(c) Where candidates had clearly studied a farming system or a farm, and were prepared to develop their ideas and write in detail they scored well, providing many details about inputs, processes and outputs as well as place-specific knowledge. Others gave generic lists that bore no relationship to the example and/or gave lists of inputs, processes and outputs, or alternatively a systems diagram, to illustrate them. These gained credit at Level 1. In order to go beyond this candidates needed to develop their ideas, and when they did so it was usually in relation to farming processes. Candidates should be able to develop their ideas on inputs by detailed reference to climate and soil for example, and outputs by reference to where and how the outputs are marketed and/or used. The most popular case studies were plantation crops of sugar cane, tea or tobacco. These usually produced the most comprehensive answers. Some candidates incorrectly focused their answer on subsistence farming or food processing in factories.

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General Comments:

The examination was considered appropriate for the ability range of candidates and a high level of differentiation was achieved throughout. Many excellent responses to all questions (whichever were opted for) were seen and candidates were able to show their level of ability, including those who gained A*/A grades. The more structured questions worth fewer marks allowed all candidates to achieve positively. Also, questions referring to source materials provided all candidates with positive opportunities to gain marks. Inevitably there were some candidates who for a variety of reasons performed poorly in the examination (e.g. lack of understanding, linguistic difficulties), however it has been noted that the standard and quality of work seen from candidates is continuing to improve overall. Many candidates use geographical terminology appropriately and confidently and are able to recall case studies in detail, particularly when they are case studies local to them or from within their own country. Nevertheless there are still many candidates who fail to give place specific information in order to gain the full Level 3 marks (having given some very detailed Level 2 responses). Weaker candidates tend to list their responses in bullet point form and often as a result do not gain more than Level 1.

The following items of general advice, which have been provided previously in this report, need to be given to future candidates who should:

- make the choice of questions with care, ensuring that for each question they choose they have a named case study about which they can write in detail and with confidence.
- answer the three chosen questions in order, starting with the one with which they are the most confident, and finishing with the one with which they are least confident (in case they run out of time).
- read the entire question first before answering any part, in order to decide which section requires which information to avoid repetition of answers.
- highlight the command words and possibly other key words so that answers are always relevant to the question.
- use the mark allocations in brackets as a guide to the amount of detail or number of responses required, not devoting too much time to those questions worth few marks, but ensuring that those worth more marks are answered in sufficient detail.
- consider carefully their answers to the case studies and ensure that the focus of each response is correct, rather than including all facts about the chosen topic or area, developing each point fully rather than writing extensive lists of simple, basic points. It is better to fully develop three ideas rather than write extensive lists consisting of numerous simple points.
- study the resources such as maps, graphs, diagrams and extracts carefully, using appropriate facts and statistics derived from resources to back up an answer and interpreting them by making appropriate comments, rather than just copying parts of them.
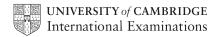
The following detailed comments for individual questions will focus upon candidates' strengths and weaknesses and are intended to help centres better prepare their candidates for future examinations.

Comments on specific questions:

Question 1

This proved to be the most popular choice of question by candidates and was overall generally well answered.

(a) (i)   Almost all candidates accurately stated 35-39.

(ii) Most candidates gained the mark for A but fewer gained the mark for B, as many they did not refer to the 0-14 dependent age group. However, in general the evidence from the population pyramids was well used.

(iii) Many candidates scored the full three marks with the most common responses referring to a rise in taxation, people having to work harder and more money being spent on care homes etc. This was generally well answered but there were some irrelevant points included, also many candidates wrote unnecessarily long answers.

(b)(i) Most candidates scored the full three marks.

(ii) This part was also generally well answered with lots of full mark answers showing a good understanding. Many candidates scored the full four marks.

(iii) This part was also generally well answered with reference to a range of ideas such as various incentives to potential parents. Some candidates scored the full five marks though others made one or two relevant points, hence this question differentiated well.

(c) Few scored the full seven marks as good developed answers tended to lack place specific detail. However, many candidates scored marks for good level two responses up to six marks. Many correct choices were referred to as examples including most frequently New Zealand and China, where many candidates referred in detail to the one child policy in order to reach Level 2. However candidates need to understand that there are other reasons for the low growth rate as well as government policy. It is also vital that candidates understand how and why changes in death rates contribute to population change.

