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GEOGRAPHY

Paper 0460/01

Paper 1

General comments

All the questions on this paper were structured in a similar way, to provide a common approach for candidates whatever the topic being tested. The main characteristics of the structure of each question were:

- Questions had an incline of difficulty, starting with relatively straightforward, resource based tasks requiring brief responses, progressing to tasks requiring extended writing and the demonstration of detailed knowledge and understanding.
- Two different resources were used within each question, one within ***Section A*** and the other within ***Section B***. Some tasks involved the direct use and interpretation of the resource whilst others used it to act as a stimulus to responses, however marks were not awarded for the direct copying of sections of the resource.
- The final task involved extended writing and either required or invited candidates to demonstrate case study knowledge.

It was felt that this consistent style aided candidates and as this structure will be used in future examinations it is worth familiarising candidates with it. In particular it is expected that candidates should, as has always been the case, have knowledge of appropriate case studies to back up their generic knowledge and understanding. The syllabus is constructed in such a way that, wherever a Centre is located, there are likely to be opportunities to make use of local case study materials in many parts of the course and Centres are encouraged to make use of such case studies in conjunction with appropriate text book examples in order to provide a sound spatial balance for candidates during their course. A blend of small scale, regional and national examples, within the context of the local area and from other countries at different levels of economic development is ideal. Candidates should be encouraged, wherever possible, to refer to real examples and include place specific details in their answers. Where candidates develop their ideas they are likely to achieve a higher level of performance than listing simple points.

Overall, the paper produced widespread differentiation therefore, when considering the full cohort of candidates, almost the entire mark range was achieved. The most able and well prepared candidates tackled all their chosen questions with confidence, producing high quality answers in all sections, whilst inevitably weaker candidates failed to meet the requirements of all but the most simple questions. Excellent responses were seen to all parts of all questions. Whilst it is difficult and often unwise to generalise, the following observations were made by several Examiners:

- Answers which were based on resources were generally clear and concise, good use being made of all source materials, except where they were asked to describe the distribution or pattern of something. Very few were able to manage this as they seem not to know what the term means. Otherwise all the resources were analysed and interpreted very well, though when comparisons are required this is not always done.
- Many more able candidates wrote at great length and achieved high scores but some candidates failed to discipline themselves to the basic commands of the question. Often they included extra material which was not appropriate or which applied to another sub-section. This is probably due to a lack of confidence and a desire to perform well, but it is unproductive and wastes valuable time.
- Most candidates achieved marks more consistently where descriptions were required but where explanations were required they were less successful.
- In general there was insufficient use of specific examples to illustrate answers – candidates from many Centres could be encouraged to use more detailed case studies.
- The physical geography questions proved difficult for many candidates, especially where explanations were required.
- Candidates often do not use labelled diagrams where doing so would enhance their answers. Some excellent examples were seen, but in general diagrams were limited in numbers, often of poor quality, and contributed little to answers.

As always the level of understanding of the question requirements varied immensely between candidates as did their quality of written communication. Some candidates produced irrelevant answers to questions, as a result of misunderstanding the command words and specific requirements, however as the standard of English was usually at least satisfactory, mistakes in interpreting the questions were mostly due to failure to read them carefully enough rather than to a lack of language skills.

There were few rubric offences, although a number of candidates, almost exclusively weaker candidates, answered all six questions very superficially rather than selecting three. Clearly this is to their disadvantage. Time management was good for the majority of candidates, though a significant minority of candidates spent too much time on one or both of their first two questions at the expense of the third question.

Questions 1, **2**, and **6** were the most popular choices. The physical geography questions, **Questions 3** and **4**, though not particularly popular, did produce some outstanding responses, though in contrast a number of candidates who attempted them clearly had little or none of the required knowledge or understanding, especially of physical processes.

