

GEOGRAPHY

<p>Paper 0976/12 Geographical Themes</p>
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Key messages:

In order for candidates to perform well on this paper they should:

- Study the whole paper and resources provided carefully before starting to write answers, in order to choose three questions, one chosen from each of **Sections A, B and C**.
- Answer all parts of the three questions they choose. A significant number of candidates omit all or some of those questions where there are no lines for the answer – these include graph and map completion (e.g. 1 **(a)** **(i)**), 1**(b)(i)**) and 6**(a)(i)**) and selection of multiple choice options (e.g. 3**(a)(i)**).
- Check the command words and words which indicate the focus and context of each question, to ensure only relevant information is included.
- Learn geographical terms and be confident in using them correctly.
- Use comparative words to make contrasts or describe differences when required.
- Take notice of the mark allocations and space provided in order to write answers of an appropriate length – answers which are too brief will not gain many marks and over long answers will waste time.
- Avoiding using vague words or statements which should be qualified or elaborated {e.g. pollution (what type), facilities (such as?)}.
- In those questions worth five or more marks attempt to develop ideas or link them to other ideas.
- Complete, use and interpret various types of graphs, maps and diagrams, and be able to use them to support ideas. When the word ‘only’ is used in a question ensure that the answer is based entirely on the source material provided.
- Be able to describe a distribution from a map and distinguish this from describing the location of specific features
- Have a wide range of case studies and choose them with care to fit the questions selected, including relevant place specific information. Do not include over lengthy and irrelevant introductions to any question.

General comments

A number of very able candidates in this cohort performed well across the paper and showed excellent geographical knowledge and understanding, writing answers of a consistently high quality. However, as always, there was a wide range of marks and most candidates, whilst not performing as consistently across the paper, did make a genuine attempt at most parts of their chosen questions, enabling the paper to differentiate effectively between candidates of all abilities.

There was a relatively small number of rubric errors, occasionally these consisted of scripts where all six questions had been answered, however most candidates making rubric errors tended to answer three or four questions from the six, selecting two from the same section rather than one from each section.

Most responses seen usually contained the correct amount of detail. Whilst some candidates wrote answers of excessive length others wrote answers which were too brief. Most however were guided by the mark allocations and space provided, the best responses being concise, yet sufficiently detailed and accurate in content. Some candidates made use of the continuation sheets at the back of the question and answer booklet, however some only needed to do so because they included far too much irrelevant material in their answers. It is important that candidates number any answers which they complete on these continuation sheets with the question number and sub-sections (not the page references of the questions).

Questions 1, 3 and 6 were the most popular questions. There were good answers to all questions, including those requiring extended writing, particularly the case studies on under-population, causes of an earthquake, changes which occur along a river and its valley, the causes of globalisation and the risks posed to the local natural environment by economic activity. Whilst some included unnecessary general introductions with

irrelevant information about the topic being tested, the best of these answers were well focused and understood, with developed or linked ideas and place specific information. Whilst a considerable number of well-informed candidates did develop their ideas many were generic with little place detail to support them. Less impressive responses were poorly focused with brief lists of simple points, sometimes in bullet points, not all of which were relevant. As always some candidates did not score marks consistently across the paper as they did not respond correctly to key words such as 'shape' in 1 (a) (iii) or 'employment structure' in 5 (b) (ii) and missed significant words like 'only' in 2 (a) (iii) and 'local' in 6 (c).

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

Comments on specific questions:

Question 1

This was the most popular question on the paper.

- (a) (i) Most candidates identified 3 million, however there were a significant number of candidates who missed the question out despite the fact that it was testing a relatively simple skill. A few responses wrongly gave the 'male' statistic whilst some used the 2015 pyramid.
- (ii) Many candidates did not refer to total population decrease but wrote about male and female decrease separately. Whilst they gained the mark for recognising a decrease these candidates did not score the second mark because they did not give the total decrease, giving separate male and female figures. Many of those candidates who did provide total statistics gave values within the tolerance, however others did not measure carefully enough to provide accurate answers. 'Around 6 million' was often seen for the 1980 value for example rather than the precise figure.
- (iii) Stronger responses from those who read the key word 'shape' referred to the 2015 pyramid being less triangular, narrower at the base and wider at the top for example. Some candidates referred to 'smaller' and 'bigger' rather than narrower or wider whilst many others wrote answers which did not focus on shape and so gained no credit. They concentrated instead on numbers of young and old dependents and economically active. Others attempted to explain the changes which was not relevant.
- (iv) On the whole this was well answered, many candidates giving comprehensive answers based on the ideas in the mark scheme. Weaker responses referred to migration or gave reasons for the increase in old dependents, whilst others briefly mentioned 'education' or 'health care' without sufficient elaboration to make the required points.
- (b) (i) Whilst many candidates scored all three marks, a significant number did not plot the percentage of 65+ figure. A few weaker candidates reversed the shading on the 2057 bar or misread the scale.
- (ii) There were some good answers covering many of the ideas suggested in the mark scheme, especially references to the workforce and increased government spending on pensions and health care for example. The question gave good differentiation with stronger responses frequently developing or linking their ideas for additional credit. Weaker responses stated that 'older people do not work' without explaining why this is a problem or gave irrelevant answers about the problems of countries with large numbers of people (e.g. traffic congestion).
- (c) There was a variety of case studies, with Australia and Canada being the most popular and successful choices. Many candidates knew what under-population was, but many did not fully develop their ideas about either causes or consequences. The better candidates developed ideas about physical reasons for low population, and the consequence of lack of labour, including its impact on the economy. Some candidates wrongly focused on natural causes and consequences of low population growth and some produced their China case study which was not appropriate.

Question 2

There were relatively few responses to this question, in particular very few high quality ones were seen. A significant proportion of the responses were from candidates who made rubric errors.