Question 2

This question also proved to be a popular choice by many candidates, probably the second most popular but with varying degrees of success. In comparison with **Question 1** this question was not as well answered overall.

(a)(i) Too many candidates repeated the terms 'rural' and/or 'urban' without stating the 'edge of a town or city' or the 'area where a town and countryside meet'. Candidates should learn their key terms and definitions fully when preparing for the examination.

(ii) This part was generally well answered and most candidates correctly identified two land uses, scoring both marks.

(iii) This part was generally well answered, providing candidates were prepared to develop their responses rather than just write brief simplistic ideas. For example 'noise' alone would not gain a mark as candidates need to state 'construction noise during building' or 'disturbance from noise' etc.

(iv) There were some excellent responses with a balance of advantages and disadvantages given. However, weaker candidates had little idea about what the question was asking and incorrectly wrote about preserving buildings etc. The majority of candidates managed to score at least one or two marks.

(b)(i) Generally well answered and most candidates attempted to use the photographs, however, some did not compare them and a few used the statistics instead.

(ii) There were many good responses to this part and candidates made good use of the table. Many candidates were able to score four or five marks, provided that they interpreted the statistics rather than just repeating them.

(c) Again there were some very good responses to this case study. Many well focused responses, for example a new out of town shopping mall near Auckland which was a popular choice. Those who chose well tended to do well with developed advantages and disadvantages although some candidates who gave detailed responses did not score the full seven marks as there was no place specific detail. Some candidates tended to write about an area in general, rather than the rural – urban fringe, some covering a variety of changes (e.g. London Docklands). Consequently their

advantages and disadvantages were usually not well enough focused or developed to gain high marks.

Question 3

This question was a fairly popular choice by some Centres and was generally well answered too.

(a) (i) The vast majority of candidates answered this correctly by stating 'it was thought to be dormant' or 'it was the first recorded eruption.

(ii) Again most candidates correctly answered this part showing good geographical skills. However, some candidates only gave the distance or direction instead of both.

(iii) This part was generally well answered with many candidates scoring the full three marks. The most popular common responses referred to 'damaged/destroyed buildings', loss of farmland', 'tourists unlikely to visit' and loss of jobs'.

(iv) There were varied responses to this part as many candidates failed to develop their ideas sufficiently enough beyond their answers to **(iii)** and in many cases repeated them. Having said some candidates gave excellent, detailed responses, gaining the full four marks.

(b) (i) Most candidates scored a mark for 'along plate boundaries/margin' but many did not go beyond that. Some candidates included a lot of irrelevant explanation. Candidates need to practise describing a distribution from a map, making appropriate statements using the evidence.

(ii) This part was generally very well answered by almost all candidates and only a few candidates made the mistake of thinking it was a conservative plate margin. Many included impressive diagrams but they often did not score any extra marks as they repeated any annotation they had included on the diagram in their written text. This is not necessary, indeed a good fully annotated diagram can score full marks alone, detailed annotation being the key to success.

(c) There was a wide range of responses to this case study. Those candidates who chose flooding, particularly in Bangladesh, often gained the full seven marks as they included some well developed Level 2 responses with lots of place specific detail. There were also a few well developed and place specific Hurricane Katrina examples. However many who chose tropical storms needed to have developed a better understanding of their causes. Those candidates who chose drought tended to ignore the need to write about causes, or maybe they were unclear as to the meaning of the word 'drought' as they just wrote about the impacts of lack of water supply for the people. Indeed candidates need to be sure that, whatever the topic, they understand the differences between causes and effects.

Question 4

This question was not a popular choice by candidates however, as responses to it were variable, the question differentiated well amongst candidates.

(a) (i) The vast majority of candidates correctly identified either 'freeze thaw or exfoliation' for physical/mechanical weathering and 'carbonation or oxidation' for chemical weathering.

(ii) Many candidates when describing the difference between physical and chemical weathering simply repeated the words 'physical' and 'chemical' within their response. Some however, successfully expressed the idea that chemical weathering involves a reaction or change in composition of the rocks.