The following advice, repeated from previous Examiners Reports should be given to candidates:

- Read the entire question carefully before beginning an answer. Decide which section requires which information, thereby avoiding repetition of answer and the time that is wasted. Answer questions in order, starting with the one which you are most confident with, and finishing with the one which you are least confident with, rather than automatically answering them in numerical order.
- Take careful note of the command words so that answers are always relevant to the question.
- Use the mark allocation as a guide to the amount of detail or number of responses required. Be aware of timing; do not devote too much time to the first chosen question, or include too much detail in sections which are only worth a small number of marks.
- Aim to develop each idea so that answers do not emerge as a list of simple points, particularly in case studies where place specific information and details should be included wherever possible to give case studies authenticity.
- Use resources such as maps, graphs and photographs carefully in order to make use of the detail they include, and do not merely copy out parts of resources.

Centres should take careful note of the following points:

- The front page should show full details of the candidates along with an indication of the three questions answered.
- There should be a margin of at least 2 cm on the left and the right side of each page. Apart from the numbers of the questions and sub-sections candidates should not write in these margins.
- Every part of every question chosen should be clearly indicated in the left hand margin.
- At least one line should be left between each part of a question, and at least three lines between each question.
- All sheets should be loosely tied together, with the sheets assembled in the correct order. Sheets should not be submitted loose, nor should they be tied or stapled together so tightly that they are impossible to turn over in order to read all parts.
- All sheets should be numbered by the candidate and placed in the correct order.
- Narrow lined paper, or exceptionally thin paper, should not be used.

Comments on specific questions

Question 1

(a)(i) Candidates were usually able to give an acceptable answer, but a surprising number made no attempt to answer. Perhaps they did not understand the term 'natural environment'.

(ii) The more popular choice was Area Y, although there were some very good answers for Area Z. Many who chose Area Y achieved both marks by reference to aridity and developed it in relation to difficulty of producing food. There were some unacceptable references to 'too hot' or references to birth and death rates.

(iii) Most candidates gained some credit for identifying relevant areas of continents or for one continental area and two countries but relatively few really described the distribution. The most common general comment was 'along the coasts', and there were some references to 'Northern Hemisphere'. Temperate latitudes were rarely specified and the obvious uneven nature of the distribution was rarely commented on. When asked to describe a distribution candidates cannot expect to gain maximum marks by simply naming areas.

(b)(i) The increase in both types of migration with economic development followed by a decrease was well described by many candidates and more perceptive candidates scored full marks by identifying subtle differences between the two. Some candidates dealt with both types of migration as one, others ignored the 'change' element, and others only told half the story (e.g. migration falls as economic development increases, with no mention of the earlier rise.

(ii) There were some excellent responses and counter urbanisation was generally well understood. However the main weakness here was that many candidates did not attempt to explain why the amount of migration changes, but outlined the push and pull factors which encouraged or deterred migration, failing to link them to economic development.

(iii) The balance between advantages and disadvantages varied though there were usually more negative than positive impacts given. Candidates often scored well here with many perceptive and well thought out comments. In contrast weaker candidates did not read the question fully, describing impacts on the areas migrants left rather than destination area and some referred to the impacts on the migrants themselves not the destination area.

(c) Basic understanding of the reasons for migration were sound and there were some excellent case studies, sometimes textbook based but also those based on local knowledge. Many candidates chose international migration and quoted a case study such as Turks to Germany or Mexicans to California. These usually included a range of push and pull factors which were relevant to their chosen example. Others chose rural to urban migration, sometimes in their own country and gave excellent detailed responses. Weaker answers failed to refer to a specific example or described both forced and voluntary migration in generic terms, usually by listing simple points rather than attempting to fully develop ideas.

Question 2

(a)(i) Almost all candidates identified the CBD, although a few referred to 'the town centre' or got the letters in the wrong order.

(ii) Most were able to explain the presence of the tall buildings, but some candidates merely gave a description of the functions of the CBD.

