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. Although some excellent responses were seen to all questions (whichever were opted for) and candidates were able to show their level of ability and gain high grades. Such 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. The quality of many other candidates was not quite so impressive despite the fact that the structured questions and questions referring to source materials provided all candidates with positive opportunities to gain marks. Source material was generally well used and it allowed candidates to achieve positively. Though inevitably there were candidates who performed poorly in the examination. This may have been due to a variety of factors (e.g. 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). Many candidates failed to give place specific information in case studies 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 as a result do not gain more than Level 1.

The most popular questions selected were 1, 2 and 4 or 5.

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.

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.

Comments on specific questions:

Question 1

Generally a very popular choice by candidates.

(a) (i) This question should have gained candidates an easy mark for simply stating that '18.5 people die per 1000 people'. However it was disappointing to see that many candidates did not understand the term 'death rate' and stated that '18.5% of 1000 people die'. Others gave a definition of death rate. Many also failed to state 'per 1000' in their answer and thus did not gain the mark.

(ii) Most candidates were able to gain the mark for the calculation i.e. 10.7 – 10.3, but many did not gain the second mark for the answer i.e.' 0.4 per 1000' because again they did not write 'per 1000'. Also some candidates did not arrive at the correct number '0.4' even though they had written the correct figures down. Some candidates added, divided or multiplied the two sets of figures.

(iii) Well answered generally though weaker candidates gave weak statements such as 'poor countries/poor standards of living/less healthy/disease etc.' rather than ideas such as: 'poor healthcare; poor access to clean water; starvation; HIV etc'. Generally most candidates were able to gain at least 1 or 2 marks.

(iv) This question was generally well answered. There were some very detailed responses where candidates gained full marks. For example: 'contraception is available; educated about family planning; able to afford contraception; do not need children to work/earn money; women are educated/have careers; do not need children to look after them in old age; low infant mortality rate' etc. Weaker candidates gained 1 or 2 marks but other candidates gave more reasons than was necessary and easily gained full marks.

(b) (i) Too many candidates gave non-comparative answers however better candidates were able to score full marks. Examples of comparative statements are: 'MEDC pyramid will have a narrower base; MEDC pyramid will have a wider top; MEDC pyramid will have more economically active aged people'. Some candidates did not make it clear to which pyramid they were referring and lost the marks. Also many candidates stated 'there are more dependents' but did not make it clear to which age groups/dependents they were referring. Candidates need to be specific when answering this type of question.

(ii) This question differentiated well, though few scored 4 or 5 marks. Many focused wrongly on general issues affecting an LEDC (such as lack of work) rather than on 'many young dependents'. Candidates used terms like 'overpopulation' without any attempt to qualify and make it relevant to question being asked. Good responses referred to ideas such as: 'strain on the working population/economy; need for more money to be spent on healthcare; not enough/overcrowded Schools; overcrowded homes; leads to high future population growth' however, many candidates gave simple generic statements without developing them e.g. 'lack of healthcare' some candidates were more focused on problems for the elderly dependents rather than young dependents.

(c) This question also differentiated well. Although not many candidates achieved Level 3 some were able to develop points and achieve Level 2. Better prepared candidates provided good details referring to economic impacts and population. Less well prepared candidates referred mostly to economic impacts than to the population structure. Many candidates included lots of information on the causes of HIV/AIDS and how it is spread which was irrelevant to this question. To gain the Level 3 marks candidates needed to include named settlements or rural areas or alternatively could quote changes in demographic statistics as a result of HIV/AIDS. Only a small proportion of candidates did this but amongst those who did there were very well written and detailed responses.

Question 2

A popular choice by candidates.

(a) (i) The vast majority of candidates were able to score the mark on this question. Responses could include: 'car; auto-rickshaw; lorry; truck; motorcycle; taxi; van' etc.

(ii) Most candidates were successful and gained the full 2 marks but many copied the signs without understanding the question. Acceptable responses were: 'shops/mall; offices; banks; courier/fax/printing/office supplies; taxi'.

(iii) There were lots of good ideas here from some candidates however, there were also many vague ideas from weaker candidates e.g. they should walk/use buses/improve public transport. Candidates need to provide more precision here i.e. How can they be encouraged to walk? How can public transport be improved? Better responses included ideas such as: 'pedestrianise streets; build a ring road; park and ride; car pooling; 2+ people in car only lanes; restrictions on which vehicles can use the roads on certain days, congestion charges' etc.

(iv) Generally well answered although once again there were some vague responses from weaker candidates such as 'easier to get around'. Better responses included ideas like: 'reduce journey times; people will be on time for work/appointments; reduces stress levels/road rage; less standing traffic to produce air pollution; less noise; less fuel wasted/used' etc. Most candidates gained at least 2 or 3 marks with many scoring full marks.

(b) (i) The resource was generally well used and candidates were largely able to make at least one valid point from the mark scheme. Most candidates understood that this public transport system would reduce traffic on the roads. Suitable suggestions included: 'the metro is built underground/elevated; roads will be free for traffic to use; people will travel to work/CBD/College on the metro; there will be less vehicles on the roads; people can park near the stations; metro serves major attractions; cheaper than using road transport' etc.

(ii) This question differentiated well. Few candidates scored 4 or 5 marks but most gained at least 1 mark. For this type of question candidates should try to develop their answers more fully to gain the full 5 marks for example: 'there will be disruption during the construction phase (1 mark) which will cause more noise from machinery (1 mark for development)' or 'may need to demolish properties to build new transport facilities (1 mark) therefore people may become homeless' (1 mark for development).

(c) This question also differentiated well. Weaker candidates gave lots of basic Level 1 answers e.g. 'provide clean water; build new houses; self help' etc. Better prepared candidates were able to develop their ideas more fully or indicate precisely how the improvements would be achieved e.g. ' install water mains; have regular garbage collection; provide breeze blocks; provide low cost loans'. Some candidates did not provide examples or place specific information, however, of those that did there were some very good responses mostly focused on Rio de Janeiro with some excellent place specific information naming favelas such as Rochina. However, Level 3 responses were in the minority.

Question 3

The least popular question on the paper.

(a) (i) Generally not well answered. Candidates clearly had no idea what this feature was i.e. 'slip off slope/river beach'. It would be worthwhile using pictures of features such as this to familiarise candidates with them prior to the examination.

(ii) This was a straight forward skills question but not many candidates scored both marks. Candidates mainly gained a mark for 'pebbles or angular' but the more obvious mark scheme points e.g. 'grey; mixture of sizes' were rarely mentioned. Candidates need more practice in these photographic observation questions as easy marks are often missed.

(iii) Generally poorly answered and many candidates scored only 1 mark, very few scored the full 3 marks. Candidates needed to explain that 'water is flowing slowly; therefore cannot carry its load; thus deposition occurs; there is a gradual build up of materials/process is repeated' but candidates mainly scored the mark for 'deposition occurs'. Candidates with a more secure understanding also scored a mark for 'slow flow' idea.

(iv) This question was generally better answered most and candidates could name two processes and many could explain them. However some candidates mixed them up, whilst others were too vague for credit. Candidates generally scored at least 2 marks for the named processes and many gained 3 or 4 marks with the correct explanation.

(b) (i) Surprisingly few scored full marks for this simple task. Many scored at least 1 or 2 marks. Candidates need to be able to observe and state the obvious features such as meandering/flood plain/gently sloping sides etc. Many candidates focused on the vegetation/trees or buildings which were irrelevant.

(ii) Generally better answered. This question differentiated well as candidates gave a reasonable mix of advantages and difficulties. Better prepared candidates easily scored the full 5 marks whereas weaker candidates scored between 1 and 3 marks as they generally did not develop their responses. Relevant ideas included: 'fertile soils (1 mark) so that higher yield of crops can be produced' (1 mark for development), or 'water for drinking/washing (1 mark) so people do not have to walk far to collect it' (1 mark for development). Flooding (1 mark) so crops could be washed away/damaged' (1 mark for development).

(c) Generally poor responses. Apart from simple references to deposition and 'river splitting' or similar there was little to credit in the answers of many candidates. Deltas are specified in the syllabus and processes involved in their formation should be fully understood. Candidates need to develop points and, in this type of physical geography question, labelled diagrams would help. Centres could practise questions such as this with candidates, training them to use labelled diagrams as part of their explanations. Many candidates could name an appropriate river delta but their responses did not allow them to gain top Level 2 marks. Only a handful of candidates gained either top Level 2 or Level 3 marks. Many candidates attempted to draw a diagram but it failed to show the development of a delta and/or lacked adequate labels. In some instances the diagram and labels merely repeated what they had already stated in their written answer.

Question 4

A popular choice.

(a) (i) Generally well answered and the majority of candidates gained the mark for a simple statement such as: 'a volcano which is likely to erupt/is erupting/has erupted recently'.

(ii) Too many candidates ignored the 'physical features' part of the question and referred to buildings being destroyed or roads and railways lost. However, most candidates gained a mark for stating that 'more land' was created. Better candidates referred to a 'larger crater' and 'more gentle slopes' or 'increased the size of the volcano' making good use of the resource.

(iii) Generally well answered and most candidates gained at least two marks with many gaining the full three marks for ideas such as 'houses destroyed/people homeless; roads/railways cut off; crops destroyed; fishing port isolated; holiday resort destroyed; ash caused breathing problems' etc. However, a minority of the weaker candidates who had given the required responses for this question to the previous question did not understand this question and missed it out probably thinking that it was the same as the previous question.

(iv) Many candidates gained at least two marks for this question with many gaining full marks. The majority of candidates gained their marks for referring to ideas such as: 'monitoring/prediction; evacuation/move away' better candidates also referred to ideas like: 'redirect lava flow; having emergency action plans/educating/training people what to do'. Weaker candidates tended to give vague or impractical responses such as: 'don't live near one/do not build near one or make houses eruption proof'.

(b) (i) This question was generally well answered and many candidates gained at least 2 out of the 3 marks available with many gaining 3 marks. Candidates generally understood the processes occurring at constructive plate margins. However, a few candidates confused constructive margins with destructive margins. Candidates gained their marks for stating: 'located on a plate boundary; plates diverge; creates a gap between the plates; magma is released through the gap; lava solidifies to create a volcano'. Some candidates got magma and lava confused i.e. 'lava rises between the gap and magma solidifies to create a volcano' candidates need to know the difference and apply the correct terminology.

(ii) Again this question was generally well answered and many candidates gained at least three or four marks with a reasonable number gaining full marks. However, ideas were not always developed appropriately and candidates tended to gain their marks by providing a list. Weaker candidates referred to ideas such as 'warms the atmosphere/climate as Iceland is a cold place' or 'provides hot water'. Good responses included: ' fertile soils therefore higher crop yields; geothermal power which provides cheap source of electricity; attracts tourists therefore there is a need for tour guides; resource extraction e.g. sulphur; vulcanologists live close by to study volcanoes'.

(c) This question differentiated well. Most candidates made a reasonable attempt to compare LEDC's and MEDC's and generally chose appropriate comparative examples. Weaker candidates failed to develop their points fully and gave generic responses e.g. 'MEDC's have warning systems LEDC's don't.' Or 'buildings are stronger in MEDC's compared to LEDC's'. More developed responses included: 'MEDC buildings are likely to be made of stronger materials therefore less destruction' or ' MEDC's have the finances/expertise/technology and are able to rebuild and recover more quickly'. To gain Level 3 candidates had to refer to 2 named examples e.g. Florida and Bangladesh.

Question 5

A fairly popular choice.

(a) (i) The majority of candidates answered correctly and gained the mark for $12.4 billion. Some candidates did not write billion or omitted the '$' and thus did not gain the mark.

