

GEOGRAPHY

Paper 2217/12

Paper 12

Key Messages:

In order for candidates to perform well on this paper they needed to be able to:

- read the question carefully – underlining key command words and words which indicate the context of the question is a useful strategy.
- know the meaning of, and respond correctly to command words – e.g. know the difference between describe and explain, be able to compare.
- use statistics to support statements and be able to read statistics accurately from a graph.
- describe and interpret graphs of different types – e.g. describe trends over time by using words such as constant, slow, rapid etc.
- perform basic skills such as interpreting photographs and using maps e.g. to describe a location or distribution.
- write as clearly and precisely as possible avoiding vague, general statements – e.g. ‘it will improve standard of living’, ‘it will cause pollution/make a lot of noise’.
- write developed ideas wherever possible, especially where extended writing is required in the final two parts of each question, and include place specific information in case studies.
- take care when choosing examples to use in case study answers – e.g. a *rural* settlement (2c), a *high technology* industry (5c).
- identify the correct focus specified in the question stem – e.g. natural environment or people.
- learn the meanings of key words – compiling and using glossaries of subject specific vocabulary is a useful strategy.
- ensure that examination rubric is followed correctly, answering 3 of the 6 questions only.

General comments:

Most candidates were able to make a genuine attempt at their chosen questions and even weaker candidates attempted most sections.

In general good use was made of the resources provided and the geography written by candidates covered the whole spectrum of achievement from that of a very high standard to that from those candidates who misunderstood what was required in the questions. Many candidates were weaker in the final parts of questions and on balance they seemed to do less well this year in these types of questions than in previous years. Higher marks in these questions were awarded for depth of detail or for explanation of a smaller number of points rather than for the amalgam of simple points which many candidates produced. They should be seen as opportunities for candidates to present their knowledge of particular case studies in detail.

Whilst there were rubric errors, the number of candidates who answered more than three questions was relatively small, and there seemed to be little, if any, evidence of candidates being short of time.

The following comments on 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

- (a) (i) Generally this was well answered, most candidates being familiar with the term and defining accurately though there was occasional confusion for example with net migration or emigration.
- (ii) Candidates generally answered this correctly if they knew which parts of the map were North America and South America and which was a country not a state or a city. A significant proportion did not know these basics however.
- (iii) Most candidates achieved the first mark describing the general trend (i.e. Western Europe positive/ North Africa negative) but relatively few used evidence from Fig. 1 to support their answers. Some responses drifted into giving reasons for the net migration, erroneously assuming that all migration was from Africa to Europe.
- (iv) There were many excellent responses, though it has to be noted that significant numbers of candidates wrote about 'pulls' despite the clear instruction in the question to refer to 'push factors only'.
- (b) (i) Many candidates achieved marks for describing general trends (i.e. slow growth up to 1970, rapid growth from 1970) however there were others who just gave figures from the graph without any form of interpretation, which is not 'describing' a trend. There is a place for quoting statistics and, providing these are suitably accurate, candidates are awarded further marks as these statistics 'support' the description. In this case the accuracy of statistics quoted by candidates varied considerably.
- (ii) This question was well-answered by many candidates who were able to comment from the perspective of governments on numerous problems associated with the excessive growth of the population of cities in LEDCs – a few struggled to be specific enough and wrote generic sentences such as 'crime will increase' and 'disease will occur' with no precision or detail or focused their response on general ideas about overpopulation and therefore did not provide a sufficient amount of specific detail about the problems of urban growth. An over-generalisation was often seen that poverty, unemployment, or living in a squatter settlement causes crime.
- (c) This case study differentiated well and there were some excellent answers. Many candidates chose China and effectively wrote about how the one child policy has resulted in a low rate of population growth. Others chose an MEDC and wrote in detail about why birth rates are low. Another type of example seen was that of a country with a high death rate, particularly one with a high incidence of AIDS such as Swaziland or Botswana. The question was about natural population growth, yet there were many irrelevant mentions of outward migration. Weak answers tended to be generic, with points made (e.g. about high death rates) not always being relevant to the chosen country.

Question 2

- (a) (i) Whilst there were many correct answers here not all candidates were familiar with the key geographical namely settlement. Too many responses did not include a sense of (rank) order of size or importance in their definitions.
- (ii) Most candidates knew the first answer as a positive correlation, however significantly fewer knew the second response and there were many who incorrectly repeated there was positive correlation here too, rather than further scrutinising the resource.
- (iii) Most candidates used Photograph A well and identified the settlement correctly as a city, quoting high-rise buildings and details of railways and roads as evidence.
- (b) (i) This was quite well answered with many candidates scoring at least two marks, although photo interpretation is not strong from some candidates as they do not describe obvious features and have a tendency to write value judgements.

- (ii) Most candidates achieved marks here, typically with reference to the development of visitors or creating jobs, however strong candidates produced a range of ideas, developed where appropriate.
 - (iii) There were mixed responses. Weaker candidates focused on the idea of leisure as promotion of tourism which was incorrect. Other candidates answered from the point of view of why these developments were not located in the CBD, which was acceptable but usually scored only for the ideas about congestion and lack of space. The best answers focused on ideas about low land values, accessibility and the pleasant environment of the rural-urban fringe.
- (c) Some answers did not focus on rural settlement but on urban areas. However there were many interesting answers which identified services in villages, particularly in Africa, but these were seldom developed beyond a list of services. Some candidates did gain access to Level 2 by referring to and describing low order services but generally candidates had difficulty in developing their ideas. Some candidates described conditions in the village area rather than services.

Question 3

- (a) (i) Whilst there were many accurate definitions there were others describing climate not weather, or listed elements of weather rather than providing an overall definition.
- (ii) Many candidates were not familiar with oktas, however many explained correctly that observation is required to estimate cloud cover.
 - (iii) Generally well-answered though not all candidates knew the correct instruments.
 - (iv) This question differentiated well, with some good accounts referring to the need to be away from buildings and trees, above grass and in a secure area for example. Weaker responses did not include reasoning or included irrelevant information such as the features of the Stevenson screen or reasoning relating to a rain gauge or wind vane.
- (b) (i) Generally well answered with most candidates comparing and using the resource well.
- (ii) There were many detailed and accurate answers with relevant points made about the problems resulting from flooding and high winds, with much good development of ideas.
- (c) All three options were chosen, with a slight emphasis on coastal areas. Many answers focused on tourism, fishing and the natural environment of the coastal area, usually with an emphasis on how they provide employment opportunities and sources of income. Another popular focus was on farming on a flood plain or delta with associated opportunities for food production, either commercially or in subsistence farming. Those who chose floodplains and deltas gained good marks for developed reference to fertile soils and good water supply. Some candidates would have been well advised to consider other functions or land uses to widen the scope of their answers. A number of candidates did not follow the instructions correctly and either did not underline the type, or more commonly placed the name of the type rather than an example in the space provided, actions preventing the highest credit.