(iii) Only a relatively small proportion directly compared land use in the inner city and the suburbs (e.g. there is a greater percentage of residential land use in the suburbs). On many scripts it was possible to pick out some comparisons from discrete accounts, but this was not always the case as some candidates only described land use in one area, and others randomly quoted numerous statistics without any attempt to interpret them. Sometimes answers were about types of land use that were shown not on Fig. 3 or in the key, and a further error commonly seen was to refer to the CBD instead of the inner city.

(iv) Whilst weaker candidates often omitted reasons by merely repeating what they had written in **(iii)**, or gave reasons which were too vague for credit some very good reasoning was seen from well prepared candidates. Residential land use was a popular choice, referring to such factors as land prices, congestion, access, open space and environmental factors. The link between the land use in the inner city and city growth was often overlooked and there were some incorrect references to 'the city centre' and 'inner city' as land use types.

(b)(i) Most candidates coped well with the dynamic nature of the graphs and wrote with conviction about changes in quality of life on a transect from the CBD to the outer suburbs. Some included irrelevant reasons rather than description, but many candidates gained at least two marks.

(ii) This differentiated well; some candidates were able to offer reasoned judgements on the accuracy of the model presented and illustrate their ideas by reference to named areas of actual cities. Most stated agreement with the model, particularly by reference to the quality of life in the inner cities and suburbs in MEDCs and to shanty towns on the periphery of LEDC cities. Few chose to criticise the model though there were some perceptive comments relating to ideas such as the development of wealthy enclaves at the edge of LEDC cities and the attempts made to upgrade city centres. There was little reference to gentrification of inner city areas in MEDC cities or to the presence of low quality suburban housing estates.

(c) Here many candidates failed to take the opportunity of writing a high scoring case study – there are many good textbook examples of change in urban areas, and better still many which can be studied in an urban area familiar to candidates. However in general this was not well answered. Most candidates had obviously studied changes in their own city or elsewhere as a case study, but they were unable to use their knowledge to answer the question and the term 'land use' appeared in itself to cause problems. Good examples included those where green belt land was being converted to housing estates or out of town shopping centres, along with studies of the redevelopment of inner city areas such as London Docklands or the Glasgow GEAR project. However many candidates failed to focus on only one land use and, even if they named an urban area, it was clear that they were dealing with the town/city as a whole rather than a specific land use change within the urban area. In addition, some answers did not concentrate on the effects of the change on people as advantages and disadvantages were frequently omitted as candidates copied the list of developments from the question.

Question 3

(a)(i) This was usually well answered, with candidates recognising the area as being a mountain environment or one which was very cold.

(ii) Most candidates were successful here, with references to snow accumulation and cold temperatures being common.

(iii) Some candidates did not look carefully at the photograph, many ignored the glacier shown, and just wrote down features of glaciers that they had studied in textbooks. Some described the vegetation and many gave descriptions of the upland area and features such as arêtes, truncated spurs and pyramidal peaks rather than concentrating on the glacier as the question asked.

(iv) Although they could name some of the processes, explanations were often vague or inaccurate, especially in relation to how the processes shape the landscape. There was little reference to fluvio-glacial activity and there were only rare references to deposition. Some candidates included descriptions of corries and truncated spurs with no reference to any processes.

(b)(i) The three features were generally known, especially the corrie but the hanging valley was not always correct.

(ii) The most popular choice was the corrie, which many candidates were able to describe and draw, however there was immense variation in explanations of how such features are formed. The best answers were those where a series of fully annotated diagrams were used.

(c) Candidates did not have to refer to examples, but some candidates used an area such as the Lake District or the Southern Alps of New Zealand to good effect and were able to use this to develop their ideas and gain high marks. There were however relatively few case studies used and many generic references to tourism, HEP and water supply. It was clear from the brief and simple answers that candidates from many Centres did not appreciate the impacts of glaciated upland areas, both positive and negative, on people.

Question 4

(a)(i) Almost every candidate identified the area on the photograph as a desert, though a few simply described the climatic characteristics (e.g. hot/dry) rather than giving an example of a climatic region.