(ii) This question was generally well answered although some candidates were not always sufficiently accurate for the second mark and some did not attempt to use statistics. Most candidates gained at least 1 mark for recognising the 'amount increases'. To gain the full 2 marks candidates had to then show by how much i.e. 'by $3 billion' or from $12.4 to $15.4 billion'.

(iii) Responses to this question were generally good. Many candidates gained at least two marks with many gaining the full three marks. Better answers referred to 'jobs/money/investment in infrastructure' etc. However, there were some vague references to 'quality of life /standard of living/better services' all of which needed further development for credit.

(iv) This question was again well answered. Most candidates made good use of the photographs for these simple marks. Evidence provided were 'beaches; pier; sea/activities e.g. swimming; sand dunes; state parks; salt marsh; wildlife/animals or examples; quiet/relaxing' etc. The majority of candidates gained 3 or 4 marks with few just gaining 1 or 2.

(b) (i) This question differentiated well. There were a variety of responses given. Most candidates gained a mark for the 'coastal location/near the sea' idea better candidates used the lines of latitude and longitude well. The majority of candidates gained 1 or 2 marks with very few gaining the full three marks.

(ii) There were some impressive responses to this question with a reasonable balance of advantages and disadvantages from most candidates. Many candidates gained the full 5 marks with many others gaining 3 or 4 marks. Very few failed to achieve on this question. Most popular advantages included: 'clean/green energy; renewable; does not pollute the atmosphere' and the most popular disadvantages were: 'visual impact/eyesore; noise from turbines; wind does not always blow so unreliable; may negatively affect wildlife/birds; high set up cost'.

(c) Responses to this question were generally quite weak and generic and did not provide the necessary place specific detail for Level 3. Given the immense choice of examples those chosen were quite disappointing and few candidates used anything which was local to the Centre which is a pity. A few references were made to the Gulf of Mexico oil spill, which tended to have better detail but for most candidates who are probably not well informed on current affairs and tend to use textbook examples their answers tended to be weaker. The better case studies included the Exxon Valdez oil disaster but fewer candidates referred to air pollution and those that did used cities such as Beijing but did not give any other place specific information. Some candidates switched between water and air pollution and their responses tended to be vague. Generic responses included: 'kills people; hard to breathe; smoke from factories' etc. More developed statements included: 'increased rates of lung cancer; factories produce smoke by burning fossil fuels' etc. Place specific details could have been names of industries causing the pollution, parts of a city or name of a river etc.

Question 6

A popular choice.

(a) (i) The majority of candidates answered correctly and gained the mark for: 'use of water on farms/irrigation'. However, some candidates repeated the term agriculture e.g. ' use of water in agriculture' without explaining what it means.

(ii) This question was generally well answered although some candidates did not compare and others gave figures without the element of interpretation which was needed to answer the question set. Good responses included: 'greater percentage used in industry in North America; Greater percentage used for agriculture in Sub-Saharan Africa or main use in Sub-Saharan Africa is agriculture and main use in North America is Industry'.

(iii) Generally not well answered as many candidates tended to repeat what they had already written in the previous question. However, most were able to score at least one or two marks but rarely gained the third mark as most just explained the variation in agriculture and industry in simple terms. Ideas should have referred to: 'people are more dependent on the land in Africa than in North America; Greater proportion used for industry in North America as there are more factories; people own more domestic appliances in North America e.g. washing machines' etc.

(iv) Again, generally not well answered by many who failed to address the mark scheme points but instead went on to speculate that 'more people are farming in the world today than they used to'. Many candidates gained a mark for 'growing population' but after that not many gained any further marks. Candidates should have referred to ideas such as: 'more use of irrigation; more droughts occurring; more agriculture taking place in marginal areas; higher temperatures in many areas' etc.

(b) (i) This question was generally well answered. Most candidates understood what they had to do and to some extent described the distribution as required although there was still a bit too much listing of named areas. Ideas to include were: 'in tropical areas/close to the equator; lots in southern hemisphere; many are in Africa; some in South East Asia; more in LEDC's' etc. Most candidates gained at least 2 marks.

(ii) Generally well answered with some good responses with developed points made regarding food production, starvation and economic impacts. Weaker candidates tended to score one or two marks for simple basic ideas but did not write in enough detail or develop their answers fully to score higher marks as there was not enough breadth. Hence, the question differentiated well between candidates. Ideas included: 'loss of lives/higher death rates; less food production; so people die of starvation; slows down economic development; reduction in levels of hygiene/sanitation so diseases like cholera spread' etc.

(c) Generally not well answered. The majority of responses tended to be a country name with a few simple generic ideas such as treating water and building reservoirs. Few candidates gave any place specific details and many candidates did not gain much beyond Level 1 simple statements such as: 'build a dam/reservoir; desalination plants/ bore holes/wells' etc. More developed statements could have included: ' build a dam/reservoir so that water can be retained after rainy periods; build a desalination plant so that salt can be removed from sea water' etc. Place specific information for Level 3 could have included names of locations within the named country and/or names of dams/reservoirs. Very few candidates gained high Level 2 or Level 3.

GEOGRAPHY

Paper 2217/12

Paper 12

General comments

The paper was regarded as being appropriate for the ability range of candidates and it achieved a high degree of differentiation. **Question 1** was the most popular, most candidates attempted it. **Questions 2** and **4** were also popular but **Question 3** was the least popular. Irrespective of the popularity of the questions excellent answers were seen to all of them and, whatever combination of questions candidates chose, there were plenty of opportunities for A and A* candidates to demonstrate their skills, knowledge and understanding. Throughout the paper the less demanding and/or more structured tasks were designed to provide all candidates with opportunities for positive achievement, particularly those tasks involving the use and interpretation of source materials. It continues to be evident that a high quality of geographical learning is taking place in many Centres, and the quality of work, including case studies, continues to improve year on year. Good practice was demonstrated by the many 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. Some of the candidates who did not achieve so much success tended to misinterpret questions, failing to take notice of the command word and/or key words. Others lost marks where extended writing was required, for example in case studies, where answers were typically too short and 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.

- make the choice of the three questions with care, ensuring that for each question you have a named case study about which you can write in detail and with confidence.
- answer the three chosen 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 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 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 your 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 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) Many candidates answered this correctly but some gave a general definition rather than explaining the meaning of a birth rate of 14.4.

(ii) Most candidates could work out the growth rate as 20.3 but few remembered to include "per 1000" as required.

(iii) There were many excellent answers showing a good understanding of this topic and achieving full marks. Some candidates however lost marks by making vague statements (e.g. they are rich countries, they have a high standard of living) without making a specific link to death rates. Others carelessly misread 'death rates' as 'birth rates'.

(iv) This was generally well answered, with well prepared candidates writing in detail and covering a range of valid ideas. Whilst most concentrated on issues relating to family planning, others added ideas relating to the culture of having large families (e.g. to support parents in old age, to counter high infant mortality).

(b) (i) Many candidates could describe at least one difference between the pyramids, usually relating to the width of the base. Many went on to give an excellent comparison, however a few gave explanations of the differences (e.g. a higher birth rate). Not all candidates used comparative phrases and a number referred to "it", not making clear to which pyramid they were referring – Ireland's or the LEDC's.

(ii) Problems for MEDCs of having many old dependents were well understood by well prepared candidates who wrote detailed, relevant answers which showed an excellent understanding of the economic strain and the need to provide services for the elderly. Weaker answers gave a more stereotypical view of the old dependents being 'unable to work' and 'frequently ill'.

(c) By far the majority chose China's "one child policy" and many scored high marks on this case study. Some however wasted time giving the history of China's population growth and/or the implications of the 'One Child Policy'. There were other examples used (e.g. Russia, France, Nigeria), however these examples were generally not as well used and, in some cases, just limited to the idea of distributing free contraceptives.

Question 2

(a) (i) Virtually all candidates answered CBD correctly.

(ii) Few candidates could describe the sphere of influence well, some did give a correct dimension and/or referred to the three urban areas within it, but most just defined the term or described what was inside the sphere of influence on this map, particularly transport links.

(iii) Many sound reasons were given for why Site Z would be suitable for building an out of town shopping centre, including the low cost of land, space for expansion and proximity to a large market, though some candidates focused solely on the road network, ignoring all other reasons.

(iv) Most candidates were able to recognise some positive impacts on shoppers (e.g. provides more choice, under cover shopping with free parking) and/or negative impacts on the CBD traders (e.g. more competition, closure of businesses).

(b) (i) Almost all candidates scored well by correctly identifying the types of shopping centre shown in the photographs.

(ii) This differentiated well though many candidates struggled to give good geographical responses relating to the type of goods purchased, order of services and spheres of influence. Many just gave general reasons such as ease of walking there, parking/congestion issues or the friendliness of community shops.

(c) Real detail was provided here by candidates who had studied a CBD, probably a local one in the field. Excellent case studies were seen of many CBDs, of small and large cities, however what typified the high quality answers was the amount of place-specific detail. Other candidates were less place-specific and more generic about features of a CBD, with answers being little more than basic lists, whilst others wrote about the urban area in general, or those areas adjacent to the CBD (e.g. London Docklands).

Question 3

(a) (i) The majority of candidates correctly chose point P.

(ii) Few could explain why there was more erosion at S other than stating the water was faster or had more energy.

(iii) Hydraulic action was not explained in detail by many candidates, though some outstanding explanations were seen referring to the power of the water removing unconsolidated materials.

(iv) Most well prepared candidates could name and explain two processes – the most popular being traction and saltation. Weak candidates sometimes defined erosion and deposition or confused processes of erosion and transportation.

(b) (i) Many likely impacts of flooding were described, mainly negative although a few candidates did refer to deposition of fertile alluvium. Some candidates did not appear to make use of the photograph, simply writing in general terms about the impacts of flooding.

(ii) Whilst there were some excellent detailed responses many candidates just listed methods of flood prevention without a great deal of explanation. Levees, dams and increasing the depth and width of rivers were popular responses.

(c) Popular deltas included the Nile, Ganges and Mississippi though only the Ganges produced much place--specific detail for full marks. Almost all candidates gave a balanced account referring to advantages and disadvantages as required.

Question 4

(a) (i) Almost all candidates named the area where the epicentre was.

(ii) Most candidates identified the two settlements correctly.

(iii) The reasons given for the large number of deaths were well thought out by many candidates.

(iv) Most candidates could suggest long-term effects although a number did mix up the long and short term effects. A number of candidates simply copied from the resource rather than attempting to use these ideas as part of an explanation, whilst others made simple statements such as 'buildings were damaged' without then explaining the long term impacts of that (e.g. homelessness, disruption to production as a result of damage to workplaces, disruption of education because of Schools being destroyed).

(b) (i) Weak candidates suggested nothing more than improving the quality of buildings and making them 'earthquake proof', however such vague statements are not worthy of credit when there exists a range of design features to detail. Well prepared candidates suggested specific improvements (e.g. deep foundations). Improving earthquake awareness by using drills was also a popular valid response, as was the idea of ensuring that emergency services are well prepared. Many candidates thought earthquakes could be predicted well in advance and people evacuated which was not given credit.

(ii) Many candidates scored well on the reasons why people stayed in earthquake zones (e.g. family ties, sentimental attachment, employment, financial constraints) although too many focused on the presence of fertile ash/soils and focused on tourism as if the question were about volcanoes.

(c) Many candidates struggled to give a good explanation of the causes of their chosen earthquake. Many wrote a large amount about the effects of the earthquake, the most popular of which was Kobe. Whilst some excellent responses were seen with place specific details and correct references to the plates involved, the quality of understanding of the processes occurring at plate boundaries was variable and somewhat disappointing overall. Some candidates drew diagrams but they did not always add to their text.