Question 4

- (a) (i) Most candidates responded correctly here.
- (ii) This was also correctly answered by most candidates though some only compared deaths or damage rather than both and some candidates gave figures without any attempt to interpret them.
 - (iii) Many candidates gave well thought out answers, typically relating to the relative monetary values of buildings and specified features of the infrastructure in LEDCs and MEDCs though others gave superficial and inaccurate responses about how built up the areas were. Many candidates used the word 'infrastructure' however not all elaborated or gave more detail to show their understanding of its meaning.
 - (iv) Most candidates achieved two marks for reference to warnings being provided by volcanoes in order that people can be evacuated. Others also referred to slow moving lava or methods of slowing it down or reducing its effects. Thus the question differentiated well. Many candidates also

suggested that people did not live near volcanoes which is incorrect. There were some answers which seemed to focus on a question about why people live near volcanoes as has been asked previously.

- (b)(i)** Whilst there were many weak generalizations the better answers referred specifically to those parts of the countries shown which are affected by severe drought. Those countries who simply listed the countries were awarded one mark maximum. Vague responses referred to 'East Africa', 'coastal' and 'part of' a country. Some candidates focused incorrectly on the causes or impacts of the drought.
- (ii)** This differentiated well as there were well developed answers relating to several points from well prepared candidates, whilst weaker answers simply listed basic ideas. In general the impacts of severe drought were well understood.
- (c)** A few candidates showed a clear understanding of the factors causing a desert climate, however many answers lacked detail or were irrelevant. Candidates needed to refer to the continental-scale factors for a hot and dry climate which should have included reference to patterns of air pressure (Hadley Cells), winds and ocean currents, amongst other points. References to localised evaporation from water bodies and vegetation – the most common and often only points made – were considered not significant and only to operate at a micro-climate level. References to proximity to the equator were not highly significant either, but points about latitude/angle of sun would be still relevant. Some candidates achieved Level 1 for simple ideas about the sun being overhead, cloudless sky and dry winds but did not develop these ideas. The lack of detail showed poor understanding at this level and irrelevance was the result of description or explanation of vegetation adaptations.

Question 5

- (a)(i)** Mostly correct, though a significant minority chose electricity.
- (ii)** Again generally well answered.
- (iii)** Most candidates made the point that a location close to raw materials for reduces transport costs – more perceptive candidates stated that this is due to them being bulky but few expanded on this by explaining how the ore contained waste materials making the finished product relatively cheap to transport compared with raw materials.
- (iv)** This was generally well-answered with some good development of ideas here. Weaker responses were vague (e.g. pollution, noise), referred to the impacts on people or showed confusion over the impacts of burning fossil fuels on the atmosphere by referring to damage to the ozone layer.
- (b)(i)** This question discriminated well between candidates. The best answers gave accurate distance and direction from named cities and used the lines of latitude well. Most candidates scored at least one mark for the idea of location 'in the south of India' but there were many accounts which were far too vague.
- (ii)** Only the best answers focused on high technology industries and referred to skilled workforce as well as cheap workforce. Better candidates also included factors such as government incentives and less stringent pollution controls or employment regulations. Many answers were generic to industrial location and included irrelevant references to raw materials for example, but still gained credit where relevant.
- (c)** Most candidates were able to give some advantages of industry moving to a region and its benefits. Many did not understand the nature of the hi-tech industries though. Many gave huge areas or countries as their examples – 'China', 'Singapore', and 'California' – all of which limited marks. As in **(b)(ii)** many answers were generic to industrial location. Good candidates described benefits such as employment, infrastructural development and economic growth and the most effectively used examples were Bangalore, Silicon Valley and the M4 corridor. Some weak candidates misinterpreted the question and focused on the benefits of the products of high technology industry or the benefits to the industries of locating there (repeating information from **(b)(ii)** rather than to the area.)

Question 6

- (a) (i) Generally well answered, most candidates could interpret this unusual resource.
- (ii) Most candidates got the first answer 'transport' but for the second answer many put 'nuclear' rather than 'thermal', presumably not being familiar with the term.
- (iii) There were some very well thought out answers here, with most candidates suggesting one or more relevant ideas, the main ones being cost and the fact that oil is likely to run out. Some excellent references were made to the United States not wanting to be reliant on imports from an area which is not politically stable.
- (iv) Whilst there were a few answers which confused renewable and non-renewable energy there were also many excellent responses. Many candidates suggested explanations about the lack of suitable siting advantages or the impracticality and unreliability of developing specific renewable resources. Better answers also included suggestions such as the expense of development, lack of technology or expertise, and that fossil fuels may be cheaper to develop.
- (b) (i) Generally candidates coped well with this different style of question. Those who used the diagrams to produce a summary statement, or 'message', rather than just describing what they saw in each one produced more convincing answers. Weak candidates wrote about 'balance' in the first diagram and 'lack of balance' in the second diagram which was not very effective and some incorrectly referred to industry rather than energy.
- (ii) Whilst some answers related to extraction and transport of fossil fuels rather than their use there were many other good responses which related to the impact of their use, particularly global impacts. From some candidates there were excellent developed accounts of the problems caused to the natural environment by acid rain and global warming, others as always were confused.
- (c) This case study differentiated well though locational factors were often not fully developed. The most successful answers focused on HEP stations (e.g. Kariba) although many candidates did not fully explore the physical locational factors. Whilst occasional good quality answers used examples of coal fired power stations (e.g. Hwange) many were superficial or focused on inappropriate ideas such as labour, noise and pollution.

GEOGRAPHY

Paper 2217/13

Paper 13

Key Messages:

In order for candidates to perform well on this paper they needed to be able to:

- Use and interpret a variety of resources such as maps, graphs or diagrams in order to extract information, and analyse the data to show patterns or trends.
- Use photographs to generate ideas or to describe features such as a range of tourist destinations or a map.
- Provide full and accurate definitions of key geographical terminology e.g. residential area or fold mountains.
- Show understanding of key geographical terminology, processes and features by providing full descriptions and/or explanations of geographical themes, events or issues.
- Refer to a range of case studies with place specific detail, statistics or other data, and apply this information to the question being asked e.g. Explain the impacts of an earthquake which occurred in a named area which you have studied. This requires information relating to impacts only. Any details on the causes of the earthquake are not required for this question despite the fact that the candidate would know this information.
- Write in depth and detail in a succinct manner and avoid repetition.