(ii) Most candidates were able to give to reasons for the absence of vegetation, with aridity and infertile soils being common responses. Hot temperatures alone are insufficient to explain a lack of vegetation.

(iii) Many candidates answered this well with the sand dunes, sparse vegetation and flat terrain in the foreground being common observations. A significant minority of candidates referred to dunes as 'high mountains' and others commented on a total absence of vegetation despite some being clearly evident in the middle distance of the photograph.

(iv) The results seemed to be confined to those features which could be seen in the photograph, so once again many candidates struggled when asked to demonstrate their understanding of physical processes, there was a lack of knowledge how processes shape the desert landscape, with most answers being restricted to the wind being responsible for the formation of sand dunes. There was little mention of features such as mushroom rocks or wadis and few candidates discussed exfoliation. Some candidates failed to limit their answers to landscape features and repeated their earlier answers about the lack of vegetation.

(b)(i) There were many examples of good clear analysis of the graphs and attempts were often made to compare rather than giving discrete accounts. Weaker candidates made sweeping statements which could not be backed up by the graphs or quoted figures without any attempt to interpret.

(ii) This differentiated well – there were some excellent textbook style responses with detailed explanations of the hot and dry nature of desert areas. In contrast many candidates did little other than describe the tropical desert climate, commenting on the fact that there was little rain, rather than giving an explanation for the heat and aridity. Those candidates who included relevant details of processes often focused on the high sun angle (often with an appropriate diagram) and sometimes the distance from the sea. However factors such as the high pressure regime and the significance of the trade winds were often ignored.

(c) Whilst there were a few notable exceptions from well prepared candidates, this section rarely produced high scores as many candidates failed to concentrate upon the effects of desertification on the people of affected areas and only infrequently linked ideas to named areas that they had studied. Some gave causes rather than impacts. Hazards relating to desertification were often vague and could have been used for any area which had suffered a disaster. References to education, healthcare and housing, unlinked to desertification were common, but apart from the occasional mention of famine or starvation and even less frequent mention of overgrazing, there was little depth to many responses.

Question 5

(a)(i) Answers to this part were usually correct.

(ii) The terms were well known by almost all candidates: however some wasted time by writing long answers about subsistence and commercial farming, when only a simple definition was required for each.

(iii) Shifting cultivation was the most well known of the three farming systems – market gardening and plantations were not always correctly identified.

(iv) The majority of candidates compared intensive and extensive farming well, whilst others described each in turn, usually making enough contrasting points to gain some credit. Some candidates thought that intensive farms were large and extensive farms were small whilst others wasted time giving examples or compared commercial farms with subsistence farms.

(b)(i) Answers were sometimes vague because the significance of the word 'pattern' was not recognised by candidates, with many failing to describe the pattern of land use in relation to distance from the village, but often simply listing the ways in which the land was used. Some mistakenly thought that the distances in metres were contour lines and wrote about the altitudes for different crops.

(ii) Even when candidates described the land use pattern, many were unable to suggest logical reasons for it and there were many simplistic statements such as 'the crops are grown near the village as they are needed for food'. There was much irrelevant reference to market and reference to roads/transport at expense of any other factors such as soil fertility, water supplies or the regularity of attention required by different crops.

(c) Here there were many good answers, including impressive case studies. Whilst some candidates confined their explanations for food shortages to physical factors, there were others which included details of economic and political factors, making use of local or recent newsworthy examples. Such answers are far more impressive than those which simply list points such as aridity, infertile soils, and lack of money for modern technology without any attempt to contextualise and develop the ideas.

Question 6

(a)(i) The error made by a small minority of candidates here was that they interpreted 'domestic' as 'in their own country' which in this context was incorrect

(ii) Some candidates listed several countries, otherwise the question was well answered.

(iii) Candidates generally interpreted the graph very well to compare accurately the use of water in developed and developing countries, though clear comparisons were not always made by weaker candidates who described the use of water in each country or erroneously compared within developed and developing countries.