- (a) (i) Urbanisation refers to the increasing percentage of people living in towns and cities. Whilst many candidates referred to urban to rural migration or urban areas getting larger many omitted the crucial reference this increasing percentage.
- (ii) Most candidates identified the correct continents though a few stated 'Australia' rather than 'Australasia'.
- (iii) The majority of candidates were unable to describe the distribution shown on the world map as uneven or state that areas are widely distributed though most candidates scored one mark by reference to two or more correct continents. Some made reference to the distribution of the cities shown on the map instead of the areas with over 80 per cent of population living in urban areas whilst others clearly were unfamiliar with the command 'describe the distribution' as they attempted to explain.
- (iv) The question discriminated well. Stronger responses identified the ideas from the mark scheme such as work availability, education, water supply, food supply and health care, and tended to focus on pull factors, though push factors were also acceptable. There was a significant number of candidates who made generalised statements, such as better living standards, resources, services and facilities, which needed more precision for credit. Many weak candidates focused incorrectly on reasons for high birth rates.
- (b) (i) Some candidates identified that the buildings had iron roofs and were tightly packed. Other answers from the mark scheme were less common and many candidates gave only unfounded value judgements, such as dirty or poorly built, rather than making use of specific evidence from the photographs.
- (ii) Many candidates suggested ideas linked to lack of employment, small living space, water supply, crime rates, and the spread of disease. Better answers included developed or linked ideas, for example by referring to named diseases or types of crime or linking the lack of work to poverty and the associated problems caused by it. As always there were references to 'pollution', which without qualification does not earn any credit.
- (c) Most candidates started off their answer by describing the problems caused by urban growth, many in too much detail at the expense of answering the question about what has been done to reduce them. Also, there were some responses which related to population management (e.g. one child policy or incentives to reduce high birth rates) rather than infrastructure and urban development. Those who did focus correctly on what has been done to reduce problems tended to only describe simple ideas such as 'new roads' or 'new houses' and place detail was frequently absent from answers. Stronger responses focused on a particular issue and improvement scheme, such as self-help schemes in squatter settlements or the development of specific public transport networks.

Question 3

This was a popular question.

- (a) (i) Nearly all candidates who answered the question identified the divergent boundary, though there was a significant number of omissions.
- (ii) The question differentiated well. Stronger responses focused on the key word 'destructive', but many candidates described subduction but did not explain how this linked to the destruction of plates. Many incorrect answers referred to the destruction caused to settlements by volcanoes and earthquakes.
- (iii) This question also gave good differentiation. Most candidates referred to magma rising and the gap between plates opening. Fewer answers included the link between magma going through cracks to the surface or explained how new crust is created as a result of cooling.
- (iv) There were many well-labelled diagrams of a volcano and most of the shapes drawn were recognisable as strato-volcanoes rather than shield volcanoes. Correct features labelled were usually the magma chamber, crater and vent. Common mistakes were in labelling layers of lava (rather than lava and ash), referring just to 'magma' (rather than the magma chamber) or referring to features other than those of the volcano (e.g. smoke). A number of candidates drew a diagram of a destructive plate margin rather than one of a strato-volcano.

- (b) (i)** The question also discriminated well. Stronger responses made valid comparisons about the length of time the craters erupted, the distance lava travelled or the area lava covered, along with the different directions of flow. Some responses sometimes confused the distance travelled with the height the lava descended. Weaker responses tended to refer to the lava travelling faster or being less viscous rather than directly referring to the evidence on Fig. 3.2, whilst others gave answers which were not comparative.
- (ii)** There were some excellent answers covering several ideas, many of which were developed or linked to show good understanding. Most candidates explained the difference in the ability to predict and give warnings, thus allowing time to escape or evacuate when volcanic eruptions occur. There were also many references to earthquakes affecting a larger area, particularly ones which are more populated. Weaker responses tended to briefly mention relevant ideas then going on to include much irrelevant detail for example about the destruction and the causes of deaths, the influence of tsunamis and aftershocks, and methods of reducing the impacts.
- (c)** Stronger responses referred to the location of their chosen example on the correct plate boundary, along with details of correct plate movement and the build up and release of pressure. Case studies, such as Port-au-Prince (Haiti), Christchurch and Sendai were frequently used and place specific detail incorporated. Some candidates identified inappropriate plates to link with their example and others named an area which was not specific enough (e.g. an entire large country such as Pakistan or Turkey).

Many weaker responses seemed to be confused by the term 'causes' as they explained what damage an earthquake caused rather than the processes leading up to an earthquake occurring.

Question 4

- (a) (i)** Most candidates correctly identified location C.
- (ii)** Many candidates did not identify the features shown in the photograph correctly. There were more correct answers for the plunge pool than the overhang which was often identified as 'waterfall'.
- (iii)** Many candidates did not explain the process of gorge formation. Vague answers referred to 'erosion of rocks' or 'increased erosion' but showed no understanding of how a gorge is formed through waterfall retreat.
- (b) (i)** Most candidates used Fig. 4.3 well, identifying that flooded areas were below 200, that flooding occurred around the confluence and near to one of the named cities or rivers. Weaker candidates simply mentioned rivers and/or cities without naming them or attempted to explain rather than describe.
- (ii)** The question differentiated well. Stronger responses explained fully, giving several ideas from the mark scheme, including reference to impermeable areas, increase in river volume after a confluence, deforestation and lack of management. Weaker responses were brief with a limited number of ideas, suggesting for example that the rivers flooded because the land was low or because it was near a river.
- (iii)** The most common suggestions were to build a dam or reservoir, and planting vegetation. Good answers also included ideas about raising the banks, deepening the channel and controlled flooding of some land use zones.
- (c)** Answers were variable in relevance and quality. Stronger responses with excellent knowledge and understanding described changes which are included in the Bradshaw model, by identifying landforms found at different stages of the river or describing the changes which occur in river processes and features downstream. Many weaker responses in contrast did not describe change but simply described random river features or processes or referred to just one part of its course. Others decided to write in detail about the formation of a specific landform (e.g. an oxbow lake) without attempting to answer the question set. A common misunderstanding was that a V shaped valley becomes U shaped further downstream.

Question 5

- (a) (i) Most candidates identified the correct term but there were many variations. 'Indicator' was a common error.
- (ii) Most candidates correctly ordered the states. Occasionally candidates ranked them in the reverse order.
- (iii) Most candidates identified appropriate reasons for variation in HDI. Common suggestions included variation in education, healthcare, income, and natural resource availability. Less common correct responses included whether the state was landlocked or coastal, impacting its accessibility.
- (iv) Few candidates showed much understanding of the HDI and how effective it is as an indicator of development. Many candidates vaguely referred to it as including 'different factors' but relatively few identified measurements relating to health care and education or referred to these as social factors. Only the best answers suggested the idea of HDI being a 'composite indicator' and that it could be used for comparison between countries or to show change over time as a result of the 0 to 1 scale used.
- (b) (i) Many candidates correctly identified the employment sectors shown in the photographs, however weaker candidates made the mistake of simply describing the jobs shown in the photographs.
- (ii) This was a good discriminator. Stronger responses made clear links between the employment structure and level of development. They then explained these links by through ideas such as mechanisation, level of skill and demand for services. Weaker responses did not make the required reference to employment structure and merely wrote ideas such as more industry provides better jobs and higher pay.
- (c) Although most candidates had some idea of what globalization is, many focused their answers on its effects rather than its causes. Many referred to their case studies, such as Nike, Toyota, Nokia and McDonald's, though not all used them to explain the causes of globalization or did not develop their ideas fully. Most successful explanations developed ideas referring to specific developments in transport and technology, along with the improvement in global communications through the internet. A common error made by some candidates was to confuse globalisation with climate change and global warming.