Examiners were impressed by the quality of the work which they saw from many candidates. There were relatively few rubric errors. Case studies were well learned and there was good place specific reference for some questions. Candidates generally coped well with the 5 mark questions and many made genuine attempts to develop their answers. Nevertheless Centres would benefit from attention to:

- precision in defining key terms and using them in the correct context. Key word glossaries would help. Key terms need to be used more fully when explaining – e.g. use of words such as convergence, subduction, melting and magma rising through lines of weakness when explaining why there are active volcanoes along destructive plate boundaries.
- knowing how to compare or describe change – either by the use of comparative words or by writing two statements that can be linked.
- developing answers for the 5 mark question and the case studies – sometimes this is done very well but in some cases no development is attempted.
- including place specific reference in the case studies without spending a disproportionate amount of time and space on this at the expense of focusing on the question.
- avoiding the use of vague terms – e.g. – ‘higher crime rate’ rather than giving the specifics of what the crimes or problems are or ‘pollution’ rather than giving specific types or examples.
- reading the question carefully – e.g. only writing about one problem if asked to and not several, or focusing on cause rather than effect or vice versa. Advising candidates to underline command words in the question and also the words/terms that give them the content and the context would help. There is very little evidence that candidates do this.

- identifying the stages in a process and describing or explaining each term sequentially with precision – e.g. freeze thaw weathering/biological weathering or exfoliation.

General Comments:

It was unusual to see many answers continued on the additional page and very few candidates went beyond that and used extra paper. Whilst it is possible to continue beyond the space provided candidates should be aware that the space allocated should usually be sufficient if an answer is reasonably concise and relevant. Those candidates who go well beyond the space allocated often do so as they include irrelevant materials. Candidates should be made aware that they:

- write only on the lines provided, not underneath the final line or elsewhere on the page (e.g. in any area of unused space at the bottom of a page).
- continue any answers which they do not have space for on the lined page(s) at the back of the booklet. If they do this they must indicate that they have done so (e.g. by writing 'continued on Page XX') and write the number of the question at the beginning of the extra part of their answer. They should only use loose sheets of paper if this extra space has been used up. Many candidates do not indicate that they have continued their answer.

The examination was considered wholly appropriate for the ability and age range of candidates. The examination paper gave a wide spread of marks allowing for positive achievement for all but also allowed for sufficient challenge for the most able. The majority of candidates were able to answer in full and the weaker candidates attempted most sections of their chosen questions.

Many candidates produced geography of a very high standard. There were only a few candidates who did not understand what was required in the questions or respond in an appropriate way and, in general good use was made of the resources provided.

A few candidates attempted all the questions instead of following the rubric. This is not an advantage to them as it does not give them the opportunity to answer in the detail required or devote sufficient thought to each answer.

Whilst many excellent case studies were seen some candidates are learning case studies from previous mark schemes and trying to use them whatever question is set on that topic. This is not good practice as it is not conducive to the candidates' understanding of the geography involved. It particularly stands out to Examiners when an answer does not 'fit' with the question being asked. Generally candidates who use local case studies tend to write convincing answers. It enables them to write in detail with place specific information, as opposed to learning about distant case studies that have very little relevance to candidate's everyday lives. It is recognised that this is not always possible and that teacher judgment is required as to which case studies are most suitable, local ones or ones which are well documented in text books and other media.

It is also worth noting that the case study questions were answered by some candidates by the use of bullets or key points as would be used in a revision programme. These simple answers mainly kept the candidate at Level 1. Also a lot of candidates have clearly been trained to put place knowledge in the answer to gain Level 3, but some candidates spend too much time detailing place knowledge (locational and background information for example) at the expense of answering the question fully.

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

1. 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.
2. 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).
3. read the entire question first before answering any part, in order to decide which section requires which information to avoid repetition of answers.
4. highlight the command words and possibly other key words so that answers are always relevant to the question.

5. use the mark allocations in brackets as a guide to the amount of detail or number required, not devoting too much time to those questions worth few marks, but ensuring those worth more marks are answered in sufficient detail.
6. 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 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. Candidates need to try to consider several issues and develop each one, rather than just focusing on one issue.
7. study the resources such as maps, photographs, 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 comments on 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:

Overall candidate performance

Question 1

This was the most popular question, with the majority selecting it.

- (a) (i) Candidates were required to use evidence from Fig. 1 that suggests that Italy had a natural population decrease in 2011. Whilst most candidates correctly answered that the death rate was higher than the birth rate. Some failed to understand how to write a comparative statement, and write phrases such as "The death rate is low", which is not a comparative statement and is not quite enough to gain the mark.
- (ii) Here, candidates had to calculate the natural population growth rate of Zambia and were required to show their calculations. On the whole the working out was shown and a correct answer calculated. Yet some candidates had no idea as to how to do this and a wide range of incorrect mathematical calculations were seen when all that was required was a simple subtraction of birth rate minus death rate.
- (iii) Three reasons were needed to explain why there are high death rates in LEDC's such as Zambia and this question was well answered by most. The most popular reasons were 'lack of medicines, lack of hospitals, poor food supply or poor water supply'. Some candidates give unsubstantiated answers such as "lots of disease" rather than provide named examples of diseases, e.g. AIDS, also "not educated" and "low standard of living" were frequently seen.
- (iv) This question required an explanation as to why there are low birth rates in MEDC's such as Italy. Again this question was well answered with the most frequently seen responses including: 'contraception is available, women are more career minded and delay having children, women are educated about family planning and contraception, low infant mortality rate' etc. Where candidates failed to gain marks they gave answers such as "women are educated" which did not go far enough to explain why there are low birth rates.
- (b) (i) Candidates were required to suggest three ways in which the population pyramid for an MEDC is likely to be different from the population pyramid for Zambia an LEDC. Interpretation of the population pyramid produced mixed responses. Several candidates referred to: "life expectancy", "birth rate" and "death rate", which gained no marks. Candidates were required to show their understanding by giving ideas such as 'the MEDC pyramid will have a narrower base; a wider middle section of working age people; a wider top' etc. The majority of candidates did manage to gain marks on this questions with many scoring full marks.
- (ii) This question asked candidates to 'describe the likely problems for an LEDC of having many young dependents' yet many candidates failed to read the question accurately and gave responses relating to employment and lack of jobs. There were also answers that made reference to "not enough houses", "not enough pensions" and "the growth of squatter settlements" which were all irrelevant. Most candidates scored 1 or 2 marks for this question with few high scoring responses. The best responses referred to ideas such as: 'high cost of education so many children are not

educated so need to build more schools (dev), this means that literacy levels remain low. Alternatively this idea could be related to high cost of healthcare or providing food and water. Candidates gained a mark for 'the cost/pressure on families to support a large number of children' or 'that if the government are spending money on the young they can not spend it on other things' or examples'. This question differentiated well, as the full range of marks were seen.