(iv) This differentiated well. There were some well-developed and perceptive responses, especially in relation to the relative significance of agriculture in developed and developing countries. The use of water for cooling in thermal power stations and in manufacturing processes in MEDCs was less well known and many candidates were satisfied to rely on simplistic statements such as, 'More water is used for industry in MEDCs because they have more industries'.

(b)(i) A significant number of candidates devoted their answers to either describing where a surplus of water occurred, or offered reasons for shortages rather than describing the global pattern. Where candidates gained marks this often tended to be for naming examples of areas where there was a water shortage rather than making genuine comments about the pattern and few gained full marks on the question.

(ii) This was answered well. Most commonly the reasons for shortage of water referred to the lack of rainfall, high evaporation rates and the high density of population, whilst other answers referred to the presence or absence of rivers or aquifers and the amount of investment in an adequate water supply infrastructure.

(c) The most popular choice was large scale dam building and there were some excellent case studies, particularly the Three Gorges Project and the building of the Aswan Dam. The least popular option was cloud seeding. Although quite a few candidates selected wells and boreholes, their answers tended to be less impressive than those of candidates who selected large scale dam building.

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Paper 2

General comments

The overall response to the paper was good. There were relatively few very poor scripts and there were a large number of candidates who scored in excess of 40 marks out of 60. Candidates were good at giving six figure grid references, reading map symbols and describing features of settlements on the survey map. They were able to interpret contour maps, draw pie charts, read graphs, interpret numerical data and plot scatter graphs. There were some specific weaknesses which are referred to in the sections on individual questions. Candidates coped well with **Question 2**, **Question 4**, **Question 5** and **Question 6**. On the other questions, particular sections caused problems for many candidates. There were extremely few unfinished scripts and time management was not a problem for the majority of candidates. A very small minority of candidates spent too long on **Question 1 (b)** and consequently struggled to finish the paper.

Comments on specific questions

Question 1

(a)(i) Almost all candidates were able to identify the type of named building at 332795 as a shed.

(ii) Answers to the grid reference were generally good and better than for some recent papers. 329746 was usually given but the Examiners also accepted 320748/9 as an alternative. The most common error was to give the sixth figure of the reference as 7 rather than as 6.

(iii) Answers were disappointing and only a very small number of candidates scored full marks. The difference in height was generally given as 3 metres but the distance along the road was less frequently correct. A tolerance of 1050 – 1100 metres was accepted, as was the equivalent in kilometres. Unfortunately many candidates failed to quote the units. The main weakness in answers was the failure of candidates to express the gradient properly. The Examiners accepted expressions as fractions, e.g. 1/350, or as 1 in 350, or a percentage.

(b) Many candidates were able to score 3 marks by using the expressions dispersed, nucleated and linear. However, others wrote long descriptions of the human geography of the settlements without referring to the pattern. The dispersed pattern in part **(i)** proved most difficult to identify and the linear pattern in part **(iii)** proved the easiest.

(c) Although there were many correct answers, this question proved difficult for many candidates. Often Grange Hill was thought to be bigger than Savanna-la-Mar or Frome to be bigger than Torrington. Some candidates thought that there were two settlements rather than four.

(d)(i) This question required candidates to identify the services and functions of Grange Hill using the map legend. Candidates scored freely, referring to the school, health centre, community centre, police station, post office, church, market and factory.

(ii) The second part of the question required candidates to give reasons for the site and growth of Savanna-la-Mar. Candidates were able to identify the road junction, factory, market, flat land, surrounding agriculture and water supply. However, candidates often referred to the town as a port or tourist centre, for which there was no map evidence.

(e) Along the banks of the Cabarita River, candidates often identified rice cultivation, pasture, marsh or swamp and mangrove. Sugar cultivation and mixed or scattered cultivation were less frequently quoted. Candidates also often referred to trees and scrub and tobacco which were not present.

Question 2

(a) Almost all candidates identified the port as the feature which remained unchanged after the eruption.