Question 5

(a) (i) There were few well worded definitions of high technology industry; a number listed products from Fig. 7 rather than defining the term and many repeated the words 'high' and 'technology' in their definitions.

(ii) Almost all candidates could identify France and UK.

(iii) The differences in the share of high technology industry of USA and Germany were well described but some candidates did not quote sufficiently accurate figures from the graph.

(iv) Most candidates understood that high technology industries have specific requirements, the most popular correct references being to skilled workers, university/research links and transport. However many just gave generic industrial location factors, and would have benefited from greater precision in their answers rather than simply listing words like 'transport', 'raw materials' and 'urban areas'.

(b) (i) As with **(a)(ii)** many candidates gave good descriptions of changing trends but their judgement of figures from the pie charts was not always as impressive.

(ii) Many candidates displayed a detailed understanding of how high technology industry could influence Malaysia with some pleasing development about the multiplier effect. A few misinterpreted the question as requiring an account of how people derive benefit from using high technology goods.

(c) For many candidates this case study was not well done. Far too many used a high technology industry, whilst some used a primary industry such as coal mining or an example of agricultural land use. Some very good examples were seen, including case studies of car assembly and the iron and steel industry, but even in these examples place-specific knowledge and good development of ideas tended to be lacking. Given that the syllabus requires the study of an example of manufacturing or processing industry as well as high technology industry this was disappointing.

Question 6

(a) (i) Most but not all candidates could explain what was meant by 'industrial' use of water, though some simply repeated the word in a simple statement rather than showing an understanding of it.

(ii) Some candidates ignored the requirement to state two differences between the percentage use of water in Asia and Europe and simply wrote about each continent in turn. The best answers were comparative using words such as "more than" or "greater".

(iii) Apart from those candidates who misread the question and just repeated their previous answer, this was generally well answered, and reasons for differences in the use of water for agriculture and industry were well understood. Few candidates gained a third mark by explaining another difference (e.g. in household use).

(iv) There were some well thought out responses here, a growing population being the most common, plus increased infrastructural development and improved access to water in LEDCs.

(b) (i) Most candidates could to some extent describe the global distribution of areas where more than 90% of the population had access to clean water, however in many cases description of distribution amounted to little more than lists of named areas.

(ii) This differentiated well as detailed and well thought out answers describing ways of providing clean water contrasted with simple lists (e.g. dam, pipes).

(c) Some excellent responses were seen, with place specific detail, especially those candidates who focused on relatively small scale areas. Impacts on the people and the economy were well developed, including from some candidates references to water conflicts. Areas chosen such as the Sahel, and entire countries such as Ethiopia, were of course acceptable, however many candidates who wrote about such large areas tended to describe generic impacts, neglecting to include place specific detail.

GEOGRAPHY

Paper 2217/13

Paper 13

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 many candidates were able to show a high level of achievement. At the same time 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 candidates who performed poorly in the examination; this may be due to a variety of factors (e.g. they were poorly prepared for this type of examination, lack of effort and/or understanding or linguistic difficulties in understanding the question fully). However, it has been noted that the overall standard and quality of work seen from candidates is high. Many candidates use geographical terminology appropriately and confidently and are able to recall case studies in detail, particularly when they use 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 as a result do not gain more than Level 1.

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.

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.

Comments on specific questions:

Question 1

A popular choice by candidates.

(a) (i) Generally well answered with the majority of candidates gaining the mark for explaining the method (i.e. divide the population by the area). However, some candidates stated multiply rather than divide.

(ii) Also well answered with a choice of 5 continents for 'A' and 'Asia' for 'B', very few candidates failed to gain a mark here. Most were able to accurately interpret the information provided on the graph.

(iii) Well answered generally although some candidates gave statements relating to lack of services or housing showing a lack of understanding. Some candidates also failed to properly develop their answers for example `poor climate` or 'high temperature' was stated. The majority of candidates gained marks for ideas such as 'lack of rainfall'; 'difficulty to grow crops', and 'poor communications'.

(iv) Generally not well answered and there were poor responses from many candidates. Candidates did not focus on the required information but wrote about why some sparsely populated areas attract people. However, there were some very good responses with candidates gaining marks for 'around an oasis', 'as a mining settlement or due to finding a resource such as oil'. 'The growth of tourist resorts' and 'towns of strategic importance' also gained marks. Vague answers such as 'it's cheaper' or `there is more space available` were not relevant.

(b) (i) There were many high scoring answers here referring to the coast/east of Brazil/correctly named areas. Many candidates scored at least 2 marks.

(ii) This question differentiated between candidates very well. There was some excellent use of the resource material, which displayed clear understanding of factors affecting population density. However, weaker candidates either did not develop their answers fully or gave information from Figs. 2B and 2C without offering plausible explanations. Some candidates also got confused with the rainfall and topography figures quoted in their answers. Examples of good answers included: 'high lands are not densely populated because it is difficult to build on'; areas less than 200 m are sparsely populated due to possible flood risks'.

(c) This question also differentiated very well. Very few candidates gained Level 3 but many could develop points and achieve high Level 2 marks. The best responses with detailed examples tended to be from examples/case studies taken from the candidates own country. However, too many candidates introduced irrelevant details about government policies to control population growth (for example: The Chinese One Child policy). This highlighted in some instances poor examination technique and a need for candidates to read the question carefully and respond to key/command words. Weaker candidates were able to gain Level 1 marks for simple statements like: 'there will be a lack of work'; 'inadequate food supplies' or 'poor access to education'. More developed statements included ideas such as: 'lack of work which leads to poverty'; 'inadequate food supplies can cause death by starvation/malnutrition'. Level 3 answers require place specific details such as names of cities or regions or rivers pertinent to the example given.

Question 2

Also a popular choice by many candidates.

(a) (i) This question proved more difficult than expected as many candidates added the 2 bars together and did not look carefully enough at the key. The correct response should have been 12 million/11.8 million. Many candidates also missed out 'million' from their answer and thus did not score the mark.

(ii) This was generally answered correctly with the majority of candidates scoring the full 2 marks the correct order being: Mumbai, New Delhi, Bangalore and Lucknow.

(iii) Many candidates gained at least 2 out of a possible 3 marks for this question. The most popular responses were 'cannot afford to buy a house / they are poor or unemployed', also 'they are able to build them themselves'. Only a small number of candidates made reference to 'rapid increase of population/migrants' to gain another mark. Many weaker candidates discussed push and pull factors, which besides being irrelevant to this question, were then later repeated in part **(c)**. This shows the need for candidates to read all parts of the question fully before starting their answer so as to avoid repetition.

(b) (i) Another well answered question where most candidates achieved positive outcomes with examples such as: 'electricity'; `clean running water', `refuse collection'; 'clinics/hospitals'. Many candidates gave more than 3 examples and easily scored full marks. However, weaker candidates simply stated give them 'food' or 'water' or 'jobs', which did not answer the question. (`Water` needed to be developed more fully for example: 'provide clean water' or 'piped/running water').

(ii) Many impressive responses were given here. Almost all candidates could understand why this would be an unwise choice and gave details about lack of human rights, resentment, the fact that they will just build squatter settlements elsewhere or the impact it would have on the image of the government or country. There were some candidates who focused on rising unemployment and the more wealthy people not having any people to work for them when they have been moved away – which did not answer the question.

(iii) Again, some excellent responses with candidates showing a good understanding of the sustainability concept, although weaker candidates tended to write about the benefits to farmers without addressing how this would solve the problems being faced in the cities. Good responses included: 'it will solve the problem in the long term', rural areas will become more attractive places to live', 'less people will move to the cities', 'more food will be produced which can be sold' and 'the money generated can be used to trigger development'.

(c) This question was generally well answered with a reasonable balance given to both push and pull factors, many candidates developed their ideas fully. Whilst some candidates got into Level 3 many did not do so despite excellent Level 2 answers as they did not add anything place specific to what were very good generic answers with a named example merely added on to them. The use of local case studies or at least from within their own country may prove beneficial in this type of question, rather than using text book examples. The most popular case study used by candidates was migration from North East Brazil to South East Brazil. Some candidates only named 1 area not 2 which prevented them gaining Level 3. Also some candidates gave international migration examples, which prevented them from scoring high marks. Simple Level 1 statements included: 'more jobs', 'better services', 'not enough food'. More developed ideas included: 'more jobs available in factories which are better paid/higher wages earned', 'access to a range of services including Schools, hospitals/clinics'. Some responses especially those referring to Brazil had a lot of place specific reference including names of favelas like Rocinha or the Caatinga or named cities.

Question 3

Generally speaking this question was not a popular choice by candidates. Physical Geography questions do not appear to be as popular as human or environmental geography questions.

(a) (i) The majority of candidates gained the mark here for 34/35 m.

(ii) Not particularly well answered, many candidates missed obvious straight forward points, one mark tended to be the norm. It may be that many candidates had not seen a wave cut platform before. The most popular points were 'flat/gently sloping', 'smooth' or 'remains of former cliff at base'. For future reference it would be worthwhile using photographs and asking candidates to describe them in preparation for their examinations.

(iii) Responses to this question were much better, most candidates scored the full 3 marks as their answers were comparative and they made good use of figures e.g. 'more sand at Y and less at X'.

(iv) Responses to this question were variable. Some candidates had no idea what longshore drift was. However, those candidates who had covered and learned about longshore drift usually scored full marks, often with the help of a diagram. Some candidates did not develop their ideas quite fully enough to score the marks e.g. 'backwash moves material down the beach', candidates need to develop this further with 'at a right angle/straight back down to sea'. Many candidates also did not include the 'moves material in a zig-zag fashion' idea.

(b) (i) Generally well answered with the majority of candidates scoring full marks for landforms such as ' bay, cliff, beach, landslip, headland or wave cut platform'. However, some candidates listed features that were not shown on the photograph e.g. a sand spit. Again, the use of photographs in lessons would be useful preparation for future examinations. It is also worth pointing out to candidates that vegetation is not a landform.

(ii) Again generally well answered, particularly by candidates who selected 'Headlands and Bays' their answers were usually accompanied by a labelled diagram and showed a good understanding of the processes and sequence of events, referring to differential rates of erosion according to rock type. However, some candidates explained the formation of landforms that were not present (e.g. a sand spit/bar), which did not score any marks. Those candidates who selected a beach did not score particularly well because they tended to repeat their response from **Question (a)(iv)** – on longshore drift without explaining that swash is stronger than backwash therefore materials are deposited but rather focused on the movement of sand.

(c) This question was generally well answered with reasonable balance given between benefits and problems, with many candidates developing their ideas fully. Whilst some candidates got into Level 3 many did not do so despite excellent Level 2 answers as they did not introduce anything place specific to what were very good generic answers with an example merely added on to them. The use of coastal areas locally or at least from their country would help in this type of question, rather than using the textbook examples. Weaker candidates managed to score 2 or 3 marks for simple statements such as 'there will be storms' or 'tourism'. More developed responses included ideas such as: 'the tourism industry can be set up creating jobs in hotels', or 'the development of ports will encourage industries to the area to import raw materials or export finished products' etc. To gain Level 3 a relevant example needed to be given with place specific detail e.g. names of ports.

Question 4

More popular than **Question 3** but not as popular as **Questions 1** and **2**. Quite often selected as a second or third choice by candidates.

(a) (i) Responses to this question were varied many candidates did not know how to express their ideas clearly. However, some candidates gave a clear response and gained the mark e.g. 'weather is the day to day condition of the atmosphere but climate is the average conditions expected at different times of the year/yearly conditions'.

(ii) Candidates tended to struggle with the similarity part of the question but were more able to describe the differences. The most popular response for the differences was 'rainforests are found around the equator and deserts are around the tropics'. For similarities candidates could have said that both are found in Africa or South America or both are found within the tropics.