(iii) This part was generally well answered. Many candidates gained two out of the three marks available as they referred to plant roots growing in the cracks and widening them though few referred to 'seeds falling into the cracks in rocks' first. Candidates should also remember that biological weathering also involves other processes such as 'animals burrowing and weakening rocks' or 'organic acids helping the decomposition of rocks'.

(iv) Most candidates understood what the question was asking and many made a good attempt at answering it. The vast majority of candidates referred to climatic/weather conditions and illustrated

their answer using freeze thaw or exfoliation as examples. However, relatively few referred to rock type or the significance of rock composition and structure.

(b)(i) Many candidates concentrated too much on the background features rather than the more obvious features of the rock outcrop in the foreground. Nevertheless most scored at least one mark. Those who did focus on the rocks generally scored high marks for their comments. The most common correct responses were; 'smooth', 'cracks/joints', 'bare rock' and 'moss growing on it'.

(ii) This question was generally very well answered and almost all candidates showed good knowledge and understanding, illustrating their answers with diagrams and scoring high marks.

(c) The case study question differentiated well as there were some excellent answers on all three of the options though weaker candidates tended to make generic and simplistic points as expected. The most common options were 'mountains' or 'flood plains'. Many candidates included place specific details and some excellent answers were seen using the Ganges for a flood plain or a specific named mountainous area in New Zealand. Fewer candidates chose the fast flowing river option and many who did tended to refer to water supply, irrigation for crops or fishing rather than developing the opportunities from a fast flowing river e.g. 'developing Hydro Electric Power could attract industry to the area'.

Question 5

This was another popular choice by candidates. The overall response was good but responses to the case study question were varied.

(a)(i) The vast majority of candidates correctly stated ' high technology industries'.

(ii) There were many two mark answers as most candidates were aware of the type of industries. However some were vague e.g. candidates simply stated 'research' and others gave names of companies such as 'Apple' rather than examples of types of business. A few wrongly gave examples of manufacturing or service industry (e.g. car assembly).

(iii) This part had many answers which were not relevant as candidates did not describe the location but tried to explain why it was a good location. Those who did describe location by referring to named places and using distance or direction were far more likely to succeed than those who made simple statements such as 'near a main road, 'near a university', etc.

(iv) Generally well answered as candidates referred effectively to the ideas on Figures 8A and 8B and showed good understanding of the requirements of high technology industry.

(b)(i) Generally well answered, the most common response was 'cheap labour supply' which virtually all candidates made. Others popular responses included references to government incentives, cheap land or fewer environmental restrictions.

(ii) Again well answered by many, with almost all mark scheme ideas regularly appearing.

(c) Candidates tended to repeat their earlier answers especially those who chose an LEDC answer, sometimes to a maximum of Level 2, five marks, as a manufacturing industry was not chosen. Other candidates were restricted to 5 marks as their location was a country or they did not state the industry, just writing generally about an industrial area (e.g. M4 Corridor). However, some good examples were seen, with place specific detail on the Detroit motor industry or Iron and Steel in South Wales for example. A few, although not many, used local examples such as manufacturing industries in various parts of New Zealand. It is often beneficial to choose local examples, however whichever example is chosen ideas must be developed. The value of using a local example is that it is more likely that place specific details will be included. One Centre for example used car assembly in Slovakia, which was a resource in a previous exam. There were some good developed points but answers lacked place specific detail and many only gained Level 2 as they did not identify where in Slovakia the industry was and did not include place specific details.

Question 6

This question was often a third choice by candidates and overall was generally well answered.

(a) (i)   The vast majority of candidates correctly identified 370 thousand but a minority did not state the 'thousand/000' and just wrote 370.

(ii)   This part had a varied response, with many candidates having a 50/50 success rate. When working out change during a year some candidates seemed to be looking at the beginning of the year on the graph rather than at the end of it.

(iii)   This part was generally well answered as many candidates gained a mark for the general increase with correct statistics. Candidates should seek to describe general trends from this type of graph rather than writing about every year by year variation.

(iv)   Very few scored full marks here, one or two marks being more typical. Candidates usually gained their marks for reference to 'greater affluence', 'tourists wanting new experiences' and 'having more knowledge about distant locations'. Many airline references were too vague for credit e.g. 'transport improvements' and some candidates wrote about the attractions of the LEDCs (e.g. sun and beaches) or the benefits of tourism development neither of which was what the question was asking.