Question 6

- (a) (i) Most candidates plotted the bar correctly, but there was a high omission rate. A common error was to draw the bar at 125 mm.
- (ii) Most candidates correctly identified two months from the graph.
- (iii) Many candidates correctly described the relationships between precipitation and evaporation though some either wrote about precipitation or evaporation without referring to the relationship between them. Some candidates gave accurate supporting statistics, though others simply quoted statistics without any interpretation.
- (iv) This discriminated well. Better answers suggested ideas included in the mark scheme, especially the use of a reservoir or dam, storage tanks, desalination, using underground water, and limiting water use, though some only gave one or two ideas. Weaker candidates sometimes did not refer to specific methods but wrote simply about saving water in the wet period to use when rainfall is low.
- (b) (i) The most common correct responses used latitude references accurately and/or referred to 'around the Sahara Desert'. Many candidates failed to make any further relevant points and far too many used phrases such as 'above the equator' rather than using direction and 'on the edges' instead of referring to the coast. General references to the distribution as 'uneven' and 'linear' were seen but were not common.
- (ii) This question differentiated well. Many candidates described negative impacts on farming and the consequences of that on food supply. High scoring answers also identified impacts such as the need to travel further to get water and eventual migration away from the affected area. Weaker responses tended to write brief and simplistic responses, including references to 'lack of water'

without specifying the impact of a shortage of 'drinking' water, whilst some wrote about the impacts in the natural environment rather than local people.

- (c) There were some detailed answers based on specific areas such as the Amazon Rainforest and the Pearl River delta and commonly referred to activities like logging, mining and tourism. Stronger responses included ideas which were developed by linking different effects such as water pollution to the death of marine life, and deforestation to the loss of animal habitats. Common mistakes made were to focus on the impacts on people and/or global effects, such as global warming, at the expense of local effects. Generally, there were few answers which included appropriate place specific information.

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Paper 0976/22
Geographical Skills

Key messages

- Care is needed when the question refers to physical features, natural features or human features (see **Question 1 (e)**). Misunderstanding these terms can lead to candidates writing irrelevant answers.
- The term *relief* is still misunderstood by some candidates (see **Question 2(b)**).
- When describing distributions on maps candidates should avoid non-geographical expressions such as above, below, left and right and refer to compass directions (see **Question 2(a)**).
- In photograph questions candidates should focus on what can be seen in the photograph rather than speculate on what cannot be seen (see **Question 5(c)**).

General comments

Candidates performed equally well across the six questions with certain aspects of all six questions proving more difficult. There were many outstanding scripts with many candidates scoring marks in the fifties. There were few weak scripts.

Question 1

- (a) Many candidates were able to score full marks on this section, showing good skills of finding features on the map and identifying them using the key.
- (b) Many candidates scored three marks by noting services provided for tourists such as *campsite*, *museum*, *tourist information centre*, *seaside resort*, *casino* and *hiking trail*.
- (c) Candidates usually scored at least two marks when comparing features of the two areas and many scored full marks. There was little pattern to the incorrect answers, although *land over 25 m above sea level* caused problems in some responses.
- (d) The stronger candidates scored full marks on this part of the question. The distance along the road was *2875 m* and the compass direction was *south east*. Most candidates gave correct answers for these, but the bearing and grid reference proved more difficult. For the bearing a tolerance of 123° – 126° was permitted. The grid reference was *932704/5* with tolerance allowed on the sixth figure.
- (e) Candidates frequently scored full marks when describing the natural features of the coastline. A wide variety of points was given credit such as *bay*, *headland*, *beach*, *tidal mud flats*, *flat rock*, *island*, *intermittent water course*, *marsh* and *forest*. A minority of responses gave human features rather than natural features and did not gain any credit.

Question 2

- (a) In both parts of this question candidates had to describe features of the distribution of areas on Fig. 2.1. The areas with 0–5 people per km^2 were *along the Equator* (or *in the north*) with a second area *in the south*. Much of both areas were *inland* or *away from the coasts*. In contrast, the areas with more than 40 people per km^2 were *coastal*, particularly *in the east* and *north west*. Full marks were common although some candidates did not gain credit because they used expressions such as below the Equator or above the Tropic of Capricorn.
- (b) Most candidates knew that a relief map referred to altitude but significant numbers either omitted the question or referred to rainfall or aid. The second part of the question required candidates to

describe the relationship between population on Fig. 2.1 and relief on Fig. 2.2. This proved to be difficult for many candidates who needed to refer to the lowland below 200 m being sparsely populated while higher areas were more densely populated.

- (c) When using the information provided to suggest why there were areas of high and low population density along the Equator, candidates were given credit for simple descriptive points such as the *variation in altitude* or *variation in distance from the sea* or, alternatively, reasons such as *high altitude being cooler* or the *coasts having advantages for trade*. The quality of response was variable. Weaker candidates needed to use Figs. 2.1 and 2.2 as instructed to gain higher marks.

Question 3

- (a) Almost all candidates were able to plot the number of district towns on Fig. 3.1. They were equally successful in recognising the *inverse relationship* between the number of settlements and position in the settlement hierarchy. They usually recognised that the number of local service centres (LSCs) was *lower than expected* (or *lower than the number of service centres (SCs)*).
- (b) When describing the distribution of settlements on Fig. 3.2 credit was given for noting the fairly *even distribution* with slightly *more in the south*, *along the roads* and *close to the boundaries*. Many candidates noted the link to roads, but the other points proved more difficult.
- (c) Most candidates realised the Templemore had not grown into a more important settlement because it was *away from the main roads*. Some noted that Cahir had grown into an important settlement because it was at a *road junction* (or *route centre* or *nodal point*). Those who simply said that it had good road links were not given credit. Most candidates realised that the location of Clonmel as the regional town of County Tipperary was unusual in that it was *close to the county boundary*. The better candidates went on to say that this meant that it was isolated from the rest of the county.

Question 4

- (a) Candidates were required to add labels to the field sketch to show the features of the coastline in Fig. 4.1. A number of candidates omitted the question. Credit was given for points such as *cliff*, *headland*, *stack*, *stump*, *rock layers*, *notch*, *cave* and *wave cut platform*. Responses usually managed scored at least four of these points and their labels were very clear. Weaker responses confused stack and stump.
- (b) When suggesting how the feature in the centre of the photograph (the stack) might change in the future most candidates were able to score two marks by referring to *undercutting by coast erosion*, *collapse* of the stack which would result in a *stump*.