(iii) This question was poorly answered by the majority of candidates. Many candidates had no idea about high pressure or wind direction. Many also got rising and sinking air confused. For future reference candidates need to know about high pressure systems. Most marks were gained for simple ideas such as 'no clouds' or 'high pressure'.

(iv) This question was very well answered by most candidates scoring full marks and actually writing much more than was necessary. Ideas such as: 'hundreds of different species/large biodiversity', 'different layers of vegetation', 'canopy of trees', drip tip leaves' and 'lianas' to name a few.

(b) (i) Most candidates scored at least 2 marks here with many scoring full marks. The majority of candidates understand the causes of deforestation. However, 'for farming' needed further development as farming could simply be small scale rather than for commercial growing for cash crops which would obviously destroy a much larger area of rainforest. Most popular responses were: 'logging/selling wood', 'cattle ranching', 'mining', and 'to build settlements'.

(ii) Once again, generally well answered by most candidates with many scoring at least 3 marks. However, some candidates ignored the key words in the question: 'local natural environment' and as such discussed the impacts on local tribes people or the global environment and global warming which did not score them any marks. Correct responses included: 'it kills animals', 'threatening species with extinction', loss of habitat', 'reduces interception', 'therefore increasing runoff/causing floods'.

(c) This question differentiated well between candidates. There were lots of simple descriptive points and/or explanations although well prepared candidates were able to go well beyond that and developed their ideas fully by linking the characteristics with an explanation. Simple Level 1 statements included: 'scattered/sparse vegetation', 'narrow/spiky leaves', 'some plants store water'. More developed Level 2 answers included ideas such as: 'low precipitation results in sparse vegetation', long roots are able to search for water because it is so dry'. Level 3 proved difficult for many candidates as it was rare for specific examples like places or species of plants to be given.

Question 5

A popular selection by candidates.

(a) (i) Well answered by the majority of candidates gaining the mark for 'China'.

(ii) Again, generally well answered by the majority of candidates. No real problems were apparent with reading the data presented and most correctly answered 'USA and Russia'.

(iii) Candidates were able to quote figures accurately and most candidates gave the idea of an overall 'increase' for 1 mark. However, many candidates wrote far too much on this question and described almost every fluctuation of the graph. Candidates should take notice of the number of marks available and structure their response accordingly. For example 'there is an increase' followed by some interpretation of the dates and statistics e.g. 'from $30 to $130 overall' with 'fluctuations between 2004 and 2008' or 'there was a decrease between 2005 and 2006' or other relevant dates. Hence, candidates have used the data and shown the general trends without overly long writing.

(iv) Generally well answered showing very good understanding of the implications of relying on coal, covering both environmental and economic issues. Some candidates gave a weak `pollution` response but most did qualify it by stating 'air pollution'. Many gave the idea of coal being non-renewable and it will eventually run out. Increasing costs and burning fossil fuels leading to global warming were also correct and popular responses. Less frequently used ideas but worthy of credit were 'political or global pressure to reduce dependence' or the 'need to find an alternative in the future'.

(b) (i) Responses to this question were quite disappointing. Many candidates gave simple generic ideas such as 'large area/flat land' rather than focusing on the specific requirements of a coal fired power station in terms of supplying the raw materials and transporting the bulky product. Candidates only needed to express this in simple terms such as 'near to a coal mine/proximity to coal'; 'a local workforce is nearby'; 'near a river/lake/sea for availability of water'; rail/road is available for transport of coal' yet many candidates failed to do so and instead wrote about the availability of markets or vague 'raw materials' without explaining the relevance of this. There were also several references to pylons 'supplying the power station with electricity' which gained no credit.

(ii) There were some impressive responses to this question with good understanding of the causes of global warming shown. Most candidates gained at least 3 marks for ideas such as 'carbon dioxide is released', which is a 'greenhouse gas' and the 'suns rays cannot escape/are trapped'. Other points worthy of credit but not seen as frequently were: 'Carbon dioxide accumulates in the atmosphere'; 'sun's rays penetrate the layer of gases' and 'bounce off the earth's surface'. However, some weaker candidates gave confused responses regarding ozone depletion, which is not worthy of credit thus the question differentiated well between candidates.

(c) There were some reasonable attempts at this question by candidates but also some quite weak and generic responses. There appeared to be some confusion over charcoal, which was clearly read by many as `coal`. Providing candidates focused on the correct issues they had no problem developing points to reach Level 2 but not much place specific reference was provided. Many candidates gained Level 1 marks for simple responses like 'pollutes the atmosphere'; 'causes health problems' or 'soil erosion'. More developed responses included 'pollutes the atmosphere with carbon dioxide' or 'causes chest complaints like asthma'. Most candidates referred to both people and the environment but too many candidates wrote about global warming again and acid rain despite the requirement for answers to relate to the `local` environment. For place specific reference candidates could have named locations within their chosen case study area.

Question 6

This question was also a popular choice by candidates.

(a) (i) Virtually all candidates gained the point here for explaining that the 'water quality is reduced/gets worse` or `changes from good to bad'.

(ii) Again, virtually all candidates gave two appropriate reasons for the change for example: 'run off from the rubbish tip'; 'waste from the factory'; waste from the sewage works' etc. Hence, most candidates were able to identify the causes of the water pollution from the provided resource.

(iii) Most candidates scored at least 1 or 2 marks for ideas such as 'cheap method of disposal/does not cost anything'; 'it is quick/easy way of disposal' or 'no laws against it'. However other candidates did include the more subtle ideas from the mark scheme including 'lack of technology to treat waste' or 'enforcement of regulations is poor/corruption of officials'.

(iv) Many candidates had a reasonable level of understanding of how the threat of river pollution could be reduced and provided sensible suggestions for improving the quality of the water in rivers including: 'better treatment of sewage'; 'monitoring of water quality'; 'setting up more stringent regulations and ensuring that they are properly enforced'. Many candidates scored at least 2 marks, however some better prepared candidates went way beyond that and gave some very well thought out answers which referred to a variety of realistic strategies.

(b) (i) Most candidates made a good attempt at this question irrespective of the example chosen. Many good points were made about the potential impacts of the development on the natural environment although the points made tended to be basic they were sufficient to score at least 2 of the marks. Generic ideas included 'vegetation destroyed'; 'ecosystems threatened'; 'food chain disrupted'; 'loss of habitats'. Better responses were relevant to the example selected by the candidate for example 'threats to fish stocks' for extract 2.

(ii) Again ideas were dependent upon which example was chosen but candidates' responses were generally good with some relevant points which showed at least a basic understanding of sustainability. Higher scoring responses provided some excellent detail. For example responses for extract 3 included ideas such as 'restricting visitor numbers'; educating tourists regarding environmental issues'; 'employing local people to clean up regularly'; 'use of local produce/provisions' and/or employing local people'.

(c) As with the previous case study questions this one also differentiated well between candidates. A variety of examples were chosen, they were mainly from textbooks but a few local ones were also used. The benefits of tourism tended to be particularly well written with lots of developed ideas whereas, transport and manufacturing industry tended to be less well answered, though there were exceptions to this. The examples that were local to candidates tended to generate more place specific references than the textbook examples probably due to the fact that candidates were more familiar with these areas. Weaker candidates were able to score at least 2 or 3 marks for simple generic statements such as 'more jobs are created'; 'infrastructure can be developed'; 'Hospitals/Schools can be built'. More developed responses included: 'the foreign exchange earned can be spent on developing the infrastructure like water/roads'. Some candidates named a country rather than a city or part/area of a country.

GEOGRAPHY

Paper 2217/21
Investigation and Skills 21

General comments

Candidates found parts of this paper quite challenging, especially the sections that required a descriptive answer. **Question 3** proved to be the most difficult along with parts of **Question 1**. **Questions 5** and **Question 6** were easier. In ***Section B***, **Question 8** was the more popular choice, but those who opted for **Question 7** performed equally well.

Comments on specific questions

Section A

Question 1

(a) Bindura has a number of sports fields, in addition to the example given in **part (i)**. Most candidates were able to locate one of these, and were successful with the grid reference. 2384 was a common choice.

In **part (ii)**, the grid square of the rifle range was given and candidates were asked to give the 6-figure grid reference of the nearest building, which was alongside in the same square. 216840 or 216841 were accepted but it appeared that some candidates had selected other buildings.

For the two other leisure activities at Bindura, most opted for the Gliding Club and the Golf Course. Country Club was also a possibility. Some candidates included the rifle range rather than "other leisure activities".

(b) **Part (i)**, the distance along the railway branch line, produced a wide variety of answers. Some were correct at 6 - 6.2 km, but others were under-measured, perhaps being the straight-line distance, and some candidates were confused by the need to provide an answer in kilometres.

The railway branch line is kept level through the use of embankments and by curving the route to follow the contours. Candidates found it difficult to express this latter idea but some did notice the embankments. A number mentioned tunnels but these have not been used on this section of the line.

(c) Within the area of the map, located on Fig. 1, there were named mines, mine dumps, quarry/excavation and mining/prospecting trench. Most candidates found these.

Part (ii) required candidates to describe the location of the settlement in the same area. There were many points that could have been made and most commonly candidates noted the settlement along the road, along the railway and in the mining area. Others referred to the track, the cultivated land, the avoidance of high land and the staff quarters at 10 A Long Acres. Reference could also have been made to the reservoir and the orchard / plantation. Many candidates answered well, though not always extensively enough for 4 marks.

(d) **Part (d)** took a different section of the map, as located in Fig. 2. Candidates usually noticed that the orchards / plantations were near the river and adjacent to roads or tracks. It could also have been noted that the main area is to the east of the river and that the orchards / plantations are within or next to the cultivated areas.

In **part (ii)** most candidates said that the river was meandering, and some mentioned the tributaries, but few went beyond that. Many diverted onto description of the valley, water for plantations etc. They did not mention the dam or the weir. Marks could also have been gained for comments on the width and gradient of the river.

Question 2

(a) Candidates correctly noted that rain falls in June, July, August and September but many thought that 0.1 mm would fall every September and only a couple pointed out that the graph is showing average figures.

(b) In **part (i)** the graph was usually completed correctly and again in **part (ii)** most candidates correctly compared the two graphs, realising that La Paz has lower temperatures and more rain. Some went into further detail about the rainfall, noting the seasonality or the peak month.

(c) Using Fig. 5, many candidates realised that the difference in altitude between Arica and La Paz was significant, causing La Paz to experience lower temperatures. Fewer were able to explain the difference in rainfall in relation to the prevailing winds and the rain shadow effect of the Andes.

Question 3

(a) Some candidates showed poor understanding of the term relief, so wrote about relief rainfall or vegetation. However, some did note the hilly landscape, with steep slope, the valley and the floodplain around the river. The gentle slope along the river / valley could also have been noted and one candidate spotted the river cliff.

(b) Many candidates omitted **(b)(i)**. Those that attempted it usually labelled 'woodland' and 'grass'. They could have also pointed out the individual trees, bushes and long grass, all found close to the river.

Part (ii) also proved to be difficult. A popular idea was that trees grew on the hillside as there was more rain there, but this is unlikely to be significant over such a short distance. Better reasoning could be that the steep slope is not suitable for cultivation / building or that trees have been planted to reduce soil erosion and stabilise the slope.

Question 4

(a) This was done well. Most candidates described the location of the main urban areas in relation to the railways, roads and river. Others mentioned that they were in the central area. Reference could also have been made to the mining area or the tourist area.

(b) In **part (i)**, most candidates correctly stated the percentage of females aged 15 - 19, in the urban population. Answers in the range 2 - 2.2% were accepted.

In **part (ii)**, candidates wrote about males migrating for work but few went beyond this. They could have pointed out that this group may have fewer commitments and thus are more able to migrate, or that they may have left families elsewhere.