- (c) The final question asked candidates to describe the policy or policies used by a government to reduce birth rates for a named example of a country they have studied. Most candidates selected China as their example. However, whilst candidates clearly knew the impacts of the policy really well this was not required. Hence, many of the aspects of the policy were not known or not described. The best answers included reference to the one child policy, the incentives provided and the consequences if people did not obey the policy, candidates also referred to ideas such as encouraging the use of contraception and applying for marriage and to have a baby. The question differentiated well as the full range of marks was seen.

Question 2

This was another popular choice made by candidates, probably the third most popular choice.

- (a) (i) Candidates were required to define the term 'residential area'. The vast majority of candidates could do this and correctly identified that 'it is the area where people live'.
- (ii) Here candidates were required to use Fig. 3 to identify which area was the most densely populated and which had the newest houses and provide a reason for their choice. Many candidates correctly identified area B as most densely populated because there are more people living in the same size area as A or gave figures to show this, and area A as the area with the 'newest houses as redevelopment has taken place'. There were several candidates who failed to give a comparative answer, providing responses such as: "more people live there". Some talked about area B having more people but made no reference to the area being the same size as A.
- (iii) Using Fig. 3 again candidates were required to identify three differences between the numbers of people from each socio-economic group who live in areas A and B. Many gained full marks here but some included responses about how the two areas were the same, which was irrelevant and scored no marks. Answers included 'a greater percentage of professional managerial in A, a greater percentage of skilled manual workers in A, and a lower percentage of unskilled workers in A'.
- (iv) This question required candidates to state two disadvantages and two advantages of living in an inner city area in an MEDC. This question was not generally well answered but overall disadvantages were identified better than the advantages. Many answers were too vague for example; 'good transport', 'close to CBD', 'close to industry' candidates needed to say why this is an advantage or a disadvantage e.g. 'it's closer to get to the CBD for work or shopping', 'it's close to industrial areas for employment opportunities'. Alternatively, disadvantages such as 'air pollution from nearby factories' or 'noise from traffic' could have been referred to.
- (b) (i) Here, candidates had to study Fig. 4 in the Insert and from that identify three non-residential types of land use in a specified area. The vast majority of candidates identified correctly the three land use types which are 'commercial, civic and office'. Where there were errors candidates' stated "open space" and "vacant".
- (ii) This question asked candidates to explain why some people may support or oppose the conversion of a vacant property in Manchaca Road into a cinema. The question differentiated well as some candidates developed good reasoning concerning the support for and the opposition to the proposals for a cinema. Whilst other candidates were able to gain one or two marks for simple ideas such as 'they will be able to use the cinema'. One misconception was that there would be construction work taking place, despite being told that it was a conversion.
- (c) This final question asked candidates to describe how the land-use has changed in the area surrounding the city where urban sprawl has occurred. This was generally not well answered and very few candidates were able to reach Level 2 or 3. Many candidates looked at the CBD and Inner City Redevelopments and disappointingly showed no understanding of what 'urban sprawl' is. Some candidates even named a country as their example rather than a city.

Question 3

This was a popular choice made by candidates and was probably the second most popular choice for Question 1. On the whole the (a) sub part questions were poorly answered but (b) and (c) were answered.

- (a) (i) This first question required candidates to give a definition of 'fold mountains'. This was not well answered. Candidates were unable to provide a description or definition without re-using the word 'mountain'. Also candidates tended to write about how they are formed which is a requirement of a(ii). Candidates should define all words in italics in the question.
- (ii) Using Fig. 5 candidates had to name the two plates which are moving towards each other forming the Andes. The vast majority of candidates correctly identified 'Nazca and South American'.
- (iii) Here candidates had to explain how fold mountains are formed in some areas where plates are moving towards each other. Many were confused with plate movement relating to volcanic activity, and gave descriptions of subduction. Most candidates gained at least one mark for either 'continental plates meet or an oceanic and a continental plate meet'. Candidates who gained full marks often did so for ideas such as 'same density plates, one won't subduct, rocks get bent and crumpled'.
- (b) (i) Using Fig. 6 candidates had to describe three different hazards which an active volcano may cause for people. Some candidates lost marks for not selecting three different hazards from the picture and/or three different problems facing people. Many candidates were able to score at least one mark for this question. The most frequently seen responses included: 'ash cloud pollutes the atmosphere and causes breathing problems, lava flow can burn/destroy houses, pyroclastic flow can kill people'.
- (ii) Candidates were required to explain why there are active volcanoes along destructive plate boundaries. This was overall well answered with most candidates making reference to 'subduction, friction, oceanic plate melting and magma forcing its way through to the surface'. However, many candidates did not gain their fourth mark as they simply said 'magma rises' rather than 'magma rises through lines of weakness or fissures'. Candidates need to ensure that they finish their statement, sentence or idea fully to ensure full credit is gained.
- (iii) Candidates were asked to explain how an area of volcanic activity can provide opportunities for people living there. Most gave responses concerning fertile soil and the attraction for tourists. Some candidates stated that it provides jobs but lacked specific comment as to the type of job in order to gain credit. Some stated that 'they live there for the good view' which is irrelevant. This question differentiated well as the full range of marks was seen.
- (c) For a named area candidates were asked to describe the impacts of an earthquake. Most candidates could develop statements describing the impacts of an earthquake and many, were able to provide some place specific detail to gain Level 3. However, too many candidates wasted time describing the cause of the earthquake which was not required and then either ran out of time or ideas to explain the impacts of the earthquake. Candidates should be encouraged to identify the key command words in the question to avoid issues such as this. However, again the question differentiated well as the full range of marks was seen.

Question 4

This was not a popular question, probably the least popular, but of those who selected it they were able to gain good marks.