Question 5

- (a) Candidates generally scored two marks for selecting the correct statements about the distribution of areas of hot desert climate. These were: *they are mostly between 30°N and 30°S* and *they are mostly on the west sides of continents*. The most common error was to include *they are in temperate latitudes*.
- (b) Candidates generally scored three marks for selecting the correct statements about the climate shown in Fig. 5.2. These were: *there is low annual rainfall*, *most rain falls in winter* and *there is a high annual range of temperature*.
- (c) When describing the features of the vegetation shown in Fig. 5.3 credit was given for points such as the *tall tree* with a *wide trunk*, the *trees far apart*, and *not in leaf*, *scrub* and *dry grass*. All these points were frequently given by candidates. The second part of the question required candidates to use evidence from Fig. 5.3 only to explain how the vegetation was adapted to the desert climate. Candidates generally referred to the *bulbous trunk to store water* or the *small or lack of leaves to reduce transpiration*. Some candidates ignored the instruction to use evidence from Fig. 5.3 only and described the roots of the vegetation which were not visible in the photograph, which did not gain credit.

Question 6

- (a) Most candidates recognised *oil* and *natural gas* as the two non-renewable fuels. *Biofuels* was a common error.
- (b) This question tested candidates' knowledge of energy, and the benefits and disadvantages of nuclear power. The quality of the responses was very variable. There were some outstanding answers while others lacked any detailed knowledge of the topic. The points most commonly credited included: for – *small amounts of fuel are needed to produce large amounts of energy, uranium will last a long time, it does not produce greenhouse gases, it is not weather dependent, and it provides jobs*; against – *concerns about safety or health issues, disposal of waste issues, the high cost of building, the link to nuclear weapons and security issues such as terrorism*.

GEOGRAPHY

Paper 0976/03
Coursework

Key messages

This report refers to the performance of centres in the June 2021 examination, however, the comments made here are equally applicable for centres that make their entries for the first time in November 2021 or during 2022.

The original entry for the June 2021 session was slightly reduced compared with the IGCSE Geography Coursework Paper in June 2019. However, this number declined markedly due to the COVID-19 pandemic across the entire world, with some centres withdrawing at the last minute, even after their coursework submission had arrived at CIE. An increasing but small number of centres outside of the UK have opted for 0976 03 rather than 0460 03 paper.

It was reported by the team of Moderators that nearly all candidates clearly followed the Route to Geographical Enquiry and that year on year, the quality of coursework submissions from established centres continued to improve. They were also impressed by the way some centres were able to adjust to the increased constraints imposed by the COVID-19 Pandemic. Indeed, some turned it to their advantage, for instance comparing numbers of tourists or pedestrian and traffic counts at the present with data collected by previous cohorts of candidates before the COVID-19 Pandemic restricted movement of people.

It is strongly urged that centres read and take note of this report's content together with the *Moderator's Comments on school-Based Assessment of Coursework* which each centre receives. These are the main vehicles for feedback to centres, particularly since the Outline Proposal service will be phased out by CIE after November 2021, so this will be the last opportunity to get plans vetted. The latter is to be replaced by more in-depth information on the CIE website.

Once again, it must be stressed that this report focuses on points where the moderation process could have been a little smoother or where candidates could improve their coursework in order to access the higher grades. Where there were problems, it usually stemmed from centres whose staff had not received training on how to run and/or mark the coursework option. There is training available online for teachers who are new to the coursework option. There is also the Coursework Handbook available from CIE which includes examples of coursework which are annotated to show how they should be marked. Training courses at present have unfortunately been extremely curtailed, owing to the COVID-19 Pandemic.

General comments

The range of Topics undertaken possessed a little less variety compared with the June session in the past years. Coursework submissions on Human Geography topics outnumbered those on Physical Geography and this may reflect that it was easier during the Pandemic for some centres to collect data online, for instance using questionnaires. Human Geography topics tended to be based on tourism or the characteristics of different zones in urban areas (for example land-use and traffic flows) and service provision, whilst Physical Geography ones were predominantly on rivers, with some on coasts and local weather or microclimates. Once again there was no evidence that candidates did better on one or the other or when they used past data (due to the COVID-19 Pandemic), instead of being able to go out in the field themselves.

Coursework submissions were generally well focused and most, but not all, achieved a good balance between the five sections of their studies. Background information was usually appropriate in content, but some tended to be disproportionately long compared to the analysis and conclusion.

The Moderators also praised candidates whom despite the onset of COVID-19 Pandemic proceeded with their coursework apparently undaunted. One wrote that 'Nearly all candidates clearly identified the impacts of the COVID-19 Pandemic and described how their fieldwork strategies were adapted, either in their data collection write-up and/or in their evaluations'. Using the data from previous year's research proved no real obstacle to most candidates.

Most studies were well focused and kept to the word limit. The better studies were those that were more concise. There were only a few that were well overlength (over 2500 words); these tended to be a little verbose and/or lost sight of the original aims of their investigation. It could help if candidates declared their word count in future submissions; this should help them to analyse their findings in a more succinct fashion. Please note that where text is placed in tables, this also counts towards the word limit.

It is expected that data is collected in groups. This is then collated by a teacher and redistributed to the candidates for them to work on their individual hypotheses. However, where candidates collected their own data in small groups this did not tend to work so well. For safety reasons CIE would not endorse candidates being allowed to collect data on their own, 'in the field'. Should a candidate need to add extra data for their own study to that which has already been collected as a group, it is expected that they are accompanied by an adult, especially when administering questionnaires or collecting data on a river or along a beach.

Comments overall

Centres must again be commended on the organisation of their fieldwork data collection programmes. Although most of the teaching for many centres took place online which only goes part of the way to substituting for face-to-face guidance in the classroom, there was very limited evidence to indicate that candidates had little idea of the purpose of their data collection.

On the whole candidates were able to demonstrate sound background knowledge regarding their chosen topic. Geographical theory which was described in the introduction however, often lacked application with any degree of detail in the Analysis and Conclusion.

The *Organisation and Presentation*, remains the strongest part of the study for many candidates with the best studies deploying a range of techniques, both simple and complex, effectively. However, some scanned graphs and maps were not always legible. The data collection exercise was also well described by the majority of candidates who thus scored highly for the *Observation and Collection of data* criteria. The *Analysis* continues to be the weakest section, and although description of the data was often thorough it lacked explanation or the explanation was rather speculative. The *Conclusion* often lacked reference to key data, which prevented access to the higher Level 3 marks, The *Evaluation* was in comparison, stronger and revealed that many candidates had a good appreciation of some of the drawbacks of their data collection strategies, as well as clearly enjoying the experience of working outside of the classroom.