In **part (iii)** candidates struggled to find valid reasons. However, some did suggest that females have come for work, rather than to raise families, so will have children later and others suggested that contraception would be more available in an urban area. Another point that could have been made was the gender imbalance suggested by Fig. 8.

Question 5

(a) Candidates correctly determined the amount of cars produced in Russia (1 million) and ranked the three main car-producing areas in order of output (Western Europe, Japan, China). Many candidates were also able to suggest why these areas produce most cars. A large labour force was often suggested along with China's emergence as an industrial nation. Other possible ideas were large car-buying populations and relatively rich populations, good road networks and the tradition of car manufacturing in Western Europe and Japan.

(b) Here candidates had to use Fig. 10 and suggest reasons for building the car factory at this location. Many candidates focused on transport, mentioning the road and railway and also the river for sending exports. Power supply was also frequently commented upon. Other possibilities were the flat floodplain, the use of the river as a water supply and the residential area providing labour. Some candidates did see the residential area, but instead wrote about it being further away to reduce the problem of pollution.

Question 6

(a) Candidates correctly plotted the data point for Kenya and completed the graph with the appropriate line.

(b) This was done well. Almost all candidates noted the increase to 2005 and the decrease to 2006 and many also pointed out that the food aid supplied stayed the same from 2003 to 2004. Some went on to quantify the decrease in 2006 by comparison with the 2004 Level.

(c) Here candidates focused on natural disasters, some even mentioning the 2004 tsunami in the Indian Ocean. Others wrote about the economic improvements in China. Candidates were not restricted to the countries in Fig. 11 so other possible responses could have included war relief, influx of refugees, variations in weather causing variations in harvest, or even decreases due to more urgent need elsewhere or a shortage in the source country.

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 51 out of 60 – a wider range than previous years - with weaker candidates scoring on the practical questions, such as drawing graphs, and those of higher ability scoring well on the more challenging sections requiring explanation and judgement especially regarding hypotheses. Overall **Question 1** and **Question 2** were answered with same degree of success.

There is less general advice to be given for areas for improvement with this paper as with others. As there are no choices to make, it is difficult to miss sections out, and there were no reports of time issues as the booklet format does not allow or encourage over-writing of sub-sections. Most points for teachers to bear in mind, when preparing candidates for future Paper 41 questions, relate to misunderstanding or ignoring command words and the use of equipment in fieldwork. Particular questions where candidates did not score well also often relate to them not fully reading the question, for example **Question 2(c) (iv)** where the stem was frequently ignored resulting in inappropriate answers. Such failings mean that some candidates do not obtain a mark in line with their geographical ability and is an area that Centres need to work on.

Centres need to realise that, although this is an Alternative to Coursework examination, candidates will still be expected to show that they know how fieldwork equipment is used and appropriate fieldwork techniques even if they have only limited opportunity for fieldwork within the Centre. **Question 1(e) (i)** required candidates to describe a method of drawing a profile. **Questions 2 (d) (i)** required candidates to suggest an appropriate sampling method.

Comments on specific questions

Question 1

(a) (i) There were many sensible suggestions of precautions that candidates could take whilst conducting fieldwork on a beach, such as 'stay in groups' or 'take a mobile phone'. However, some suggestions were too vague, such as 'wear appropriate clothing' and 'beware of wildlife'. Others did not set their answer in the context of the fieldwork to be undertaken, as many considered that the candidates should be taught to swim and instructed not to go too far into the sea. Another common suggestion was that candidates should be careful not to fall off or over the groyne.

(b) (i) The question tested understanding of the mechanism of longshore drift. However, it proved to be difficult for many candidates. A large proportion did not try to complete the diagram, but most of those who did handled the task well and put arrows to indicate the direction of movement.

(ii) Most candidates correctly located the two labels on the diagram.

(iii) Many candidates had difficulty explaining the process of longshore drift. Some candidates defined the process instead of explaining it. Some answers which attempted to explain were vague, referring to the sea or ocean or tide or current moving material. Very few answers identified the importance of the wind in driving the wave direction obliquely. Only a few referred to swash and backwash.

(c) (i) Almost all candidates understood the reason for painting pebbles so they could be distinguished later.

(ii) The completion of a bar graph should be a well-practised skill and so it proved, with the vast majority of candidates drawing it accurately. Drawing the size of the pebble proved to be more demanding and less well judged. A common mistake was to draw the diameter of the oval as 4 cm rather than the arrow.

(iii) Candidates often gained one mark, usually for the idea that smaller pebbles would be taken further than larger pebbles. Surprisingly few candidates recognised that longshore drift moves pebbles along the beach. Some candidates explained why pebbles became smaller through abrasion, which was not required. Some weak responses were inaccurate, such as, 'most pebbles moved between 20 and 30 metres'. Others thought that only larger pebbles were moved through the distances near the starting point.

(d) (i) Most candidates chose the correct estimate of 1.5 metres.

(ii) Most candidates dealt with this task well, not being put off by the bars being drawn down from the line of origin. A few drew the 5 metre bar to 1.1, not 1.2 metres and a small number were wrongly positioned or too wide.

(iii) Most candidates agreed with the hypothesis and more able candidates recognised that there was a bigger build up of material on the north side of the groyne, and used data from the graph and table to support their conclusion. However, weaker candidates found it difficult to support their conclusion because they did not fully comprehend what the bar graph showed. Some thought that it represented the depth of material and concluded that the south side of the groyne had the greater build up of material.

(e) (i) It was surprising that many candidates did this task quite badly. The use of clinometers for measuring profiles is a common fieldwork technique, but candidates had many misconceptions about how the equipment should be used. Common errors were to place a ranging pole either side of the groyne or to stick the pole in the sand as far as it would go to measure the depth of the sand. Many answers were rather vague such as 'measure the distance with the tape measure' and 'measure the slope with the clinometer' but not going into enough detail. Candidates needed to refer to the 10 metre distance and the angle of the slope. Few candidates recognised that it would be necessary to do two profiles, one on each side of the groyne. Many attempted to draw diagrams but they often lacked sufficient clarity to gain credit.

(ii) This was generally answered well. Most candidates accurately compared the higher and steeper characteristics of the northern profile. Candidates had more difficulty in describing its more uneven characteristic.

(iii) Most candidates correctly agreed with the hypothesis. A smaller minority commented that the groyne affected the north more than the south side of it.

(f) The final section again proved to be challenging. Candidates commonly suggested that more measurements should be taken, but only better candidates specified what these extra measurements should be of. Most candidates gained credit for the ideas of checking the accuracy of previous results and repeating the investigation at different times or seasons. Many considered that it would be beneficial to go to a different beach or to do more profiles at different stages of the tide on the same day, but these would not improve this investigation.

Question 2

(a) (i) Many candidates started the question well and achieved full marks by identifying three appropriate characteristics, such as the road intersection, town hall and shopping centre. A small minority of candidates considered the CBD, rather than the central point of it and failed to score for suggestions such as many pedestrians, bus station, market and many businesses.

(b) (i) Most candidates calculated the correct total but a small minority ignored the reference to Figure 7 as they answered 51, by using Figure 6 or Table 4.

(ii) This question proved to be the most difficult on the paper. The idea of regular intervals between survey sites was most commonly suggested, along with the sites being in all directions away from the central point. The most common disadvantage was that the sites would not give complete coverage. Many candidates misinterpreted the question and focused on the methodology of a pedestrian count rather than selecting the sites to be used. Consequently they gained little credit.

(iii) Most candidates related the need to do more pedestrian counts to the peaks in the day and the troughs in between. Better answers also suggested what factors might affect these variations. Two common errors were to explain the need to get an average or accurate total but these were not credited.

(c) (i) Most candidates shaded the correct area. A minority only shaded the north eastern section of the area.

(ii) Completion of the isoline proved to a good discriminating task, which was completed with varying degrees of accuracy. The most common error was to 'join the dots' rather than recognising that an isoline should take into account the general pattern.

(iii) Most candidates correctly agreed with the hypothesis, but only a minority gained a second mark by quoting supporting data or stating that there is a variation in the rate of the decrease in certain directions compared with others. Some candidates did note that the decrease was in all directions, to gain maximum marks.

(iv) Where candidates followed the instruction of the question '*to use the information on Figure 6',* they generally answered well, referring to locations from the map. However, other candidates did not refer to the resource. Instead they made vague comments such as 'it depends on the number of services there are', or 'on the time of day'.

(v) Most candidates recognised that there would be an increase in pedestrian numbers on days when the outdoor market was open. Better candidates then expanded their answers by suggesting when or where the numbers would be increased.

(d) (i) Many candidates did not give any further detail than naming the type of sampling technique. The best answers were from candidates who chose systematic sampling and explained how they would choose every tenth person and why they would use this technique in order to avoid bias. Some candidates misinterpreted the question and explained where they would do the sampling or what questions they would include.

(ii) Although candidates attempted to suggest four ideas, they usually scored for two of them. A variety of attractions was suggested, most commonly access by bus, and a place to meet friends. The most frequently suggested concerns were traffic congestion and crime. Weaker candidates were typically vague in their suggestions, such as 'easy to get to', 'transport' and 'shops'. These responses did not gain marks.

(e) The final section proved to be challenging for most candidates. Many candidates did not seem to appreciate the demands of this task. Whilst they could name the type of graph which they would draw, many failed to describe what it would show. Many candidates did not appear to understand what is required by analysis. They could have used a variety of analytical techniques, such as ranking, identifying differences, patterns and anomalies. The majority of candidates believed that they should tell the town council exactly what they should do to address the concerns raised. Others were more realistic in suggesting that they could inform the council what the people like about the CBD and what their concerns about it are.

GEOGRAPHY

Paper 2217/22
Investigation and Skills 22

General comments

The difficulty of this paper was comparable to previous years. **Question 3** proved to be the most difficult and **Question 2** was the easiest. In ***Section B*****, Question 7** was more popular in a ratio of about 2:1, but the range of marks for each question was similar.

A important aspect of geography is the idea of spatial location. Several questions, notably **Question 4(b)(i)** and **(ii)** and **Question 5(b)(i),** needed precise answers in this respect.

Comments on specific questions

Section A

Question 1

(a) Candidates had located Mount Pleasant and most had used the key to correctly identify the symbols indicating church, health centre, postal agency and school. A few made a small error, putting post office and/or health care but most answers were good. A very small minority assumed Mount Pleasant to be located exactly where the name is printed on the map. Either approach led to the same grid square in **(a)(ii)** of 0069. Many candidates gave grid references for the wrong corner of this square. This may have been partly due to the position on the western edge of the map, and the way the easting is presented differently along the edge.

(b) (i) There were few correct answers for the 6-figure grid reference. Again candidates were relying on the position of the label and also the bolder 400 m contour. The 440 m contour fell between 047620 and 048620, so either of these were acceptable answers.

(ii) An answer of between 5° and 7° was accepted for the bearing of the water tank at Cuffie Head from the water tank at Durham. A number of candidates gave answers that suggested that they were measuring in the opposite direction and others had aligned their protractor with the northings. However, those that had taken the measurement in the correct manner generally produced accurate results.

The distance measurement proved to be quite straightforward with answers in the range 5250 - 5350 metres being accepted.

(c) Few candidates correctly identified the spit to the east of the mouth of the Rio Grande. Many looked further east than the given grid reference choosing Downers Bluff or the coral. Others looked to the west and St Margaret's Bay.

The mouth of the river indicates that the longshore drift is from east to west, though NE to SW was also acceptable given the alignment of the coastline. All manner of variations were suggested, including the onshore and offshore directions.