- (a) (i) Candidates were required to give a definition for 'westerly wind' and the majority of candidates were able to gain a mark for saying that it is a wind that blows from the west. A few candidates incorrectly stated that it is a wind 'that blows to the west'.
- (ii) Candidates had to select their answer from a list of four and then had to suggest what the cloud type was at 9.00 and 14.00 hrs after reading the extract in Fig. 7. The majority used the given information correctly to gain the maximum 2 marks and correctly identified '9.00 – cirrus, 14.00 – cumulonimbus'.

- (iii) Here candidates were asked to identify three differences in the weather between the morning and the afternoon of 29th July. The majority of candidates gave three accurate differences between the morning and afternoon conditions such as 'it was warmer in the morning and the temperature dropped in the afternoon, wind direction changed from west in the morning to north west in the afternoon, it was dry in the morning but rained in the afternoon'.
- (b)(i) After studying Fig. 8 showing a weather station and some of the instruments used in it candidates had to say what was measured by an anemometer, wind vane and sunshine recorder. Most were able to gain two out of the three marks. The third mark was usually lost for saying that the sunshine recorder records sunlight or heat.
- (ii) This question asked candidates to describe and explain where a weather station should be located in order to obtain accurate data. Candidates quite often wrote about a Stevenson's Screen rather than a weather station. This question differentiated well as the full range of marks was seen. Some candidates gave the description without an explanation e.g. 'in the open away from buildings' was often seen but very few went on to develop this by saying 'so readings are not affected by the shelter they provide'.
- (iii) This question required candidates to describe the main features of a rain gauge and explain how it is used. Candidates could also use a labelled diagram in their answer. Very few candidates were able to gain the maximum marks here, with several candidates repeating the site factors that they had given in b. (ii). The most common responses referred to features such as: 'funnel', 'cylinder', 'half buried in the ground', 'checked every 24 hours'. Very few diagrams gained any extra credit as they contained the same information as what candidates had already written in the text. However, a few candidates who labelled 'funnel' often gained the mark on the diagram as they had not referred to it in the text.
- (c) This last question asked candidates to choose an example of weathering from freeze-thaw, exfoliation or biological weathering. Freeze thaw was the most popular choice made by candidates. The question differentiated well as the full range of marks was seen. Most gave limited detail explaining the weathering process providing simple statements like 'water gets into a crack and freezes'. More detailed responses for Level 2 were also seen such as 'water gets into a crack in the rock and during the night when the temperature falls it freezes which puts pressure on the crack and causes the crack to expand'. Some detailed diagrams were seen but many were simplistic and many bore no relation to the weathering process. Some candidates got their weathering processes mixed up and referred to a combination of ideas relating to two or more of the weathering processes.

Question 5

This question was probably the fifth most popular choice made by candidates and was generally well answered.

- (a)(i) Candidates were required to name one greenhouse gas for 1 mark. Most candidates gave a correct answer. The most frequently seen inaccurate response was carbon monoxide.
- (ii) Using Fig. 9 candidates were asked to identify a way in which climate change might 'reduce energy demand' and 'increase energy supply'. Most candidates gave evidence from the resource material to gain the full two marks i.e. 'A – less heating needed in winter' and 'B- more HEP generated'.
- (iii) Candidates were asked to identify three ways in which climate change might affect agricultural systems around the world. Again good use was made of the resource information. Many however gave climatic changes but failed to link these with agricultural systems. The most frequently seen responses included ideas such as: 'extension of agriculture into areas further north, longer growing season, more droughts so less water for crops to grow'.
- (iv) Here candidates had to describe the possible impacts of climate change on the natural environment. Most could provide at least three possible impacts of climate change on the natural environment including ideas such as: 'melting of ice cover, rising sea levels, loss of habitats, extinction of species'. However, many candidates still refer to crops or affects on people when it is irrelevant to the question.

- (b) (i) Using Fig. 10 a graph, candidates were required to describe the changes in the average monthly temperature in Fairbanks between 1906 and 2002. Candidates were asked to refer to months and years in their answer. Most candidates identified the overall trend as 'increased' and some referred to 'fluctuations' for a second mark. However, where statistics were given they were inaccurately read from the graph and vague statements were made. Overall, the questions were differentiated well.
- (ii) This question asked candidates to explain why greenhouse gases are increasing in the atmosphere. It would appear that many found this question difficult and responded by giving the source of greenhouse gases, for example, there are more cars, or more factories letting gases into the atmosphere. However, to gain the mark candidates needed to explain why e.g. 'generation of electricity has increased by using fossil fuels in power stations, factories burn coal, there are more cars which burn petrol/oil, deforestation which prevents the use of carbon dioxide by trees'.
- (c) For a named river, sea or lake which candidates have studied they had to describe the causes of water pollution. Most candidates named a river, lake or sea, but there were a significant number who made reference to oceans. Statements tended to be limited in detail to describe the causes; e.g. "rubbish thrown in by people" or "oil spills". Some candidates also wrote in detail about the effects of the water pollution which was irrelevant to this question and in many cases the effects were written about in more detail than the causes.

Question 6

This question was probably the fourth most popular choice with candidates.

- (a) (i) This question asked candidates to name an example of a job in the tourist industry. Whilst the vast majority of candidates were able to provide an example of a job in the tourist industry such as a 'tour guide or hotel receptionist' there were some candidates who just wrote 'hotel' or similar which in itself is not a job in the tourist industry and does not gain the mark.
- (ii) Using Fig. 11 only candidates were asked to identify one environmental cost and one environmental benefit of the tourist industry. Most candidates gave accurate lifted responses from the resource.
- (iii) Using Fig. 11 again along with candidates own ideas candidates had to explain how tourism can undermine social standards. The majority of candidates made reference to drinking alcohol and to the use of drugs. Several gave general statements such as "bad habits" or 'locals would lose their culture' which did not gain credit. Most candidates were able to gain one or two marks here.
- (iv) Candidates were asked to explain how people not directly employed in the tourist industry may still benefit from tourism. This was generally well answered on the whole, although some candidates still give examples of people directly employed in tourism or vague statements such as 'improves standard of living' without saying how. Most frequently seen responses included ideas such as: 'increased economic growth, enables spending on healthcare or education, development of infrastructure, more business for local shops'.
- (b) (i) After studying Photographs A, B and C in the Insert, candidates were asked to use evidence from each photograph to give different reasons why Mauritius is attractive to tourists. The majority of candidates gained full marks, those that failed were generally in response to the third picture where they just stated 'beaches'.
- (ii) This question asked candidates to explain why it is easier to develop tourism than manufacturing industry in LEDC's. A good understanding was shown by the majority of candidates who responded to this question. Ideas related to 'lack of raw materials, imports being expensive, people do not have the required skills or training for the manufacturing industry, beautiful scenery already there for tourism, many jobs in tourism are low skilled or low pay' etc.
- (c) For a named area which candidates have studied where the tourist industry is important, candidates needed to describe what has been done in the area to conserve the natural environment. Many candidates failed to understand what was meant by 'natural environment' and 'conservation'. Some talked about the positive aspects of a tourist area or even a city. Very few candidates gave well developed statements for Level 2. The majority of candidates gained marks for simple Level 1 statements for ideas such as: 'restricting the number of tourists or setting up a

national park' but did not go on to develop the idea fully. Many candidates also named a national park rather than an area which restricts them to 5 marks overall.