One area of concern for Moderators was that in some centres candidates were given too much guidance regarding the content of their studies and that it was difficult to tell some studies apart particularly when they used the same computer-generated graphs. While the data collection must be a collaborative exercise, individuality is key to achieving the highest marks. This can be achieved by candidates;

- researching their own background information
- attempting at least one hypothesis which is not attempted by other candidates
- representing their data by graphs and maps and field sketches which are clearly individual
- using their own photographs

These are in addition to a candidate's own analysis, concluding comments and evaluation.

There is still a tendency for some candidates to attempt too many hypotheses. This often, sacrificed detail in the analysis and explanation in which candidates could demonstrate their level of understanding. It must be reiterated here that centre's must ensure that enough numerical data is collected on any one parameter in order that their candidates have enough data to identify trends and anomalies, perform statistical analysis if desired, and account for their findings with reasoned explanation.

Moderators praised the hard work of markers and their accuracy in applying the *Generic mark scheme for Coursework assessment*. In nearly all centres it was applied consistently with the order of candidates remaining unchanged. This made applying adjustments relatively easy. While many were negatively

adjusted, this was by no means across all of the mark distribution and for many centres there was no change. There seemed to be a pattern of negative adjustments above 48 marks and positive ones for those below 35. The *Analysis* and the *Conclusion* were often over-marked, while *Organisatation and Presentation* were under-marked. Those very few centres which had a large adjustment applied, were generally relatively new to the moderation process; the reasons would be detailed in the document *Moderator's Comments on School-Based Assessment of Coursework* which each centre receives.

Comments on specific assessment criteria

Since each centre will receive a separate coursework report on their own submission, which will refer to both particular strengths, and weaknesses, it is points that are common to several centres which are reported below and are based on each of the assessment criteria in turn.

The criteria of *Knowledge with Understanding* tended to be assessed appropriately. However, markers are reminded that this criterion should be assessed across the whole study and not just in the introduction where much of a candidate's knowledge is often stated. However, new knowledge may be introduced in the *Analysis* to explain trends or anomalies. Similarly, the level of understanding will often manifest itself in the *Analysis* and *Conclusion* where one can judge how well the theory introduced at the beginning has been applied. In the *Presentation*, the understanding of how appropriate certain types of graph might be, can contribute to the overall assessment of understanding, as can the appropriateness of the use of and interpretation of the results emanating from a statistical technique. Relevant comments made by the marker on the script, for example when a theory has been appropriately applied or indeed a well-reasoned account of why it has been dismissed, are very useful in the moderation process.

It is still the case that many introductions are too long. Background information whilst often appropriate in content was disproportionately long compared with other parts of the study. Clear aims were usually stated and those centres which encouraged their candidates to use two core hypotheses and a third chosen by the candidate him/herself resulted in a more focused study with greater evidence of individual work. The use of four or five hypotheses or a generic guiding question was usually associated with a superficial analysis.

The better studies tended to introduce the aims and then their hypotheses at the beginning. The latter were well justified, often consisting of the expected outcomes for each hypothesis, usually based on theory with appropriate use of geographical terminology. Background information regarding the study area was kept to a minimum with cultural and historical detail only being included where it would have a direct bearing on the study's results. Once again, the most common theories which were utilised were those of Bradshaw, Butler and Burgess and Hoyt; in the best studies these formed a focal point throughout.

For some studies the introduction possessed just a list of hypotheses with little or no comment as to why they were being tested or any idea of a predicted outcome. For some new centres the hypotheses were far too general, thus the studies turned out to be far less focused on specific aspects of the topic which were to be tested. Rarely, it was obvious that the candidate did not understand the nature and purpose of a hypothesis. The hypotheses were often prefaced by a block of theory often scanned in from textbooks or from internet sources but with little indication to explain why it had been included. A glossary of geographical terms should be discouraged, since this takes up wordage which could be used to good effect elsewhere.

It is good practice to include a map of the study area to locate the places where data was collected. In addition, those who undertook river studies often located their river as part of the overall drainage basin in the region. However, it is important that these maps, whatever the source, have a scale and orientation. Where they are scanned into a space on a particular page, it is important that the detail on the map is still legible. Furthermore, it is expected that these maps are utilized by the candidate, for example using annotations to indicate the relevance of various locations to the study. It was reported by one Moderator that there was still an overreliance on Google Maps (both maps and satellite images) with little or no customisation to the study location. A few candidates still include three or four maps at different scales to show the study area at a world, continental, regional scale etc. This is not necessary and generally adds little to the quality of the study. Some Moderators praised the inclusion of hand-drawn maps which were accurately reproduced and fit for purpose.

On the whole, markers assessed the *Organisation and collection of data* accurately. The Moderators were impressed by candidates who were able to describe their data collection techniques very accurately despite having not taken part in the fieldwork data collection due to COVID-19 restrictions. This was particularly the case when using a past cohort's data for river studies.

It is now well established that individual candidates should not go out on their own to collect data. This seems to have been reinforced by the COVID-19 Pandemic. When working in groups the fieldwork collection strategies were carried out in an organised way with each candidate playing their part in order to establish a pool of data from which individuals could draw from in order to confirm or reject their hypotheses. However, many candidates did not justify the data collection sites and the methods of sampling. Indeed, it appears that the different types of sampling are sometimes misunderstood

The Moderators also noted that the COVID-19 Pandemic seemed to cause significant disruption to data collection routines for some centres, but not others. Some introduced novel ways to sidestep going out into urban areas, for instance, the use of online questionnaires which were collated in the same way as if they had been collected in the field. When this was the case most centres managed to collect data from over the recommended 50 questionnaires. However, the sampling rationale often went undescribed, whilst others made it clear that it was from relatives and friends even if they lived in a different part of the country. For tourism related topics the before and during the COVID 19 Pandemic comparison of data, promised much potential, one which was taken by many candidates but not all, with some failing to use the past data which had been made available to them. Online interviews were also held by some candidates, again with varying degrees of success; the best results being obtained where the extraction of information was added to data from a variety of other sources, both primary and secondary.

Having recognised the problems that some centres might have in collecting data, CIE advised that numerical data could be utilised from secondary sources such as weather stations or censuses. One or two centres who were new to the coursework module set a topic/topics in an essay format that entailed collecting and synthesising information culled from the internet or textbooks. These tended to take only a cursory note of the Route to Geographical Enquiry and thus gained little credit for Organisation and Collection of data.

The amount of data collected by some centres is an issue for some. Centres that allocated more than half a day to data collection almost inevitably achieved much better results than those who attempted to collect data in one or two hours. There are also centres who visit no more than 4 sites to collect data on a variety of river parameters (largely those found in the Bradshaw model); this does not tend to yield enough data on any one factor, for example river velocity, even if the experiment is repeated to increase data reliability. It must be emphasised that participant safety is of paramount importance, however, where four sites are identified, it might be possible to collect data at multiple places at each site, each for instance 150 metres apart.