(b)(i) Most candidates were able to score freely, referring to the extension of the coastline, reduction of the gradient of the mountain, formation of the crater and the increased area of highland. Some candidates wrote that the altitude of the summit had decreased which was not correct. The main error for many candidates was to refer to refer to human features rather than physical features as instructed.

(ii) Candidates found it easier to describe the human effects of the eruption than they did the physical effects. Marks were scored through descriptions of the destruction of the fishing port, roads, buildings and farmland.

Question 3

(a) This part consisted of the completion of the pie chart for the monetary value of shopping sales. It was extremely well-answered with most candidates scoring full marks.

(b) In discussing the changes in shopping between the two dates, most candidates were able to score at least 2 of the 4 marks available by referring to points such as the increase in supermarkets, mail order and total sales. Candidates often referred to the number of shops rather than the monetary value of the sales. The complication of the increased total sales was not appreciated by many candidates; for example, although the percentage of sales in small local shops had decreased between the two dates, the value of the sales had increased, almost by a factor of four.

Question 4

(a)(i) The vast majority of candidates were able to note that 200 mm of rainfall fell in July.

(ii) Most candidates stated, correctly, that the highest temperature reached during the year was 39.5°C. However, some candidates answered simply 39°C or 40°C. Others failed to quote the correct units.

(iii) Candidates found this the most difficult of the three parts. Some quoted the highest and lowest temperatures for December without subtracting the lowest from the highest to produce the range, while others quoted the average of the two.

(b) Most candidates recognised that the onset of the rains or cloud cover would cause the decrease in temperature between May and August, although some referred incorrectly to the angle of the sun.

(c) Candidates were generally aware that high rainfall would make the climate uncomfortable for visitors from temperate latitudes, however the high humidity and high temperatures were less frequently noted. Many candidates felt that the temperatures would be cold rather than hot.

Question 5

(a) Most candidates were able to state the location of the industrial areas as being on the east of the town.

(b) The physical feature which limits expansion of the built up area to the north-east and south-west is marshland. However, many candidates stated that the rivers were the limiting factor.

(c)(i) Almost all candidates stated that barrio B has better living conditions.

(ii) Candidates were able to give detailed reasons for their answers to **(c)(i)**. In the best answers, candidates compared the housing conditions in the two barrios. For example they stated that Barrio B has more homes built of brick and concrete, more homes with a connected water supply, more legal and metered electricity supply and more rooms in the houses. In the poorer answers, candidates simply repeated statistics from Table 1 without making any comment on them.

Question 6

(a)(i) Most candidates identified Mauritania as the country with a natural population increase of 2.9% and a life expectancy of 51 years.

(ii) Japan was generally given as the country with the lowest natural population increase and the highest life expectancy.

(iii) The vast majority of candidates were able to plot accurately the position of Pakistan on the scatter graph. Only in a small minority of cases did candidates misread the scale of one of the axes.

(b)(i) The Examiners gave credit to a variety of expressions for explaining the meaning of the term life expectancy. The better answers referred to the average number of years a person lives.

(ii) Most candidates were able to define natural population increase as either birth rate minus death rate or as the population increase excluding migration.

(c) The answer required to complete the statement on Fig. 7 was (birth rate plus immigration) minus (death rate plus emigration). This was well-answered and only in a minority of scripts were the phrases placed incorrectly.

Question 7

(a) The majority of candidates identified the part of the city in Photograph A as the central business district. Those who identified the area simply as the inner city did not gain credit.

(b) For the function of the buildings a wide variety of correct responses was given credit, including shops, offices, banks, hotels, church and residential.

(c) The quality of answers to the part of the question, describing the appearance of the buildings, was more variable. In the better answers candidates described the high rise buildings in the background, the two/three storey buildings in the foreground, the modern and older appearance of some buildings, the flat and conical roofs, the use of concrete and glass and smaller features such as the church spire, the balconies and the canopy of the buildings in the foreground. In the poorer answers candidates simply repeated their answers to part **(b)** and listed the functions for a second time.