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Paper 2217/22
Investigation and Skills

Key Messages

- Practical skills questions need to be completed precisely.
- Given data should be interpreted to show understanding
- In **Section B**, careful analysis should be backed up with evidence

General comments

This paper was comparable with those of previous sessions. In **Section A**, **Question 1(e)**, **Question 2(a)** and **Question 6(b)(i)** and **(ii)** were relatively easy, while **Question 4** was more difficult. In **Section B**, **Question 8** was more popular by a ratio of about 4:1. Candidates often had more omissions in their **Section B** question than in **Section A** and this was particularly the case with those who had chosen **Question 7**, though there were also some high scoring responses to this question. Those who chose **Question 8** found it easier to think of things to write about, but their ideas were not always well expressed so marks for this question tended to be lower.

Comments on specific questions

Section A

Question 1

- (a) The 1:25 000 map was of Port of Spain, Trinidad, and the first task was to complete Table 1 to show the location of places in relation to Cumberland Hill. The fire station at 580816 was SW of the hill by 1950m, St Ann's hospital at 631811 was SE of the hill by 3900m and the road junction was at 626838, between 3200 and 3300m to the NE. Most candidates had some of this correct but relatively few scored all four marks.
- (b) The road pattern in Belmont was in grid form while at St Ann's it was more irregular and curved. This was in part due to the relief, with Belmont having flatter land than St Ann's, but also because Belmont was more built up, while St Ann's had more open space. Many candidates either compared the pattern or suggested a reason but few scored a mark for both. Some candidates only considered the first class road in each square.
- (c) Most of Port of Spain's CBD was in 6278. Incorrect answers were often adjacent squares, so the error could have been as much to do with giving an incorrect four figure grid reference as with recognising the CBD. Thus in **part (ii)** some candidates were describing the wrong square. The buildings in 6179 were more concentrated in the south, where they filled the area between the roads. Also public buildings were mainly found in the south. There were some more isolated buildings in the grassland area to the NW, while in other places buildings were built round a square (Siegert Square) or in a circle (The Oval). Some candidates incorrectly described the latter as a radial pattern. Others concentrated on the public buildings only, which restricted their answer and at the basic level they simply listed the public buildings.
- (d) To complete Fig. 1, three leisure activities had to be marked and labelled. Many selected from golf course, country club, community centre, sports ground and hotel, but film City and Camp Ogden were also allowed. The most common error was Ellerslie Park, which was clearly the name of a residential area rather than a park.

- (e) Two sections of the coast were highlighted in Table 2. Hotel and jetty could be found on sand and mud in 6078. Mangrove was in both areas and neither had a cliff or a lighthouse. Candidates did fairly well on this.

Question 2

- (a) Figs 2A and 2B gave data for population density and percentage of cultivated land in the six biggest countries. Russia was the biggest of them all, and China, the most densely populated. USA had the highest percentage of cultivated land while Brazil and Australia showed percentages at the same value. Most candidates had no trouble extracting the relevant information from the graphs.
- (b) In **part (b)(i)**, most candidates completed the graph successfully, though a significant number had omitted this, as is usual when there is no answer line following the question. Calculating Canada's total population proved to be more difficult, even though the required figures were given and use of a calculator permitted. 3.4 people per square kilometre multiplied by 10 million square kilometres gave a population of 34 million. Many had an answer with either too few or too many zeros. Others had calculated 10 million divided by 3.4
- (c) The graphs used in this question were both scattergraphs. Relatively few candidates knew this. A wide variety of other names were offered. Fig. 2A suggested no relationship between the two variables. Some candidates noted this in their responses.

Question 3

- (a) Candidates were required to study the two photographs and describe four similarities in the buildings shown. Most noted that there were shops and many commented on the signs that were attached to them, the presence of some upper storeys and the connection to the electricity supply. Many said that the buildings were "along the road" but a little more was needed here, such as "on both sides of the road". Similarly "linear pattern" did not score; nor did "close to each other". Less common correct answers included "mixture of styles", "canopies", "made of concrete" and "light colours".
- (b) In **part (b)** candidates had to turn their attention to the roads and describe four differences. Photograph A showed a smooth tarmac road, while that in B was uneven and only dirt. Photograph A showed lines separating lanes and a separate pedestrian path, while B, being narrower, had not the space for demarcation of different zones. A also had street lighting and evidence of drainage, while B did not. Candidates seemed to find differences easier than the similarities of **part (a)**, but did not always make full statements to make the differences clear. Weaker candidates made comments about safety or cleanliness, particularly as many assumed that Photograph A showed a line of litter bins down the middle of the road.

Question 4

- (a) Feature X was a spit. In **part (ii)**, "most common wind direction" or "direction wind blows most often" were acceptable for explaining the term "prevailing wind". Longshore drift was from south to north on Fig. 3

Candidates seemed to find this section quite difficult. Many assumed that the prevailing wind was a SW onshore wind as shown to be the case in Fig. 3. Others gave examples such as "trade wind".

- (b) Location C had many disadvantages for a proposed campsite and candidates found this part easier. Most commonly they commented on the likelihood of flooding, the effect of wind-blown sand, the risk of insects / diseases / wild animals from the marsh and the distance to the village / nearest road. Other ideas included the soft ground being unsuitable for the building of facilities, lack of shelter, damage to the salt marsh or sand dunes, loss of species, and too much traffic, noise and litter in the village.

In **part (ii)** villagers would likely be in favour of the campsite for economic reasons, such as employment opportunities or trade for local businesses. A number of candidates seemed to misunderstand the question, often suggesting alternative ways that villagers would use the site.