(b) (i)   Generally well answered typically with relevant references to 'lack of qualifications', 'lack of formal jobs' and 'no need to pay tax/overheads'. The majority of candidates scored at least two marks with many scoring three.

(ii)   There were many good points made here and most candidates scored at least two or three marks. The most common responses referred to jobs and various infrastructural improvements. Many good candidates scored the maximum five marks.

(c)   Answers focussing in detail on an area within the country where the candidates were living (e.g. New Zealand) tended to be the best responses. There were some very specific examples gaining full marks, with lots of developed points and place specific references. Surprisingly there are still numerous candidates using textbook examples, and those responses tended to be less detailed, often being basic and rarely including place specific information. Such examples included Costa del Sol, West Indies and Kenya, the last two being limited to Level 2, 5 marks maximum as they were too large a scale.

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| Paper 2217/22 |
| Investigation and Skills |

General comments

The difficulty of this paper was comparable to previous years. Most candidates found **Question 2** the most accessible and also performed well on the graph completions throughout the paper. **Question 1(b)(ii)**, **Question 4(a)** and **Question 6(e)(ii)** were the most challenging parts of *Section A*. In *Section B* the two questions were of similar popularity. Some candidates did appear to run short of time as some answers in *Section B* were quite brief.

Comments on specific questions

Section A

Question 1

(a)   The map work question began with the relatively simple task of locating the area of the map shown in Fig. 1 and identifying the features A - F. Most candidates correctly stated "wide tarred" for the type of road at A, and many also had 1016 metres for the spot height at B. Not all candidates had quoted the height at B, in that some had identified the type of spot height shown. Feature C was either lake or pan but those who copied "Pan: small, large: waterhole" from the key were not awarded a mark, and a number simply put "waterhole". Almost all correctly identified D as a dam, but E required some interpretation. Many candidates simply wrote "contours" or "cliffs", taking this from the key. Relatively few realised the contour shape indicated a hill.

(b)   Continuing on Fig. 1, running parallel to the power lines at F was a track, cut line or game trail. Relatively few realised this, perhaps assuming that all three lines were part of the power line system. Thus they were looking for other things on the map that could be parallel. There were a wide variety of answers to this question.

Finally on Fig. 1, candidates were asked to draw a line to separate the rivers flowing N and E from those flowing S and W. Most candidates had assumed that this needed to be a straight line. This was not impossible if positioned carefully but many simply went from 100900 to 140870, which was not a valid answer as this line crossed through several rivers. A number of candidates omitted this part completely.

(c)   To complete Table 1 candidates had to use a number of map skills and, with the amount of information already given, it would have been possible to deduce the method for some who were unsure. The missing feature was the reservoir at 192868, though river and track, cut line or game trail were also accepted, being found at the same grid reference. A bearing of between 256° and 262° was acceptable for the aerodrome landing area, which allowed for candidates to take the measurement anywhere along its length. Silikwane Dip was at a distance of 8200 - 8300 metres from Masholomoshe. Few candidates scored 3 marks here, though most got 1 or 2. Naming the feature had often been omitted.

(d)   Many of the candidates were able to locate evidence for mining on the map, such as quarry / excavation, mine dump, mining / prospecting trench or a specific mine name, and then proceed to give a four-figure grid reference for a square containing two of these features. A few put the mine name "Copper Queen" - taken from the key rather than the map. Others had answers that were too general such as "roads and railway", "away from people".

(e) Here candidates were required to look at the map as a whole and describe the distribution of huts. Most pointed out that they were in the NE of the area and along the edge of, or around the cultivation. Few candidates went beyond this but some did say that they were along the gravel / earth / other road and the track / cut line / game trail. It was also possible to point out the flat land in these locations and occasionally a candidate pinpointed one of the isolated huts by means of a grid reference.

(f) The Nkazhe Dam is being used to supply water to the irrigation scheme in 1990 and its surroundings. Many candidates spotted this but others suggested irrigation in relation to grid references upstream, to the north. Others wrote about water for domestic use or power supply. The reservoir at 190907 would have been a valid point on its own, but few mentioned this.