(d) Most of the candidates took the approach that the port came to West Harbour because of the presence of the town. They therefore wrote about human factors such as markets, services, industry and transport. Few recognised that the port developed at this location because of the various physical factors - the sheltering effect of the headland and the island, the gap in the coral providing a navigable passageway and the flat land near the shore allowing development.

(e) Most candidates answered this section well and seemed to find the sub-divisions helpful. In **part (i)** virtually all commented on the sand and gravel deposits (though few mentioned the islands formed). Others scored marks for mention of meanders and tributaries and a few commented on the variation in width along the course. Some took the braiding in 0271 to be an ox-bow lake.

In **part (ii)**, many scored 3 marks, often noting all of the vegetation / agriculture - banana, trees and scrub, mixed / scattered cultivation and woodland. A few opted for the wrong type of plantation, showing the need for careful scrutiny of the key.

In **part (iii)**, there were plenty of possible answers including buildings, road and the named buildings of church, post office and factory. Bridge was not accepted since it was mentioned in the question but this did not stop most candidates finding 2 valid points.

Question 2

(a) Tropical storms (cyclones), in India, occur largely along the Bay of Bengal, which is India's eastern coastline. Locating them with reference to the sea area or the direction was acceptable and most candidates did this correctly. The direction of their approach, on Fig. 1, was also done well, with any line from the sea towards an appropriate section of coastline being acceptable. It was pleasing to find that most candidates had made a response here, since questions without a lined answer space can often be missed, especially when they occur at the bottom of the page.

(b) Many candidates successfully described the distribution of the drought affected areas as being mostly inland and towards the west with smaller areas in the east. Many also commented on the larger area to the north. However, some focused too much on Sholapur and its immediate surroundings and thus missed the wider picture.

(c) In **part (i)** both temperature and rainfall needed to be plotted correctly to score the mark. This was usually done successfully, though a few of the candidates failed to correctly align the temperature plot with the centre of the column for May.

Any uncertainty about **part (i)** should not have affected **part (ii)** since the rainfall for May was stated in **part (i)**. Consequently most candidates correctly counted 5 months with less than 20 mm of rain.

In **part (iii)** flooding was most likely to occur in September, the month with the highest rainfall and also the most intense rainfall with it spread over fewer days than the rain in June, July or August. October could also have been an acceptable answer, with the reasoning of delayed flow to the river. Most candidates chose September, though their reasons were not always clear. Some, however, picked August as they assumed the 105 mm of rain was falling on each of the 23 days with rain.

Question 3

(a) Both photographs show the same urban zone: the Central Business District (CBD). Evidence for this included the presence of shops, tall / multi-storey buildings and many pedestrians. Candidates often highlighted some of these points, through comparison of the photos, but struggled to actually supply the name for the zone.

(b) **Part (i)** focused in on the differences between the photographs. A number of points were possible including vehicles and pedestrians in A with pedestrians only in B; concrete or tarmac road in A with block paving in B; scaffolding on some buildings in A and none in B; wires and cables visible in A and not in B; taller buildings in A. There were some good answers but a lot of candidates made vague comments, such as organised / disorganised, dirty / clean, old / new, polluted / unpolluted, which cannot be assessed from the photographs.

The vague comments in **part (i)** made it more difficult to answer **part (ii)**. Many simply suggested that Pakistan is a LEDC and UK a MEDC and that Pakistan has a larger population than UK and thus more crowding of the streets. Many answers commented on development and standard of living in a general way, based on previous knowledge. Better responses developed ideas such as pedestrianisation to improve safety and reduce crowding, a more durable surface needed for vehicles in A, cabling underground in B and less evidence of town planning in A.

Question 4

(a) Most candidates successfully completed Fig. 4 to show the percentages of the different materials at B.

(b) To describe the change in percentage of pebbles along the beach in **part (i)**, it was necessary to make the direction clear. 'Decreases from north to south', 'decreases from A to C' or 'decreases down drift' were all acceptable but 'decreases down the beach' or 'decreases along the beach' were too imprecise.

The same issue applied in **part (ii)**, where the size of the beach material was smaller from north to south. Some candidates were not sure how to evaluate this, instead writing about the change in percentage of other material or of sand.

In **part (iii)**, reference to Fig. 3 should have prompted some suggestions for the lower amount of other material at C. Most commonly candidates noticed the campsite at A, suggesting that this would be a source of litter. Other ideas included the likelihood of few people going to C and the possibility of the beach being cleaned between points A and C. Some suggested that the other material would be washed away by the river at C but as the river is in the down drift direction this is unlikely to have had an effect.

(c) Here candidates were asked to suggest reasons for the development of the marsh. A number pointed out the shelter provided by the spit and the likelihood of sediment deposition from the river. The presence of the main river channel on the other side was also evidence for a low energy environment. However, some candidates thought that the marsh had been deliberately planted to prevent the river eroding; others suggested ideas for development at the marsh i.e. buildings etc.

Question 5

(a) In order to complete the map in Fig. 5, it was necessary to draw a 7 mm wide arrow from Europe to Australia, with one mark being given for the correct width, and the second for the correct starting and ending points and direction. Most candidates did this quite accurately, aligning the arrow in the space available through the Indian Ocean.

In **part (ii)** careful measurement of the arrow from the Americas should have led to an answer of 600 000 for the number of tourists. Again there were many correct answers here.

In **part (iii)**, candidates usually suggested that a shorter distance would result in more tourists and also noticed that there were fewer from LEDCs due to the cost of international travel. Another valid point would have been the family / historical / cultural / language connections with Europe but few thought of this. A few candidates missed the point entirely and gave reasons to visit Australia rather than reasons for the pattern.

In **part (iv)** it was hoped that the 'northern hemisphere' prompt would lead candidates to consider the difference in season and indeed many realised that it would be winter in the northern hemisphere with the likelihood of hotter temperatures in Australia. However, as in **Question 4(b)(i)** and **(ii)** comments which were not clearly located, such as 'it is summer' or 'it is colder', failed to score.

(b) In **part (i)**, north-east coast or north part of the Pacific coast were acceptable answers. Again, though, a number of candidates just said 'the east coast' or 'the Pacific coast' which was rather imprecise. Similarly 'between the equator and the Tropic of Capricorn' was also too vague, since this applies to part of the west coast of Australia too.

Most candidates knew that coral requires warm temperatures and were able to identify the warm ocean current as providing evidence for a warm sea in **part (ii)**. Another approach was to point out that the waters are located within the tropics, but to simply say 'the water is warm' was insufficient.

Question 6

(a) Almost all candidates correctly completed the map with diagonal shading across the state of Goias.

(b) Here the units were given in order to provide the clue as to how to use the figures. Most candidates correctly calculated 6 people per square kilometre.

(c) Candidates were asked to describe the distribution of the areas with more than 50 people per square kilometre. This included the areas of more than 100 people per square kilometre, but a considerable number of candidates failed to take this into account. Nevertheless they were still able to score marks for general comments such as 'mostly coastal', ' in the south', 'in the east / north-east'. Few noticed the small area around Brasilia.

(d) Here it was hoped that candidates would make more use of Fig. 6, where the town of Manaus, River Amazon, Trans Amazonian highway and foothills of the Andes are all found in Amazonas state. Some suggested concentrations in urban areas or along route ways with lower densities on steep slopes, but many answers were very generalised. Some did not read the question carefully and wrote about variation between the different states or even variation with time. Other simply said why the population density is low in Amazonas.

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 58/60 – a wider range than previous years - with weaker candidates scoring on the practical questions, such as drawing graphs, and those of higher ability scoring well on the more challenging sections requiring explanation and judgement especially regarding hypotheses.

There is less general advice to be given for areas for improvement with this paper as with others. As there are no choices to make, it is difficult to miss sections out, and there were no reports of time issues as the booklet format does not allow or encourage over-writing of sub-sections. Most points for teachers to bear in mind, when preparing candidates for future Paper 42 questions, relate to misunderstanding or ignoring command words and the use of equipment in fieldwork. Particular questions where candidates did not score well also often relate to them not fully reading the question. Examples included question 1(c)(ii) where the hypothesis uses the word '*Most..'* which candidates misread as the highest or most popular number; question 1(f)(ii) where they we asked to suggest '...*another hypothesis*...' but some suggested ones already used and question 1(g) where they were asked to suggest a fieldwork technique *'...other than a questionnaire*.' but many candidates suggested using a questionnaire. In other questions candidates are referred to a specific resource but used another one e.g. question 2(c)(iv) refers to Figure 11 but some candidates used Table 6. Such failings mean that some candidates do not obtain a mark in line with their geographical ability and is an area that Centres need to work on.

Centres need to realise 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(a)(i)** required candidates to identify a sampling method ad explain why it was chosen. **Question 2 (b)(i)** required candidates to explain how they would use a rain gauge.

Comments on specific questions

Question 1

(a) (i) This was not done well by many candidates. Most candidates could name systematic or random sampling as a method but then described the method rather than explained why it was chosen. Weak candidates just suggested vague statements such as go from door-to-door (not sampling!) or have face-to-face interviews. A few did suggest that sampling methods would reduce bias or make the sampling fairer and others mentioned the importance of having a balance of age-gender but, overall, Centres still need to work on making sure candidates understand what the sampling methods listed on the syllabus – systematic, random and stratified - are and the advantages and disadvantages of each.

(ii) Almost all candidates gained at least one mark here. There were two aspects that could gain credit. One was to do with issues of sensitivity regarding asking for an exact age; candidates correctly suggested asking their age may be considered rude, impolite, and too informal, and may invite hostility. The second aspect referred to the convenience for the candidates of working with grouped data rather than a list of different ages. The fact that it could be graphed more easily was a common judgement. It would '*save time'* or '*be quicker to do*' was not accepted as it was judged that there is little significant difference in writing a number and marking a tally.

(iii) The key to this question was to realise that it was about *'...migration to the city'.* Too many candidates suggested questions that had nothing to do with this such as *'Do you have a family?' 'How do you get to work?', 'Where do you work?', 'How much do you earn?'.* Some also repeated the question already asked in the questionnaire *'Why did you move to the city?'* or variations of this. Credit was mostly given to questions such as *'When did you come here?',* '*Where have you migrated from?' or 'How long have you been here*?' which the majority of candidates managed for one or both marks.

(b) (i) This turned out to be the easiest question on the paper, with almost all candidates able to transfer the questionnaire data into the table. However a small number made errors in some parts or missed some filling-in out. A small number missed an easy two marks out completely.

(ii) It was pleasing to see that candidates could suggest acceptable reasons for meeting after carrying out six questionnaires. Acceptable answers included comparing results/progress, to check if it was being carried out properly, and to change/improve methods if they were not working. Credit was not given to answers that suggested a conclusion could be made about the hypothesis; this was unlikely given only four pairs of candidates had carried out, between them, 24/100 questionnaires.

(c) (i) Completing a pie chart is a fairly basic skill at GCSE level so it was surprising to see that almost 20% of candidates did not attempt this question. Those that did found it quite straightforward to draw in the missing line at 95% and add the correct shading; only a few drew the line outside of tolerance. A minority reversed the order of the two missing segments plotting the line at 91% and shading in reverse which was acceptable, if not conventional, given the order of shading suggested in the key.

(ii) The question says '*To what extent...'* which allows candidates to have slightly different judgements about the data providing they can support it with evidence. This was one of the most poorly-answered questions because candidates did not understand the difference between '*Most..'* in the hypothesis and the highest number or most popular figure of 36% in the data. Clearly, if 36% moved for a paid job, then 64% moved for other reasons so the hypothesis is wrong yet most candidates stated it was correct because 36% was the highest number having moved for a paid job! The most able candidates did appreciate the subtlety of the difference and answered well but most gained no marks as they said the hypothesis was correct.