Question 5

- (a) From Fig. 4, candidates could see Japan's largest island: Honshu. A few opted for Hokkaido. The direction of movement of the Philippine plate was given by the arrow and comparison with the movement of the Eurasian plate at the point showed this to be North West. It was necessary to use a compass direction here since "towards Japan" or "into the Eurasian plate" could apply to a number of directions.
- (b) Due to the comparatively large symbols for the epicentre and the capital city, answers between 400 km and 525 km were acceptable for the distance of Tokyo from the earthquake epicentre. Most candidates had an answer within this range, though some had the wrong units or had omitted them entirely. A few had given a descriptive answer, such as "it wasn't far" which was too vague.
- (c) Fig. 5 was a sketched cross-section along the A-B line on Fig. 4. Most candidates labelled the Sea of Japan correctly, though some had it on the other side or both sides of the island. Labels for Honshu were not always in the right place. Many candidates had put their label below sea level, which was acceptable but some had put it too far to the left, below the Sea of Japan, which was not credited. "Subduction zone" and "earthquake focus" were often spoilt by poor labelling. It was necessary to pinpoint these with labelled arrows, as shown in the example, but candidates often dispensed with arrows and wrote their labels across the diagram. This worked for the sea and the island, but not where a specific point needed to be located.

The boundary shown was a destructive boundary. Many candidates responded correctly.

Question 6

- (a) From Fig. 6, candidates could deduce that from 1920-1940 the temperature was increasing, from 1940-1980 it fluctuated at $+0.25^{\circ}\text{C}$ and from 1980-2000 it increased by $+0.4^{\circ}\text{C}$. Almost all candidates got the descriptive points and many deduced the figures correctly too.
- (b) Fig. 7 showed that global warming could affect the oceans through ice melting causing increased sea level or through changes to the ocean temperatures, which would then cause changes to fish distributions. Most candidates had at least two of these points.

Global warming affected crop yields both directly and indirectly, via change to the weather patterns. Change to rainfall was an acceptable alternative, but not change to temperature, as this would be a direct influence. Again most candidates had a correct response.

Tropical diseases would be enabled to spread to a greater area because some previously temperate areas would now be experiencing tropical temperatures. Many candidates focused on malaria and the idea that increased flooding would give more areas for mosquitoes to breed was also an acceptable argument. However, candidates did tend to look at the idea of disease spreading to more people, rather than a greater area, and wrote about diseases getting worse in the pre-existing areas, rather than spreading to new ones.

Section B – Section B is taken from 0460/42.

Question 7

- (a) (i) The question required candidates to suggest any three factors they should consider in choosing their sites along the river. Popular responses included depth or width, accessibility, distance between sites, risk of wild animals such as crocodiles being there and whether there were any particular physical or human factors e.g. waterfalls or a dam, which might affect their results in an inappropriate way. These were all worthy of credit. Other answers which were not credited included reference to rocks or boulders in the stream or vegetation present; also reference to making sure the river was slow enough, checking the weather forecast and references to appropriate clothing to wear. These had nothing to do with choosing the 5 sites.
- (ii) Most candidates realised that weather conditions as well as river conditions could change the next day so for more consistent and reliable results it was preferable to take the measurements as close to each other in time as possible to remove the time variable. Just stating that 'conditions might change' was not enough here. References to temperature and wind changing were not allowed as their effect on river flow would be minimal.

- (iii) Candidates clearly now understand what a pilot study is and can give sensible answers to the question. Most suggested that it would help them know what to do and it was an opportunity to correct errors and try out their equipment. Some just said it would prepare them for the task which was stated in the question! A few did not realise that the local stream for the pilot was not the river that they would be carrying out their investigation on so suggested that the site could be checked for suitability or that the results would be useful to use with the real results; neither would be relevant.
- (b)(i) The candidates were referred to the figure that showed two candidates measuring velocity using the float method. Consequently the answers needed to use the information in the diagram instead of ideas from their own experience although they should be close. Most gained 3 marks here by referring to the measured distance, the start/finish lines, the role of the two candidates and the release of the float along the channel with repeats in the other channels. Some suggested types of float, such as an orange, however others suggested a stone or rock to float down the stream! No credit was given for the calculation of velocity as the question was about the method shown in the diagram.
- (ii) The flowmeter has been used in previous examinations usually with a photograph and several Centres clearly do teach about its use even if they do not use one themselves. This question overall was not well done; indeed too many candidates decided to use the flowmeter as a float and set it off down the river along a measured distance to be timed. Not many stated that the propellers must be submerged under the water (most said 'in the water') and that the reading was shown on a screen. Most gained some marks though for referring to several readings and calculating the average. Centres need to cover the use of alternative instruments in this digital age although traditional instruments will still have a valid place in the syllabus and their use will continue to be assessed.
- (iii) There were two simple points to plot and almost all candidates did this successfully. Good practice meant that they should have numbered them 4 and 5 to match the given 1-3 plots but candidates were not penalised for that. There were a number of candidates who did not attempt the plots; this is not the first time that candidates have missed out on straightforward graph completion questions on this paper and these are relatively easy marks to obtain.
- (iv) Almost all candidates scored well here. They agreed with the hypothesis and gave statistics to back this view up as required usually taking Sites 1 and 5 and their velocity statistics of 0.36 m/s and 0.78 m/s alongside their distances from the source. Some noticed the anomaly and said the hypothesis was partly true; this was rewarded providing the evidence was the anomaly. Some just repeated the hypothesis without stating a decision in agreement or not and gave qualitative statements as answers despite them being clearly asked to give evidence from the information provided.
- (c)(i) This question was quite well done with most candidates using a tape measure to measure a rope across the river or between two ranging poles; one on each side. For the depth the majority would use a metre rule or measuring stick which touched the river bed or was vertical across the river at equal intervals. Not all candidates stated the instrument they would use; a few just referred to width or depth but not both.
- (ii) Almost all candidates could calculate 0.22 m/s as the answer.
- (iii) Almost all gave 2.542 sq. metres or rounded it to 2.54 sq. m. The answer 2.5 sq m was not allowed as it was rounded down too far.
- (iv) Most candidates realised that the method shown in the photograph and described in Figure 3 was most appropriate to a small shallow part of the river and that there would be problems with a large river such as the tape being too short, difficulty in placing and keeping the tape in place, issues of depth and width and the strength of current. Reference to the candidate being carried away or drowning were only credited if there was no other reference to the danger of trying to carry this out in a large river. Those that thought it would take a long time, would be tedious or tiring were not credited.
- (d)(i) Although some candidates did not attempt this simple plot, most did it accurately for the mark.