Question 2

(a) The majority of candidates correctly plotted the position of India with average age of 25 and 28% of the population in urban areas. Those who had made a mistake with the plot had usually done so in relation to the y-axis.

The scatter graph in Fig. 2 did suggest a positive relationship between the two variables, though not all candidates seemed sure of this, as some appeared to have changed their minds about their choice of answer.

From the graph it can be seen that Singapore has 100% urban population, making this the correct response for **part (iii)**. There were only a few incorrectly choosing Japan, which has the highest value against the x-axis.

There were two possible answers for **part (iv)**: either USA and Australia (by far the most popular) or Russia and Singapore. Almost all candidates had a correct response here.

(b) To complete **part (i)** it was necessary to draw a horizontal line on Fig. 3, passing through the 30 - 34 age group. The line could run along the bottom of this group but not the top. Most candidates understood what was required here and there were many correct answers.

In **part (ii)**, most candidates correctly completed Fig. 3 to show 1 million males in the 50 - 54 age group. A small minority appear to have not seen the question as they made no attempt at it.

Almost all candidates correctly identified the 10 - 14 age group as having the greatest population and some went further pointing specifically to the male side of the pyramid. Most candidates also realised that females live longer than males. Many commented on the relative sizes of the 80+ population, though any appropriate age range could have been used as data evidence. A few candidates thought that males had a greater life expectancy due to a greater number in the lower age groups.

Question 3

(a) The industry shown in Photographs A and B was of manufacturing : secondary industry. However, some candidates thought it to be an example of primary industry. The outputs visible in the photographs are bricks / blocks and smoke / waste. Candidates usually had the first of these but not usually the second, many putting cement as their second output.

For the raw material shown, mud, soil or clay were all acceptable responses. Again cement appeared frequently in the incorrect responses.

The industry is located in a rural area in order to have access to raw materials. It is also possible that the industry would locate here for reasons related to labour supply. However, candidates more commonly responded that the industry had to avoid the urban area due to its output of pollution, particularly to avoid contamination of the food market.

(b) Most candidates pointed to manual working with simple tools as evidence for a low level of technology. Others noticed the basic construction of the chimney and the use of the sun for drying the bricks, with setting them out being a labour intensive process.

Question 4

(a)   Most candidates noticed the location of the volcanic activity on or near to the plate boundaries. However, when it came to describing the detail, a little more precision would have given a clearer picture. Candidates usually named specific plates but did not indicate where the activity was occurring. There were several ways of doing this: in relation to the plates e.g. "four sites on the western side of the South American plate"; in relation to the continents e.g. "one site in southern Europe" or in relation to specific countries e.g. "in Indonesia".

(b)   In **part (i)**, the boundary at X was constructive (divergent or parting), while in **part (ii)**, the plates involved at Y were the Nazca and South American. Most candidates were correct here, though some treated both parts in the same way, particularly in **(ii)** where they stated the type of plate boundary.

It was not necessary to go into great detail in order to gain 2 marks in **part (iii)** and many candidates answered more than adequately. They pointed out the destructive boundary, with the converging plates causing subduction, with resultant melting and magma rising to the surface.

Question 5

(a)   Most candidates had correctly completed the pie graph in Fig. 5 and had used the appropriate key. A few had mistakenly taken the percentage figures and plotted them as degrees.

Comparison of the charts for 1978 and 2002 showed that percentage of primary had decreased, while percentages for secondary and tertiary had increased. Candidates usually made these points and some also referred to the data from 1990. A few wrote about each year in isolation, comparing the percentages within the year rather than the change with time.

(b)   Almost all candidates correctly completed Fig. 6 to show the construction industry data for 2002. Those that were incorrect had often plotted one square to the left, rather than down the very edge of the available area.

In **part (ii)** candidates pointed out the overall increase from 1990 to 2002. They did not always go beyond this basic response, though those who did often gave very detailed answers including the rapid increase from 1992 - 1993, the similarity of 1996 and 1997 and the decrease in 1998.

Question 6

(a)   Study of the temperature curves on the two graphs should have led candidates to realise that Fig. 7A is of the southern hemisphere, and therefore Harare, while Fig. 7B's pattern is more typical of the northern hemisphere and therefore Marrakesh. Many candidates had deduced this though some had answered the other way round.