(d) (i) Almost all candidates could plot the bars correctly, though a few did not shade them; on this occasion there was no penalty for that. A few missed out the 15 bar or the 8 bar and a small number drew the latter at 7 but, overall, most gained two marks for this. Surprisingly, around 5% of candidates did not attempt this question.

(ii) It should have been clear that the hypothesis was correct and most candidates recognised this; however, the supporting evidence varied. Some correctly added up the figures and stated that 73% had paid jobs and that housewives, candidates and the unemployed made up the other 27% without pay. However, a few just used the unemployed figure of 7% to support the hypothesis by stating that 93% were paid. A small number queried the data in suggesting that it did not state that anybody was paid so the hypothesis could be true or untrue. Here some commonsense judgement about paid and unpaid work was expected and, by far, most candidates managed this.

(e) This proved to be a difficult question for candidates of all abilities and maybe they were overwhelmed a little with data. There were no marks for a judgement about the hypothesis; all credit was for the supporting evidence for their decision. Being 'poor' is a comparative judgement as candidates had to draw comparisons between the income in the squatter settlement and the income for India and the rest of the city in Uttar Pradesh. Few did this. Too many just listed the income groups of the squatter settlement with absolute statements. The few good candidates took the figure of 54000 rupees for the city in Uttar Pradesh and made comparative statements with this figure, such as squatters were relatively poorer as nobody in the squatter settlement earned over 50000 rupees and 27% earned less than 20000 rupees which allowed for relative judgements of poverty. A few compared the Uttar Pradesh income with India's average and never mentioned the squatter settlement. Candidates who calculated the income in dollars and then made judgements about the dollar incomes compared to US incomes and standard of living gained no credit.

(f) (i) Some sensible suggestions were made that related to finding out which age or gender was working, being paid more or made up the pattern and profile of the migrants. Some also referred to the working population and dependency ratios. Few suggested that it was related to getting a fair balance for sampling reasons.

(ii) Some strange hypotheses were suggested but the majority were sensible. The question stated '...*to make use of this information*' i.e. the information being obtained by the questionnaire in Figure 1 so other hypotheses that did not use this information could not gain credit. Popular answers included whether male or females migrated most or were paid more or which kind of work different genders carried out. Several suggested '*To find out if there were more males than females here*' which is pointless – no useful extra information related to migration could be found by that. It could also not be reliably established by sampling.

(iii) Some sensible disadvantages were given, including the fact that writing down all the incomes would provide an unwieldy list that would be difficult to group or graph, and that they may not know their income or be reluctant to give it due to shame. Issues of rudeness or being impolite also were credited.

(g) The answers to this were disappointing. Almost a quarter of candidates failed to gain marks here and 6% did not attempt it. The biggest problem was that the question stated '...*other than by a questionnaire...*', yet many answers involved carrying out fieldwork using a questionnaire or asking questions so no credit was gained with those answers. The best candidates chose a topic that was realistic and do-able within a squatter settlement. These included surveying land-use, building materials of houses and size, water quality, access to schools or shops, and transport surveys – though car surveys was unrealistic within the context. Candidates could have chosen any of these topics and suggested observation, photography, sketching, counting techniques as long as it did not involve asking questions. Unrealistic suggestions included knocking on doors to ask about high-order goods, asking how many people lived in the house and measuring the inside rooms! While candidates, for health and safety reasons, would not have been expected to carry out fieldwork in a squatter settlement, suggestions had to be pragmatic for fieldwork. Too many ignored this context.

Question 2

(a) (i) Most candidates indicated a reason that related to a fair test, fixing a variable, being reliable and consistent or simply to compare results at the same time.

(ii) Few candidates raised issues of access to the school e.g. at weekends; most focused on personal problems such as traffic causing lateness. A few candidates seemed to think she had to measure the rainfall at the airport and the school at the same time and pointed out the impossibility of such. Answers that said she may have to miss a lesson were not given credit; it could be assumed that she had been given permission to miss lessons at this time.

(b) (i) The vast majority could gain some credit for her use of the rain gauge but few gained full marks as they were a little confused about how the components would be used. There was no credit here for the siting of the rain gauge as that was covered in **(ii)** and did not involve her use. Examiners were looking for ideas such as putting the funnel in the jar, leaving the gauge until 09.00 then reading off the level in the measuring cylinder before emptying the water. Most had some idea though did not express her role in this clearly. A few thought she waited until it rained then measured the amount; others that she waited until it was full – both equally erroneous!

(ii) Most candidates referred to siting the rain gauge in open space, away from trees and buildings or on grass which was pleasing. A number felt it should be put on a pole or on top of a roof; this question involved a traditional rain gauge as illustrated and candidates needed to be mindful of that.

(iii) Compass or cardinal directions or just writing out NESW in full were accepted here but not '*They show the wind directions*' which is what the arrow does; these are just fixed reference points. Less than half stated that the arrow showed where the wind was coming from but many realised the vane was on the roof to allow free flow of wind or not to be obstructed by buildings or trees.

(iv) Some creative ways that gained credit included using a flag, a windsock, raising a wetted finger or observing trees or – weaker responses - throwing paper/sand in the air! Unacceptable suggestions included making her own vane, a wind cock (similar to wind vane), a wind rose, an anemometer, wind cups and a barometer. It was helpful when candidates gave a better explanation as to how the suggestion might be used e.g. writing *'trees*' is not the same as '*observing which way the trees are blowing*'. Any suggestion of professional equipment was not credited as being within the spirit of the question.

(v) The wind-rose graph was not completed well. It was surprising how many could plot the 3 for NW yet miss out or plot incorrectly the 1 for N. Some plotted 4 on NW having added the figures together it seemed. 7% of candidates missed this out completely. This is a skill that has appeared on recent papers and one which Centres need to work on.

(vi) The scatter graph was plotted well though a few candidates could plot the 8 mm but not the 4 mm at all or in some bizarre location away from the correct place. The majority did this well.

(vii) Depending on whether candidates read 'the south' as literally exactly South or as the southern segment, candidates could agree, disagree or partially agree with the hypothesis and gain credit for their support. One mark was for their hypothesis judgement, one for evidence and one reserve for use of data. Answers split into two types; those who disagreed as only 5 mm came from the South direction and more (12 mm) came from SE; or agreed as, if the total Southerly segment (S/SW/SE) was considered 36/52 mm came from the south. Either was acceptable and, overall, candidates did well here. A few did not give a data mark so limited themselves to 2/3 marks.

(c) (i) Most candidates could define primary data as data collected by you or first-hand data. However, while they gave examples of secondary data such as books, the Internet, which gained credit, few could give an accurate definition of secondary data. A number thought primary data was that she was taking for her measurements and secondary data was that she was getting from airport records. While in the spirit of the topic under study this was true, the question '*How is primary data different from secondary data?'* - was clearly about defining the difference between the two so these answers were not credited.

(ii) Most candidates ended up with a correct answer that was derived from 72/14. However, while they carried out their calculations on page 13, they did not always '*Insert the figure in Table 6'* on page 12 as requested which caused some problems for Examiners but candidates were credited wherever the answer appeared. 5.1 was the commonest and best answer (to match 3.7 in Table 5) but 5.14 and 5.142 were also credited.

(iii) This graph clearly caused some problems for candidates. Less than half could plot the point in the correct place and over ¼ missed it out entirely. There were some very strange plots at many varied locations on the graph. Methodical checking of the data given against the graph revealed to the ablest candidates that there should be a 2nd day with 9 mm at the airport to be plotted from Table 6.

(iv) Following the difficult graph plot, candidates then struggled with the descriptions of pattern. Some used Table 6, which referred to specific days, however the question clearly states Figure 11 so references to Day 1, Day 2 etc. were irrelevant in these answers. Examiners were looking for broad patterns comparing the airport and the School so specific, isolated statements e.g. *'The school has 4 days with 1 mm rainfall'*, could not gain credit. Statements need to be comparative such as '*The school has more days with low rainfall than the airport; The airport has a greater range of rainfall*; *The airport's rainfall is more varied over the period.*

(v) This was done reasonably well. Most candidates referred to the airport being close to the sea; receiving rain-bearing southerly winds and being at a higher altitude – some even referred to relief rainfall. A few confused wind directions stating that southerly winds blew to the south/from the north and others said contour lines were close together and confused steepness with height.

(d) The final question was about the candidate improving the reliability of her results with this investigation – not carrying out a new and different one into, for example, temperature differences. Most candidates could suggest repeating the experiment with a friend to check and also carrying it out at different times of the day or year and for a longer duration. Not accepted were using new equipment, taking her own measurements at the airport (unrealistic) and adding more rain gauges as a check but not stating where. 7% of candidates failed to answer this questions, which may have been a time issue. Centres need to prepare candidates for this kind of question which has been asked on most recent papers; improving a fieldwork investigation is a key aspect of successful fieldwork and so will be covered on this 'Alternative to Coursework' paper.

GEOGRAPHY

Paper 2217/23
Investigation and Skills 23

General comments

The overall difficulty of this paper was comparable with previous sessions. **Question 5** proved to be the easiest and **Question 1** was the hardest. In ***Section B***, by far the majority of candidates tackled **Question 7**. The few who tried **Question 8** were generally the stronger candidates, so they did score well, despite the perceived greater difficulty.

Comments on specific questions

Section A

Question 1

(a) The Town Hall in Curepipe was correctly located at 997866. Some candidates put 998866. Candidates should be encouraged to measure grid references with a ruler rather than relying on a by eye judgement.

(b) This was a straightforward distance measurement, with anything in the range 3000 - 3200 metres being accepted. The direction was NE or ENE. Most candidates did this well.

(c) To complete Fig. 1 suitable comparison words were required. For size of block, Floreal is small(er) while Curepipe is large(r). Alternative size words were accepted but not low and high. For density of building, low (Floreal) and high (Curepipe) were appropriate though sparse / dense or dispersed / compact were also accepted. Similarly availability of services could have been expressed in several ways but many simply put no (Floreal) and yes (Curepipe).

(d) Here most candidates commented on the presence of the sugar plantations and the road access to the sugar factory, though some wrote of tracks, probably the cane tracks. Others mentioned the water tanks and / or the lake / river for water supply though some wrote that the water was for the plantations rather than the factory. Some mentioned the local labour supply and the potential market. Few noted the flatter land around the factory.

(e) A number of candidates did not understand what was meant by the term relief. Some wrote about relief rainfall and several did not attempt this section. However, there were some good responses, mentioning the river and tributary flowing north and the lake or pond for drainage and the gently sloping valley and the steeply sloping hill for relief. Some candidates used the contour lines to quote heights, though often they just took the labels present in the square rather than extrapolating up the hill for the unlabelled contours. One candidate noticed the depression at the top of the hill.

(f) Again a number of candidates did not attempt this section. Those who did usually noted the sugar plantation in **part (i)** and road, buildings and dam in **part (ii)**. Other possible responses for **part (i)** were scattered trees / scrub, riverine trees and poultry farm, while for **part (ii)** bridge, mosque, cane tracks or water tank were available. Some candidates included agriculture in **part (ii)** while others wrote about possible uses of the river.

(g) The River du Rempart flows NW, with NNW also being accepted. Some candidates thought it was flowing in the opposite direction - SE.

Question 2

(a) There were lots of good responses for this section. Candidates described the decrease to March, the rapid increase from March until the end of May, the rapid decrease in June and July and the continued decrease until the end of the year. Some also pointed out the relative levelling off during August and September.

(b) Here many candidates noted the low precipitation. They also noticed low temperatures but it was necessary to point out that the temperatures were below freezing point.

(c) Many candidates realised that February had the greatest demand for electricity (**part (i)**), though some opted for December. Again, use of a ruler would have eliminated this error. In **part (ii)** some candidates noted the need for winter heating. An increased requirement for lighting would have been an alternative. Most candidates realised that the water level in the reservoir would decrease in this month (**part (iii)**).