- (ii) Despite being told that the candidates had decided that this hypothesis was correct, candidates gave their own view – some even disagreeing with the decision. This was reflected in the marks were for evidence that it was correct. Most candidates did provide data linking velocity downstream with the increasing hydraulic radius and gained both marks. Other candidates described the changes with no evidence provided. It is vital that candidates realise that when they are referred to tables and figures of data, they should be extracting evidence from them; not just giving descriptive statements as their support.
- (e) This was a more straightforward final task than in previous examinations yet still proved to be difficult for some candidates. Many candidates just re-investigated river characteristics that had already been done having ignored the reference to the river valley. Few candidates stated an aspect of the valley they could investigate e.g. slope, vegetation, width. Those that suggested taking photographs, doing sketches and adding annotations were rewarded though it would have been better if they had given a clue as to which valley characteristics they would use these techniques with. Quite a few candidates did not attempt this question.

Question 8

- (a) Most candidates could give some ideas as to why land-use varied in different parts of the city. Credit was given for references to different price/land values, some ideas of historical development and ideas that some land-uses would be close to each other e.g. factories/cheap housing and others kept away e.g. high class housing and industry. References to minerals and resources were too vague and needed a specific item such as coal or gold mines to be credited. The use of farming land was inappropriate in a city setting.
- (b)(i) This was a straightforward question on CBD characteristics and most candidates gained 3 marks for answers that included high-rise/skyscrapers, traffic congestion, air pollution, crowded with pedestrians and government buildings. Weak answers that were not credited included shops, lots of people/high population, busy and pollution.
- (ii) This was a question where candidates had to choose a sampling technique and describe its use in choosing sites. The question referred to 10 sites and to Fig. 6 which showed the transects and had a scale on it. Few candidates seemed aware of this scale so, although credited for systematic sampling, the suggestion of taking sites at every 10 metres despite each transect being up to 10 km long was unrealistic. Random sampling was also acceptable though the description of just picking any site was weak; it was difficult to envisage how a stratified sampling technique could be used successfully in choosing their sites here.
- (c)(i) The answer to this question was 6,2,2 i.e. 6 Residential uses (Houses + Apartments), 2 Offices (Tourist + Insurance) and 2 Shops (Newsagents and Food shop). Almost all candidates gave 6,3,1 as their answer as they clearly judged that a Newsagents was an Office. There may have been some confusion with News Agency.
- (ii) The divided bar graph should have been completed in the order provided in the table and matching the order and shading in the key. Most candidates could do this for both marks. Other candidates, however stated the bar graph from the right instead of the left (this was allowed though unconventional); some plotted the lines in any order (not credited) and some either used the wrong shading or failed to completely shade the graph units.
- (iii) Candidates did not always seem to realise that the candidates had recorded all the land-use at the sites then decided to only show the main land-use; consequently suggestions that it would be easier and quicker when recording the land-use were not appropriate. It was the showing of the main land-use that was the critical issue here. Those that agreed often stated because it was more important than others which was not accepted; the fact it was easier and quicker to show it on a map for simpler analysis was relevant. Those that disagreed needed to say more than 'all land-uses were important'. Some did refer to the hypothesis regarding different land-uses and also wrote that by just using the majority land-use as the main use would give a misleading picture by ignoring the others.
- (iv) This was done well by those candidates who focused on the main land-use on the transects rather than just described every land-use along all of the transects. As before some candidates decided to agree or disagree with the hypothesis despite being told that the candidates had decided it was correct. This was ignored as marks were for the evidence supporting a 'correct' hypothesis. The

best answers used the key on Figure 6 and referred to Residential dominating Transect A from CBD; Shops taking up most of Transect B/to the south; Offices near/in the CBD and close to the docks/motorway. The key on Fig. 6 clearly listed these 4 land-uses so reference to the motorway or parks and open space as land-uses were not credited.

- (d)(i) It was important for candidates to not just state it was easy/quick but to elaborate briefly on the use of storeys to get an idea of height so good answers would state that most storeys are the same height, then adding up the total storeys and multiplying by the height of the ground floor storey, which could be estimated, would give a good idea of the actual height. It was also acceptable to comment on the difficulty of candidate actually trying to measure the height with equipment though reference to the length of tape/ladders needed or danger were regarded as irrelevant.
 - (ii) Almost all candidates plotted this correctly and used the appropriate shading. It is again unclear why quite a few candidates missed this question out. There are no lines to write answers on this page so maybe some candidates are only looking to provide written answers without being trained to look for graph, diagrams and tables to complete. This is an area for some Centres to work on in preparing candidates for the examination.
 - (iii) This was done well. Almost all candidates stated that there was a relationship and then gave numerical evidence contrasting the number of storeys for Offices with the lower number for Residential use. A few gave the right evidence but did not give a hypothesis decision here thereby losing 1 mark.
 - (iv) The key to the different heights was to refer to the different values of land and also to issues of space available/required though both are linked. Most candidates gained marks here and it was also accepted that some cities regard prestige as a reason for having tall buildings e.g. in London, Dubai and Kuala Lumpur, although these are also linked to space issues and the cost of land. Too many candidates suggested that it was to do with the activity or the number of workers employed.
 - (v) This was done well by candidates who realised that there could be different/other land-uses on the floors above the ground floor (or below in some cases!). There were a few vague answers such as the information would not be complete or the ground floor is only one use – reference to the use of other floors was important for credit.
- (e) There was a disappointing response to this question as there was to the same kind of **Question (e)** in **Question 1**. The question asked about investigating the quality of the environment so the answer should suggest what aspects of this quality could be investigated in different parts of the city and how could it be done. There were a few sensible, pragmatic answers that chose trees/vegetation or traffic congestion/air pollution and suggested photographs, surveys, questionnaires and bi-polar surveys to investigate these. Although 'litter' was accepted it is not a good choice for investigating across a city; using quadrats was also an inappropriate technique within a city context. Few candidates referred to where in the city the investigation would be carried out or gave any detail as to the possibilities of their techniques. Most suggested ideas would be impossible or inappropriate. Centres should consider what small-scale investigations could be carried out by a candidate in an urban area to prepare for this kind of question.

GEOGRAPHY

Paper 2217/23
Investigation and Skills

There were too few candidates for us to be able to write a meaningful report.