(b)   Most candidates correctly completed the graph in Fig. 7A, with 230 mm of rain and 26°C in March.

(c)   There were a variety of answers for the temperature range on Fig. 7B. The correct answer was 18°C but some appeared to have calculated the average and a few had referred to the wrong axis, giving an answer in mm.

(d)   Many candidates noticed the higher rainfall in April and deduced that this would prevent the temperature increasing. There were some detailed answers with comments relating to cloud cover and its affect on sunshine hours. Weaker candidates simply suggested that it was a change in season.

(e)   The average sunshine hours for May to September came out at 10 hours and it was helpful that most candidates inserted the answer to their calculation into the space provided below Fig. 7B.

Part (ii) was a little more difficult. Some pointed out that it was summer and that the overhead sun would result in more hours of daylight. Others noticed the lack of rainfall but did not always link this to the idea of less cloud cover resulting in peak sunshine. The weakest candidates simply said that there was no rain and higher temperatures, facts which they had extracted from the graph, without attempting to interpret them to answer the question.

Section B

General comments

Most candidates found this examination enabled them to demonstrate what they knew, understood and could do. The overall range of marks went from 0 to 55/60 – a similar range to previous years - with weaker candidates scoring on the practical questions, such as completing graphs, charts and tables and those of higher ability scoring well on the more challenging sections requiring explanation and judgement especially regarding hypotheses. It was notable in this session that there were a number of questions that a high percentage of candidates gave no response to – these included (in order of highest omission first) - **Questions 2(d)(i)(15%), 2(c)(iv)(13%), 1(d)(11%), 2(c)(iii)(9%), 2(c)(v)(7%), 2(e)(7%)** and **1(a)(iii)(5%)**. It would benefit Centres to look closely at those questions and the comments below in order to improve candidate performance in future.

Most points for teachers to bear in mind, when preparing candidates for future Paper 42 questions, relate to misunderstanding or ignoring command words, not attempting graph and table completions and the use of equipment in fieldwork. Centres need to be aware that, although this is an *Alternative to Coursework* examination, candidates will still be expected to show that they know how fieldwork equipment is used even if they have only limited opportunity within the Centre. **Question 1(b) (i)** required candidates to know how to use equipment to measure width and depth of a stream; **Question 1(c)(i)** and **(ii)** required some understanding of how floats and flow-meters could be used to measure stream velocity. No equipment knowledge was needed in **Question 2** but candidates were expected to have experience of devising questionnaires and surveys.

Comments on specific questions

Question 1

(a) (i) Most candidates did this well. They realised that any measurements not taken on the same day would invalidate comparison of the results due to changing weather conditions or its subsequent effects such as changes in the river. A few candidates referred to avoiding bias or to have a fair test which needed a little more elaboration that related to the importance of taking the measurements on the same day.

(ii) Here candidates could refer to safety issues and danger but rarely elaborated on these e.g. to check the river was safe from wildlife/crocodiles or to check the depth to ensure it was safe to take measurements in the river. A number did raise the issue of access but again needed to add from where/how or issues of permission to use the land where the river was. Equal distance between sites was a good answer however a number just referred to checking the distance.

(iii) The best candidates understood the pilot study was a form of trial and to test the use of equipment; they also referred to the possibility of finding errors in the proposed investigation and correcting them before the real thing. Overall, though, this was not well answered with 3% not attempting the question and a minority achieving full marks. A few thought it was to get some early results as part of the investigation; as always one or two thought a pilot study involved flying over the sites taking aerial photographs!

(b) (i) It is important in this type of question that candidates read the rubric carefully. The equipment listed is what the candidates used to measure width and depth so no other equipment should have been referred to in the answer however a number also added ranging poles for use in measuring the width and tying rocks to the rope to measure depth. The best answers realised that a candidate was required each side of the river holding the rope taut and the tape measure or metre rule could then be used to measure the width along the rope. With depth the ruler or metre rule would be placed vertically on the river bed and then the depth read off. Some candidates need to understand that laying the rope along the wetted perimeter and measuring that does not give the river width.

(ii) Almost all candidates could plot two fairly difficult points on the graph and shade the correct cross-section area for three marks. Others did not use the vertical scale in the correct order of figures and plotted 0.41 at 0.39 and 0.46 at 0.34. A small number incorrectly shaded the area outside the cross-section of the river. Two per cent of candidates did not attempt this.