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Paper 4

General comments

This paper will always reflect and mirror the skills and techniques required by candidates completing the coursework component of the IGCSE. The investigations presented in the two questions are practical pieces of coursework which candidates may undertake. The data would be collected, presented and patterns identified followed by an attempt to explain those patterns using geographical understanding. Finally the candidates would draw together their findings using the data as evidence and offer evaluations of the data collection methods. Candidates entered for the Alternative to Coursework component should be aware of this outline in preparation for this exam.

Examiners recognised that there was an improvement in the overall completion of the questions and a demonstration of geographical understanding of the topics. However, the candidates must be more careful when completing the data presentation. In **Question 1** many candidates missed out on marks by not correctly locating the Sites B and C. This meant the plotting of the height of the river and the pebble size was incorrect. In **Question 2** the proportional squares also presented no problems to many candidates but the lack of rulers, sharp pencils and care did limit the scores.

The Examiners also reported that it was more noticeable this session the fact that many candidates failed to quote the data as evidence when required. This especially restricted the marks in both conclusions. The quoting of figures from the investigations when requested would significantly raise the marks.

Many Centres would benefit from preparing their candidates by designing or discussing small investigations during the teaching period to enable the candidates to be more familiar with the type of skills required of them.

Comments on specific questions

Question 1

River investigation

(a)(i) The majority of candidates plotted the height of the land correctly on the Insert. They joined the points together with a smooth curve to form the long profile of the small river. Marks were lost if a ruled line was used and this was not an uncommon mistake.

(ii) The identification of the river features of rapids and waterfalls at Site A and flood plains and ox bow lakes at Site C appeared a straightforward response. Some candidates suggested other valid features and the less successful answers used the features on the field sketch.

(b)(i) The success of this question varied greatly from Centre to Centre. The requirement is common with any recording sheet and it is the information which makes the recording sheet unique and identifiable at a later date i.e. name, date, time and weather conditions. These are all appropriate answers.

(ii) The candidates' knowledge of field sketches varied. The best advantage of a field sketch may be the visual image given where pertinent features may be identified and many candidates correctly outlined the disadvantage of field sketches as inaccurate or misrepresentative.

(c) The level of response to this question showed that many Centres had taught these basic concepts of hydrology well. The best answers stated that the large rocks would increase the friction and the wetted perimeter thus slowing the speed of the water and causing turbulent flow. Other candidates also suggested the difference between the effect of the small and larger pebbles. This was a well answered question by the majority of candidates.

(d)(i) This question concentrated on the pebble sample method, not the site selection method. Although a more uncommon bar graph, many candidates plotted the pebble size at B and C appropriately by following the pattern introduced by Site A. The care taken to locate the sites tended to decide the success of this question.

(ii) Examiners reported that many candidates correctly stated that erosion was the process which reduced the size of the pebbles and then outlined or named an erosional process to gain the two marks. Some candidates showed that their geographical knowledge was less secure by suggesting that the velocity decreased downstream thus lacking in energy to carry larger pebbles. This was not an uncommon misconception.

(iii) The response to this question varied from Centre to Centre. The better answers recognised the weakness of the random sampling method as bias or possible student error whilst selecting the pebble. However there were far more Centres where the candidates mentioned the site selection or vaguely that the pebble sample would be inaccurate. This does indicate the benefits of thorough preparation for this paper by introducing sampling ideas.

(iv) Where this preparation had taken place, the candidates could suggest practical alternative methods of systematically sampling the pebbles, usually by using a measured regular interval or a quadrat to obtain a more representative result.

(e)(i) This question prompted the candidates to look closely at the velocity data and recognise that the velocity increased from Site A to Site C but also that there was an increase from A to B and then a decrease. There was only an allocation of one mark and so data was not expected or rewarded in this instance but the change in the pattern of velocity was important and gained the mark.