Many centres now encourage their candidates to describe their data collection in the form of tables. It should be made clear that this wordage does count towards the overall word count. Many include some evaluation of each data collection technique; this is best left for the concluding section of each study in order to prevent repetition.

The most successful studies included tables of the data collected. This is vital evidence to show the origin of data used in the production of graphs and are helpful for candidates to pick out trends or highlight anomalies in their analysis. These tables of data should thus be integrated with the presentation and analyses sections and not placed in an appendix at the end of the study.

Moderators reported that assessment of *Organisation and Presentation* exhibited the greatest variation in marks given by centres compared with the moderated assessment. This is due to similar reasons as in November 2020 and are thus, worth repeating. Some studies which scored higher marks were overmarked due to the lack of complex methods of data presentation and/or the absence of location maps which had not been utilized by the candidate or did not possess both scale and orientation. Meanwhile, some lower scoring studies which used at least three different simple techniques or included one complex technique tended to be underscored. These techniques must be effective in portraying the data and this session, there were examples of line graphs used for discrete data rather than continuous data which meant they were inappropriate. It should also be noted that different sorts of bar graphs only count as one technique. Furthermore, the same data presented in a number of different ways is likely only to count once

With the exception of the few candidates which did not undertake primary data collection or have access to numerical secondary data, all studies were well organised and clearly followed the Route to Geographical Enquiry. Most included an index of contents which was accurately linked to page numbering where it existed. Bibliographies were not always provided, but where they did exist, references were conscientiously recorded. Where information or diagrams is sourced from textbooks or the internet, these should be documented, albeit briefly. Most now integrate their graphs with the analysis, which means that they can focus on each graph in turn to draw out points which can contribute to the eventual confirmation or rejection of each hypothesis.

Organisation and Presentation scored the most highly of the five criteria and Moderators reported how impressed they were with the skills demonstrated by some candidates. Compound bar graphs, located pie charts, field sketches, radar graphs and scatter-graphs with a line of best fit were just some of the complex methods used by candidates effectively. However, there is still a reliance on basic, bar, line and pie charts by many. There were few worked examples of Spearman's Rank Correlation which could have counted as a complex technique. Correlation coefficients were, in many cases, obtained just by pressing a computer key.

Some candidates need to understand more about how they can make their graphs more effective to convey the data they wish to display. Once again, there seemed to be many incomplete bar and line graphs, which having been drawn accurately, lacked axis labelling, particularly on the Y axis. Such labelling should include the name of the parameter along with the units. On some occasions, titles were also missing. Since the majority of graphs are produced by using computer programmes, it is wise that having inputted the data, candidates inspect the results carefully and make any necessary amendments. In addition, beach profiles and river cross profiles were often drawn very accurately, but each one had a different scale which made comparisons between them very difficult.

This session there were some very well annotated maps and photographs, for instance, demonstrating how or where the data was collected. However, there were also some without annotations or even labels or a title, and which were not referred to in the text. These served little purpose. Many candidates would also do well to note what is expected by annotations, i.e. clear descriptions of features (not just a label) which are located with an arrow.

Many candidates from some centres used the same computer-generated graphs in their presentation. If the same data is inputted, this is an inevitable result, so this further demonstrates the need for at least one original hypothesis for each candidate. Some candidates were able to manipulate the data to produce graphs which were different, for instance by using averages or calculating the mode or standard deviation of certain data sets.

The *Analysis* tended to be overmarked at the top end of the mark distribution. Markers should clearly identify reasoned explanations in order to award high Level 3 marks. Whilst analyses have continued to improve for more established centres, for new centres in particular, it is the weakest criterion for many candidates. Although candidates often describe their results well, using data from the graphs and relate the analysis to their hypotheses, the explanations for their findings were usually brief and/or speculative. It was however reported, that the better responses used field observations, credible secondary data and/or geographical theory to substantiate their findings. Some identified anomalies but the explanations were often tenuous and some blamed unreliable data collection techniques. Again, it is worth stating that phrases such as 'The reason might be/could be/may have been', should be avoided when attempting an explanation. It was also noted that the few centres which used statistical techniques, did not exploit their results to their full potential. Correlation coefficients, for instance, often went untested for significance and the coefficient value itself was poorly interpreted. Where many hypotheses were tested, it often meant that there were insufficient values on any one set of data and this led to a lack of depth in interpretation. Traffic counts for instance could have been taken more often during any day or on different days of the week, giving scope for comparisons to be made as well as the calculation of averages. Furthermore, some candidates described data which although part of a group data collection, was not relevant to their chosen hypotheses. This was more likely to happen where only the data from a few questions was needed from a shared group questionnaire.

The *Conclusion and Evaluation* was marked accurately apart from the highest scoring studies. Here too much credit was given for accounts which lacked key data. By and large candidates focused on their hypotheses either confirming or rejecting them and summarised their findings quite clearly. However, explanations were often superficial and not clearly related to the evidence collected. The latter should be either examples of numerical data or stated characteristics shown on graphs, maps and tables which are clearly referenced; for example 'On Fig. 1 it can be seen that.....'. Better responses did refer back to the theory outlined in their introduction, for instance, stating at which stage of the Butler Model, a particular tourist resort had reached.

The evaluations were often better than the conclusions and candidates who were not able to undertake data collection but used past data, should be commended for their insight, considering that they were not actually present. Many centres prepared their candidates well for the evaluation and this led to valid discussions about data collection with realistic improvements. Discussion on the sampling procedures, however, were largely absent. Furthermore, comments such as 'We did not have long enough to collect data' were common. Weaker responses tended to give generic improvements such as 'We needed more time' or 'Collect more data'.

Administration

Most centres got their coursework sample submissions to CIE on time, before the 30th April deadline, with the appropriate paperwork completed accurately. The latter consisted of the candidate Summary Assessment Form together with the MS1 or the Internally Assessed Marks Report. Please make sure that an Individual candidate Record Card is attached to the front of each script and not sent in the overall package in one pile. Candidates were listed in candidate order on the Coursework Assessment Summary Form, which also helped moderation.

Most coursework samples represented the mark distribution well, and, included both the highest and lowest scoring candidates. Please continue to double check the paperwork to make sure there are no mathematical errors either in the addition of marks on the Coursework Assessment Summary Form or in the transcription of marks to the MS1's. Very few errors were detected this time round.

Moderators reported how useful it was to have comments on each of the scripts to justify the marks awarded. These generally used the wording from the Generic Mark Scheme for Coursework Assessment. These facilitated the smooth running of the moderation process and on the very odd occasion, highlighted when a marker had misinterpreted the mark scheme. If your centre has not done so, it would be very much appreciated if markers make these comments (in pencil) on the scripts for your next submission.