(iii)   This was answered well by most candidates. Without doubt the worked example helped with the working and layout. However not all candidates used the figures stated in the stem. Consequently their calculations were incorrect. A number did not give the unit "square metres" after the calculation thereby losing a mark.

(iv)   Most candidates recognised that Site 4 was wider and deeper than Site 1 with a larger cross-section. A small number used the distance from the left bank as a difference which was not accepted and a few listed differences without comparing them.

(v)   Almost all candidates recognised the general trend from the data and agreed totally or to some extent with Hypothesis 1. The best candidates then identified an anomalous result and explained why they had picked it. Other candidates just stated "Site 6" or similar without any clue as to why it had been chosen. While the question does not specifically ask for explanation some idea needs to be stated as to why that choice has been made given that 4, 5 and 6 all had a reason for being declared anomalous.

(c) (i)   Almost all candidates chose to use the floats and stopwatch for the measuring but less than half gained full marks. Most suggested using the stopwatch to time the float over a measured or set distance; some suggested 10 metres – others only 1 or 2 metres which would be too short for a sensible reading. A number suggested timing the float over several "runs" but did not go on to say why e.g. to take an average time and work out the velocity using distance and time. Very few chose the flow meter; maybe they had not used or seen one in action. Those that did choose the flow meter could only suggest immersing it in the water with very little on how measurements could take place using the instrument.

(ii)   Most candidates did know some details about flow meters and their advantages and disadvantages focusing on greater accuracy and time-saving qualities as opposed to problems of expense/access to the instrument and candidates not knowing how to use it. For the few that had picked the flow meter in **(i)** they could give some advantages for using the float method such as much cheaper to organise and encouragement of teamwork with problems of needing several different materials, scope for candidate error and issues with the floats getting caught in the stream. Four per cent did not attempt this question mainly due to lack of knowledge of the flow meter.

(iii)   Almost 75% of candidates plotted the two points correctly though a few plotted Site 5 just two squares from 0.25 instead of four; careful checking of the scale would have helped here. A number tried to draw best-fit lines or joined all the points up – both of which were not necessary or requested.

(iv)   This was a question that enabled candidates to show what they understood from the table and its link to Hypothesis 2. The best answers agreed wholly or partly with the hypothesis as looking at the overall trend it would be true. They then supported this by referring to Sites 1-4 where the positive relationship was continuous or to the overall difference between Sites 1-6 which agreed with the hypothesis too. They also then noted the anomaly of Site 5 which was deeper than Site 6 but with a slower velocity. These three aspects to the response gave three marks. Only a few candidates disagreed with the hypothesis; others agreed with evidence of support but did not go on to discuss the anomaly.

(d)   Overall the answers to this question lacked practical awareness of how valley differences could be recorded; only 18% gained the full 3 marks and 11% of candidates did not attempt it. Too many candidates suggested measuring aspects of the river again instead of the river valley. The question asked how they would record these differences; candidates need to understand that practical responses were needed such as draw sketches or take photographs of the valleys at the six sites; make notes/describe the valleys; identify the vegetation of the valleys or measure the valley widths. These are all practical activities that could be used to record and compare the valleys at the six sites.

Question 2

(a) (i)   Many candidates came up with answers that were unlikely e.g. a golf course, river, dam and other numbered sites. The expression landscape feature did not seem to be well understood. Given the position of the label on the resource map other answers such as trees were accepted.

(ii)   Over 80% of candidates came up with the correct answer of 332.

(b)   This was a successful question. Most candidates could identify water features, trees and other vegetation in the Landscape section; many windows, modern and two/double-storey buildings were also popular responses in the Buildings section. A number of candidates mixed up the two sections and wrote about skies, bridges, tarred roads, fire escapes and chimneys as well as flowing rivers which were not accepted as significant features of the landscape or buildings shown. Nevertheless almost half the candidates gained the full four marks most gaining three for landscape features.

(c) (i)   Most candidates could judge that there were issues of privacy in naming the company or that it was irrelevant and unnecessary to the hypothesis being tested.