Question 3

(a) Most candidates labelled Fig. 3 successfully, choosing one of the three taller buildings indicated and labelling the parking along the main road and the city park.

(b) Here most candidates mentioned the city park with its grass and trees and some commented on the line of trees down the middle of the road. Fewer mentioned the trees interspersed with the buildings in the background.

(c) Here a more general approach was allowed. Candidates commonly mentioned tall buildings and lots of traffic, though other possibilities were large buildings, lots of pedestrians, high order services, government buildings and, from Photograph A, National Museum. A few candidates were a little too vague, for example, saying that you would look at the height of the building without actually saying that you would be looking for tall buildings.

Question 4

(a) Most candidates correctly completed the graph to show that Pakistan has 35% urban population and US$2500 for GDP per person. A small minority did miss this part completely. Almost all candidates correctly identified Kenya as having the lowest GDP per person and went on to correctly complete the paragraph with the words ‘Argentina’ and ‘low’. A few candidates had put Nigeria instead of Argentina. They perhaps considered Argentina's GDP to be high.

(b) Many candidates placed the plot for Japan within the correct triangle and usually with a fair degree of accuracy. For **part (ii)** it was necessary to read the graph, though accuracy was not needed since figures did not need to be quoted. It was sufficient to say that Sri Lanka has a higher primary industry and is lower for secondary and tertiary industry. Most candidates had worked this out though some were wrong on the tertiary industry.

(c) Here candidates were often trying to rely on knowledge, rather than referring to Fig. 4. Fig. 4 shows that Singapore population is 100% urban and thus very few would be employed in primary industry. Some did refer to Fig. 4 but wrote about GDP per person giving an indication of development.

Question 5

(a) Most candidates correctly identified cocoa beans for **part (i)** and Indonesia for **part (ii)**. In **part (iii)**, the region supplying 50% of USA coffee imports is Central and South America but some candidates just listed the countries, while others just looked at the countries and wrote South America, rather than putting the whole name of the region from the key. In **part (iv)** an estimate of 61 - 62% was acceptable, as was the actual answer of 60.56% which some had measured and calculated. There were many good ideas for **part (v)** including failure of harvests and disruption of supply for various reasons such as war or natural hazard. Other suggestions included that the crop could be sold elsewhere and that the exporting country could increase the price.

(b) In **part (i)** almost all candidates wrote 'good harvest', 'large supply' or appropriate similes. A few tried to use comparison words but this was not accepted. Most realised that food shortages and restricted exports would lead to price increases (**part (ii)**).

Question 6

(a) The farming products shown on the map (**part (i)**) are apples, rice, tea, tobacco and wheat. It was necessary to have all five for the mark. Some candidates omitted tea. Almost all candidates noted that rice was grown throughout Japan (**part (ii)**), and they usually selected two from copper, gold, manganese and zinc for the products of mining. Some candidates did include hydroelectric power in this section (**part (iii)**) and others put this for **part (iv)** where the correct answer was forestry.

(b) There is only one apple growing area on the map, at a distance of approximately 600 km from Tokyo. Most of the candidates chose the correct answer, though a few opted for 400 km.

(c) The distribution of manufacturing industry was described very well. Most noted that it was towards the south, along the coast and around Tokyo. Others mentioned that it was mostly on the main island and only a very small area in the north.

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 out of 60 – a wider range than previous years - with weaker candidates scoring on the practical questions, such as drawing graphs, and those of higher ability scoring well on the more challenging sections requiring explanation and judgement especially regarding hypotheses. Overall **Question 1** was answered better than **Question 2**.

There is less general advice to be given for areas for improvement with this paper as with others. As there are no choices to make, it is difficult to miss sections out, and there were no reports of time issues as the booklet format does not allow or encourage over-writing of sub-sections. Most points for teachers to bear in mind, when preparing candidates for future Paper 43 questions, relate to misunderstanding or ignoring command words and the use of equipment in fieldwork. Particular questions where candidates did not score well also often relate to them not fully reading the question, for example **Question 1(d)(i)** where the stem was frequently ignored resulting in inappropriate answers. Such failings mean that some candidates do not obtain a mark in line with their geographical ability and is an area that Centres need to work on.

Centres need to realise that, although this is an Alternative to Coursework examination, candidates will still be expected to show that they know how fieldwork equipment is used and appropriate fieldwork techniques even if they have only limited opportunity for fieldwork within the Centre. **Question 1(a) (iii)** required candidates to recognise the advantages of systematic sampling method. **Questions 2 (b) (i)** and **(ii)** required candidates to describe how they would conduct fieldwork on a river.

Comments on specific questions

Question 1

(a) (i) The question gave most candidates a positive start. The use of a questionnaire is fundamental to fieldwork and so candidates should have been aware of what makes a good and bad questionnaire. Most candidates identified three weaknesses. They were usually generic about questionnaires rather than specific to the example given. Common weaknesses identified included the lack of context, inappropriate use of closed questions and general impolite tone of the questionnaire. Better answers also referred to some questions being irrelevant to the hypotheses being tested.

(ii) As in the previous question candidates focused on generic issues. They recognised the positive introduction and conclusion to this questionnaire and the explanation of why the candidates were doing the exercise. Better answers also commented on the different use of open and closed questions and the fact that the information gained would be easier to collate and graph. A few weak responses merely gave opposites to their previous answer.

(iii) This proved to be a challenging question for many candidates. Those who scored well usually referred to less bias in the sample and that people in groups would not influence the answers of others. Simple answers which scored one mark included 'easy to do' or 'quick to do', referring to an advantage of sampling generally. Some candidates also referred to the method being 'accurate', but this gained no credit as it was too vague and did not explain how.

(iv) Most candidates scored the one mark by suggesting that the car park would be busy or there would be lots of people there.

(v) Candidates generally gave good suggestions that the visitors would have formed an opinion or be more informed about the national park having spent a day there. Also they suggested the difficulty that visitors would be tired or in a hurry to leave at the end of the day. The question differentiated well. In weaker answers there was an erroneous focus on safety, which would have been a consideration at all times, not just when visitors were leaving.

(b) (i) Most candidates completed the bar graph accurately, with the absence of percentage markers not proving to be a problem. A minority completed the graph with 'No' before 'Yes' which was credited. Where candidates failed to gain the mark it was usually because they did not label the two sections of the graph, either on the bar itself or with a key, rather than plotting the dividing line inaccurately.

(ii) The completion of a pie chart should be a well-practised skill and so it proved with the vast majority of candidates scoring both marks. As in the previous question a minority of candidates reversed the two sections, which again was acceptable. This section was usually the one which some candidates did not attempt, showing that the skill is still not known to all.

(iii) This was the easiest section of **Question 1** and nearly all candidates completed the table correctly. Classification of data is an important fieldwork skill and it is encouraging that so many candidates were comfortable with the task.

(iv) Many candidates reached a successful conclusion to the first hypothesis. They usually agreed with the hypothesis and supported their conclusion with appropriate data. Candidates who classified the different activities as active, sporting, relaxing etc. and supported these with examples from the table usually scored maximum marks.

(c) (i) The question was answered correctly by the vast majority of candidates who correctly categorised the three activities.

(ii) Most of the ideas were used by candidates in their answers. The most common ideas referred to were cafes and car parks, with the least common being cycling and horse riding. The suggestions were generally appropriate providing that candidates focused on 'how it might improve a visit' rather than how it might attract more visitors. A common misconception was that information boards were used to stop people getting lost, which is not the primary purpose.

(iii) Most candidates agreed with the hypothesis and gave supporting information from data they had used in previous sections. Whilst candidates usually recognised that suggested improvements were not overt criticisms of national parks, in some weaker responses there was an assumption that if people suggested improvements it meant that they had a negative opinion. Support for the hypothesis usually came from the activities they could participate in and the numbers returning to the national park.

(d) (i) Most candidates answered this question correctly. However, some appeared not to have read the stem of the question which referred to *... where visitors to the national park came from* and so suggested irrelevant questions.

(ii) The final section of the question proved to be the most challenging as candidates were required to describe cartographic or graphic techniques. Many candidates suggested a bar graph or pie chart but needed to specify what data they would be classifying in order to gain credit. The best answers included mapping techniques such as flow lines or choropleth shading. Candidates need to be aware that in development sections at the end of a question they need to be precise in what they are suggesting. A common error was to describe how the information would appear in a questionnaire rather than how it could be presented.

Question 2

(a) (i) There were many good suggestions made to ensure that candidates were kept safe whilst undertaking fieldwork in a river. The most popular suggestions were to 'stay in groups' and to 'take a mobile phone'. Suggestions about appropriate clothing and footwear were often too vague and needed to be more specific, for example waterproof clothing rather than the right clothes. A few answers focused on poor, inappropriate behaviour rather than safety, but this was not credited.

(b) (i) The question focused upon a popular fieldwork technique which many candidates seemed to be familiar with. Nevertheless there was a great difference in the quality of answers. There were many detailed accounts which included the appropriate calculation. There were also many vague responses about measuring and timing. A few candidates described the sequence incorrectly by suggesting that the float was timed for 10 seconds and the distance it had travelled was then measured.

(ii) As in the previous section this tested a common fieldwork technique. Unfortunately few candidates scored full marks due to imprecision in their answers. Common errors were that candidates did not state that the ruler should be placed 'on the bed of the river', rather than 'in the river', and that a measurement of depth should be taken at the surface of the river.

(iii) Most candidates recognised why the hypothesis was correct and supported this with data from the three sample points.

(c) Many candidates had difficulty in suggesting three weaknesses of the fieldwork method. Candidates often failed to score marks through vagueness in their suggestions, for example the float got stuck but not explained why. The most common weaknesses included the uneven positioning of the sample points, too few sample points, and too few measurements taken. Candidate errors in measurement or timing were not credited as they should have been recognised and dealt with during the fieldwork.

(d) (i) Many candidates were able to describe the use of the flowmeter. Although many candidates may not have used such equipment they were able to interpret how it could be used from the photograph and diagram. More detailed responses referred to facing the propeller upstream and standing away from the propeller so as not to impede its operation.

(ii) Completion of the isoline proved to a good discriminating task which was completed with varying degrees of accuracy. The most common error was to 'join the dots' rather than recognising that an isoline should take into account the general pattern.

(iii) Almost all candidates were able to shade the area accurately. The most common error was to shade the section between 40 and 60 centimetres per second, but not the section above 60.

(iv) The conclusion to hypothesis 2 proved to be a challenging question for many candidates. There were some excellent responses which showed a clear understanding of the results, recognised the anomalies in the data, and illustrated these with appropriate statistics. Differentiation was shown as other candidates simply agreed with the hypothesis and supported this conclusion with data whilst other candidates disagreed entirely with the hypothesis which made it difficult to gain any marks. Some candidates misunderstood the idea of reduction of speed with depth and wrote about the deeper parts of the channel having faster flow than the shallow parts, so disproving the hypothesis.

(v) This was a difficult section to score maximum marks for many candidates. Reference was often made to friction but this was not developed to explain variation across the meander. The better answers referred not only to friction, but also depth and energy of the river. Only the best answers referred to the frictional effect of the atmosphere on the surface of the river.

(e) The final question required candidates to relate their knowledge and understanding of rivers to a fieldwork situation. This proved to be the most challenging part of **Question 2**. Candidates were often able to describe the more symmetrical pattern of isolines in a straight section of river with the fastest flow in the Centre. The reduction of velocity with depth was the most common similarity mentioned. Where candidates attempted to include a diagram they usually drew the shape accurately but did not always describe the velocity. Some answers were irrelevant in describing and explaining river processes such as erosion and deposition.