Where a centre has more than one marker it is essential that an internal moderation takes place. There have been occasions when one marker's marks from a centre has differed markedly in standard from the remainder of the markers and an internal moderation is the best way to resolve this issue.

There is evidence that an internal moderation has been carried out by most, but not necessarily, all centres, and marks changed accordingly. However, please make sure that any changes are reflected not only in the total mark awarded out of 60, but also in changes to the marks for the individual criteria, which are written on the Individual candidate Record Card. This information is essential for the Moderator's job to be carried out effectively.

GEOGRAPHY

Paper 0976/42
Alternative to Coursework

Key messages

Here are a few messages to pass on to candidates and to consider in their preparation. These have been suggested by Examiners, based on scripts they have marked.

- When answering Hypotheses questions that ask whether you agree or not, always give your opinion at the start of your answer before any supporting evidence. This will usually be *Yes*, *No* or *Partially/To some extent*. Do not just copy out the hypothesis if you agree with it. It is important to make a decision and state it as well as provide the data or evidence for your choice. Be clear in your decision – expressions such as *'might be true'*, *'could be false'*, *'true and false'* are too vague.
- If you are provided with a decision about a hypothesis – not the case on the paper this session but could be in future – do not then disagree with it and try to justify your view. You need to support the decision made with evidence. Note that if the question requires data as evidence you must give numbers and statistics; descriptive statements will not count for credit. If evidence is asked for, this can include numbers and descriptive statements.
- When giving figures in an answer always give the units if they are not stated for you e.g. **Question 1(c)(iii)** *'Rainfall is 10mm at the university which is 2mm higher than 8mm at the school'*. It is also important that your numbers are clear e.g. a 1 can look like a 2; 4 can look like a 9; a 7 can look like a 1, sometimes a 2 looks like a 5. Candidates' writing must be legible; credit cannot be given if the answer cannot be read.
- When shading or completing graphs, use the same style as that provided in the question and make sure a sharp pencil gives a good dark image. Check you understand the scales used and the importance of any plots already provided. If adding plots to complete a graph, these should be in the same style as the plots already on the graph e.g. crosses should be crosses not dots – ref. **Question 2(e)(i)**.
- When completing pie charts or divided bar graphs, complete these in the order of the data given and in the order of the key which conventionally will be clockwise on a pie graph and from left to right on a divided bar graph. Use the protractor and calculator to work out the correct degrees and plot the line carefully; do not rely on judging the plot by eye. Make sure your shading matches the key e.g. if the shading is horizontal do not draw shading that slopes to the right or left. These points were important in **Question 2(d)(i)**.
- If you are referred to data from a table or graph use the exact figures from the table rather than make judgements from the graph. Try to avoid words like *'almost'*, *'nearly'* or *'approximately'* and choose a precise number e.g. in **Question 2(a)(ii)**.
- When you think you have finished, go back and check that all graphs have been completed; too many candidates lose easy marks by missing out graphs e.g. **Question 1(b)(i)**, **Question 1(b)(iii)**, **Question 2(d)(i)**, **Question 2(e)(i)** and **Question 2(f)(i)**.
- Read questions carefully and identify the command word e.g. *Describe...*, *Explain...*. A question that asks *'Why?'* requires a reason to be given not a description.
- Check you are using the resources that a question refers you to e.g. **Question 1(b)(ii)** Fig. 1.2 and Table 1.1.
- Take into account the marks awarded. Examiners do not expect you to be writing outside the lines provided so do not write a paragraph when only two answer lines are given – this wastes time.
- Be careful with the use of terms such as *'majority'* when the correct term would be *'highest'* or *'most'*. The *'majority'* must be more than 50 per cent of the statistics being described and is not a term that will be accepted if the data involved are less than 50 per cent e.g. **Question 2(d)(iii)**.
- It is important that, when you write the remainder of an answer elsewhere, you signal it by writing something like *–continued on page 14'* to ensure it is seen. It needs also to be noted that quite often a number of candidates give the wrong sub-section number to their extra work which made it more difficult to match to their earlier answer and credit correctly. If you need to add extra work make sure you use the extra pages provided; do not request an additional booklet which then complicates the marking process.

- You are expected to have a calculator, protractor and a ruler in this exam; it was apparent in several cases that these did not appear to be used e.g. drawing bar graphs or working out degrees for the pie graph.

SECTION 3

General comments

Most candidates found this examination enabled them to demonstrate what they knew, understood and could do. It appeared to be a positive experience for many candidates with most questions being attempted by candidates and most achieving marks on most sections. The overall range of marks was from 2 – 59 (0 – 57 in 2019) with weaker candidates scoring on the practical questions such as drawing graphs or completing tables, making calculations and making choices from tables. Stronger responses scored well on the more challenging sections requiring judgement and decision-making on hypothesis choices with evidence and other written answers.

There is less general advice to be given for areas for improvement with this paper as with others. As there are no question choices to make, it is difficult to miss sections out – though candidates do (especially completion of graphs) but less so than in previous sessions. There were no reports of time issues as the structured booklet format does not allow or encourage over-writing of sub-sections.

Most points for teachers to consider, when preparing candidates for future Paper 42 questions, relate to misunderstanding or ignoring command words and the importance of experiencing fieldwork – even if is only in the school grounds or simulated in the classroom. Particular questions where candidates did not score well often relates to them not fully reading the question or just completely missing out straightforward graph completions. Such failings mean that some candidates do not obtain a mark in line with their geographical ability and is an area that centres should work on.

Although this is an *Alternative to Coursework* examination, candidates will still be expected to show that they know about fieldwork equipment, how it is used and fieldwork techniques.

Any fieldwork experience is worth doing even if there is only limited opportunity within the centre. Familiarity with maps, tables, sampling methods, measuring instruments and the various graphs and other refining techniques listed in the syllabus are also important for success in this examination.

Question 1 was of equal accessibility to **Question 2**. This question focused on measuring the weather with an emphasis on measuring and recording rainfall at a school and comparing results with a local university which used an electronic weather station. It also involved knowledge of a rain gauge, a wind vane, cloud types and units of measurements and how a sunshine recorder would be used. Data on rainfall and wind direction was provided as was a photograph of a sunshine recorder for reference. Candidates were required to complete practical tasks such as drawing a labelled rain gauge, completing bar graphs, adding plots to a dispersion diagram and matching cloud types to descriptions. Candidates needed to make judgements about two hypotheses using data as well as applying knowledge and understanding to agree or disagree with them.