(ii)   This question caused candidates a number of problems with 4% not attempting it and only 18% gaining the full two marks. Too many focused on the employment numbers in the table rather than the physical size shown on the map. Few divided the companies into two groups and then compared the location of each group e.g. near exit/entrance, in the centre, to the north and south of the estate. The word "distribution" was not well understood by candidates as in several previous examinations.

(iii)   Although 70% of candidates could add 7 and 93 to the table for both marks, a number just included 7 without adding the total; some used incorrect data and 9% missed the whole exercise out. Candidates are encouraged to look for questions on pages where there are data and graphs as the examination layout cannot always keep instructions and questions clearly away from the data and graphs. If candidates did not see **(iii)** and **(iv)** on page 12 they would miss out on 4 marks; this may also then have influenced future answers that required use of the completed table and pie chart.

(iv)   Plotting 89 and shading the two slices correctly using the key gained many candidates both marks yet some put the 89 line far too close to the given 90 mark or even in line with it. It was acceptable though unconventional for candidates to shade the slices in reverse with a line drawn at 94 which was quite well done by the small number who chose this way. As with **(iii)** it was surprising that 13% of candidates missed the completion of the pie chart though 73% gained both marks.

(v)   The table provided gave a total of 93 companies in the estate of which 10 were "other industries" i.e. 83 were hi-technology industries consequently 89% of the estate comprised high technology companies which would be one reason to justify Hypotheses 1 being true. There were also 28 bio-medical companies and 26 environmental companies together on the estate. These observations should have been enough to have helped candidates understand why the hypothesis was true. The stem referred to Figs. 8 and 9 to support the answer but many candidates gave judgements that appeared too show no reference to the data –a number of these were candidates who did not attempt **(iii)** and **(iv)**. Only 13% gained both marks and 7% missed it out.

(vi)   Candidates did understand that close links that would enable same sharing of ideas, physical resources, materials and mutually beneficial assistance would all be good reasons to explain why high-technology companies would be located together. Some were astute enough to suggest government grants, cheap land, possible proximity of a university and pleasant environments as common requirements may have created similar industries in similar areas. As the companies are not looking for consumers it was not accepted that shoppers could make comparative choices or that transport costs would be saved if they were all together. Nor was it thought that exchanging skilled labour or locating near to their workers were likely locational factors.

(vii)   One mark was available here for generic reasons why the "other industries" might locate on this estate e.g. cheap land, more customers, beautiful scenery but two marks could be obtained by referring specifically to the provision of specified services for the employees of the high-technology industries. The best candidates referred to examples such as the gym providing opportunities for exercise outside of working hours or to the nursery for employees to leave young children close to their workplace during working hours. Vague answers such as "so the workers can use their services" were not credited.

(d) (i) Seventy five per cent of candidates completed both graphs correctly including shading yet 15% of candidates – the highest omission figure on the paper- did not attempt the bar chart completion. Some candidates completed the 30 plot but not the 53 plot. The shading of the bars to match the others is quite significant although there was no mark on this occasion for shading.

(ii) Given Hypothesis 2 was clearly about skilled or trained employees, candidates were expected to suggest three questions to ask a company that would relate to this Hypothesis. Many candidates did this but less than expected. Candidates needed to read the Hypothesis carefully. Too many only suggested one question related to the Hypothesis then followed it up with two unrelated ones such as *What are your qualifications?* or *How long are the holidays?*. Candidates could state the question in a format that was more of a statement as CIE is aware that questions are not always asked in the same way across the world. A few candidates asked individual questions e.g. *What university did you attend?* which were not considered appropriate to investigate the Hypothesis.

(e) The final question was about the candidates' investigation of a choice of factors influencing the location of the companies. This proved very difficult for candidates with 7% not attempting it and only 9% gaining the full 4 marks. The more popular choice was the transport links issue although some candidates attempted both! Answers here varied. Candidates could only suggest "find out", "look for" certain things rather than practical techniques to investigate the factors such as questionnaires, surveys, looking at maps for transport links. Many answers suggested carrying out traffic counts at the company gates of workers cars or lorries which would not help with the investigation. Fewer candidates looked at the raw materials factor but similar issues prevented credit being gained there. Answers to such a question would be improved if candidates were given some experience, practical or otherwise, of the field techniques that could be used in such investigations.