(ii) The most disappointing element of this question was the loss of marks by candidates because they merely agreed that the extraction had changed the velocity without stating the fact that the velocity of the water had slowed down. The reason the Examiners were looking for was simply that the extraction had made the river shallower therefore increasing the friction making the water slower and with less energy to transport the load leading to greater deposition. Only the most able candidates scored the full three marks although the majority gained one or two marks.

(f) The conclusion was generally well written as a summary of the investigation. However too many candidates ignored the instruction to state the data to support their findings therefore limiting their success to three marks. Candidates should be encouraged to follow these command words more closely.

Question 2

Traffic in a town

(a) Many candidates wrote in detail about traffic problems and often all three marks were awarded but, other candidates restricted their scores by only either outlining the reasons for traffic problems or describing the problems. The question required both aspects to be commented upon.

(b)(i) It was pleasing to notice that this rather familiar question was well answered by the majority of candidates with the speed and simplicity of the tally system being the most common answers.

(ii) Although the presentation technique may not be a common to many candidates, generally they coped well in drawing the proportional squares. The loss of marks was more often for a lack of care and accuracy rather than the calculation of the square size. The lack of, or incorrect, shading also restricted the available marks.

(iii) This question really differentiated the candidates. The more able candidates used the pattern shown on Fig. 3 to identify the change in traffic total away from Site P to always decrease as distance from the centre increased. The rapidity of the decrease varied depending upon the direction of movement. The less able candidates tended to ignore the pattern shown by the proportional squares and concentrated on the distances shown on Table 2. This caused for example, the candidates to suggest that traffic increased from R to S which is spatially incorrect. This meant the full marks could not be achieved.

(c)(i) Examiners reported that this was one of the most disappointing performances of the paper with the reason given being the lack of data quoted to gain the four marks. Obviously Site V always has more traffic than Site U throughout the day. Candidates should also mention the direction of flow during the traffic count times and how Site V differed, or was similar to Site U. The instruction was that each comment should use/state the data as evidence. Failure to follow this command restricted the available marks for this question.

(ii) The success of this question depended on the ability to identify the scale as 2 vehicles = 1 mm. The more able were able to cope well with this calculation which is a common skill for candidates undertaking the coursework component.

(iii) Likewise this calculation was difficult but there was a higher degree of success with candidates obtaining either 40%/41% or 78%/79% to score the mark.

(d)(i) The next two questions were also disappointing in the response of candidates with few candidates gaining full marks. Again this did vary from Centre to Centre, emphasising the importance of practical tasks at some point during the teaching time in preparation for this component. It is commonly understood that land use is the use of the land i.e. its function. The better answers identified the commercial nature of the CBD and therefore the pattern of traffic flow towards the area in the morning and away from the area in the later in the day. Other commendable answers included the traffic flow (usually with a time and direction) associated with residential land use, restaurant/entertainment land use, or supermarket/hypermarket/retail land use. The Examiners reported that the most common problem was the concentration on volume of traffic rather than the flow of traffic. This restricted the marks awarded.

(ii) The success of this question clearly reflected the familiarity of the candidates to fieldwork tasks – either personally or from past papers. The most successful answers outlined the practical details of forming groups and dividing up the town into manageable areas and the completing of a land use survey of the functions of the buildings (often at measured intervals along a transect) and often the use of a classification too. Undertaking questionnaires or more traffic counts was a more common response which failed to meet the mark scheme criterion.

(e) The conclusion to this second investigation generally scored more highly than the equivalent part of **Question 1**. The comments tended to be more organised although the candidates should be encouraged to comment on the hypotheses by stating a clear agreement or disagreement of the hypotheses. In this case both hypotheses are true although there were marks available for identifying the anomaly of the total traffic at Site V and the changing flow direction during the day to and away from Site P. The inability to quote the figures from Table 2 to support any comments again restricted the marks. As an evaluation of the data collection methods the more able candidates identified here that five minutes may not be long enough and taking the traffic survey on just one day may not be representative. The evaluation should be restricted to the data collection methods and going beyond this to comment on data presentation did not gain additional marks.