Question 2 was of similar accessibility to **Question 1**. This question was about candidates at an international school studying tourism in Singapore. Candidates needed to answer questions about the effect of global events on tourism and the distribution of tourist attractions alongside the impacts of tourism on the country. They needed to know about different sampling techniques to carry out a survey on visitors and how to decide on appropriate questions to test different hypotheses. They were also asked to consider the reasons for visiting Singapore and whether there was a link between the distance travelled to get there and the number of days visitors stayed for. A graph of visitor numbers, a map of tourist attractions and information on the reasons for visiting plus the sources of visitors were provided in the Insert. A copy of the survey sheet used was provided with three survey sheets containing errors in the Insert. Candidates were required to complete practical tasks such as a pie graph, a scatter graph and a flow chart on a map in the answer booklet. Candidates needed to make judgements from evidence with regard to two hypotheses; they were also required to judge three errors on three different survey sheets.

Comments on specific questions

Question 1

- (a) (i) This was very well answered with most candidates choosing '*away from trees...*' and '*remote from people...*'. The few incorrect responses included the '*on a hillside...*' choice.
- (ii) Very few candidates gained 3 or 4 marks for their labelled drawing of a rain gauge which is a standard weather instrument that candidates should know and understand well. Only a few included the funnel (often mislabelled as a filter), a measuring cylinder and an outer container which are the three basic parts of the apparatus; in many cases there was no outer container. Several labelled site factors e.g. '*30 cm off the ground*', which were not aspects of the instrument itself. A few drew some reasonable alternative rain gauge types including pluviometers. Others drew wind vanes, anemometers or thermometers; a concerning number did not attempt this at all.
- (iii) Almost all candidates knew that NESW meant North, East, South, West or that they were compass or cardinal directions for 1 mark. Some stated '*bearings*' which the directions are not. Many responses, though not the majority, made it clear that the pointer on a wind vane pointed to where the wind was coming from – not to or vaguely '*where the wind was blowing*'. The wind vane is located on the roof to stop obstructions such as buildings or trees obscuring or interfering with the wind thereby giving an inaccurate reading. Some vague answers referred to getting '*accurate wind*' or getting '*sufficient wind*' and a few thought it was put there to avoid being tampered with by people or animals.
- (b) (i) There was some excellent plotting of 2 mm and 5 mm bars produced by almost all candidates. A few drew the 2 mm bar at the right height but rather narrow as it only covered two squares instead of three. A small number of candidates did not attempt adding the missing bars thereby not gaining two straightforward marks.
- (ii) The majority of candidates did judge correctly that the hypothesis was correct. Although correctly agreeing that most rainfall came from the west, they did not always choose a related figure from other directions to provide paired data for a mark e.g. stating that 24 mm from the west was the highest would not gain a mark without reference to a lower total from another direction e.g. 2 mm from the north east. Some recognised the 4 days that had the highest rainfall were from the west and compared this with less rainfall data on other days from other directions which was acceptable. Some referred to no rainfall from the east but the wind never blew from that direction. There were a few vague answers with no data e.g. rainfall was more from the west than other directions – which, without data, is just repeating the hypothesis. This needed comparative data from the resources to gain credit.
- (c) (i) Most candidates gained both marks here by recognising primary data as being found from original sources or first-hand by the researcher/candidates themselves and secondary data being information or records that were already available or second-hand having been found by other people. Some inappropriate answers compared old/new data or reliable/less reliable data as primary/secondary. A few thought primary involved no instruments but secondary was obtained from instruments such as the weather recording instruments.
- (ii) The most frequent advantages of using electronic recording instruments most often stated by candidates were that they were more accurate/reliable and faster than traditional instruments although this was not a comparative question. Other acceptable responses included that they were less prone to error, that they could store data and that the candidates did not need to be with them at certain times as they provided data 24/7. The fact that they are '*automatic*' on its own was not accepted as an advantage nor was the fact that candidates could do less work or that they would be safer in the event of a thunderstorm/lightning outside.
- (iii) While there were some good plots in the correct space on the 4 mm/1 day location, quite a few put the cross to one side of the gap thereby losing a mark. The 3.2 average line was generally well done but a few drew several crosses along the 3.2 line and others placed it at 3.15 or at 3.4 demonstrating a misunderstanding of the vertical scale. Quite a few did not attempt this question.

- (iv) It is important that candidates give a clear decision about hypothesis judgements; in this particular question, instead of correctly disagreeing with the hypothesis, quite a few candidates just rewrote the hypothesis by stating that '*Rainfall is higher at the university than the school*'. This is not good practice and is usually not credited. A decision must be given for example either as '*I disagree with the Hypothesis...*' or '*No – the Hypothesis is wrong...*' or '*My conclusion is that...*' then followed by evidence to support the decision. Some pleasing data evidence was provided such as the average rainfall at the university was 3.2 mm which was higher than the 2.1 mm at the school and that the highest rainfall of 10 mm was at the university whereas at the school it was only 8 mm. A few candidates read the scale wrongly from the graph especially the school average which was 2.1 mm but was read as 2.2 mm or 2.05 mm by some.
- (d)(i) While the vast majority correctly ticked *Oktas* as the unit of measurement for cloud cover, some candidates incorrectly ticked degrees and millibars.
- (ii) Many responses correctly identified the descriptions of different cloud types. Quite a few confused *cumulus* and *stratus* while getting *cirrus* correct. A minority had all three types confused.
- (e) This was the least successful question on the whole paper. Most responses showed very little knowledge of how a sunshine recorder was used despite it being listed alongside other weather instruments that candidates should know and understand about in the syllabus. It was also important for candidates to note that the question asked '*...how a sunshine recorder is used*' not how it works as many candidates did the latter without any reference as to what candidates would do to get a record of the data.

Most candidates were aware that it should be placed in an open space/outside and that the sunlight should not be obstructed by shade. Many seemed to think that the sunlight made marks or burnt the metal scale in the instrument; no mention was often made of a card or sheet being placed in the instrument to be burnt or scorched when the sun was out. A few stronger responses noted this and noted that sunrays burnt a line when the sun shone and, at the end of the day/sunset, the card should be taken out and the length of the burnt line measured to work out the hours of sunlight. They also mentioned replacing the card for the next day.

Inappropriate ideas included that it recorded solar intensity, that it was read every hour and that it followed the sun. Some suggested that the sun melted the metal and the amount of melting could be read on a scale or that the recorder absorbed the sun's rays and increased in temperature by heating up in a similar way to a thermometer; this could be measured.

Question 2

- (a)(i) Candidates needed to read the graph carefully and check the vertical scale to arrive at the correct answer of 17 million which most did. A few misread the scale and ended up with answers just over 16 – a few gave answers to one decimal place i.e. 16.9 or 17.1.
- (ii) Almost all candidates recognised that both the SARS outbreak and the global financial crisis caused tourist numbers to fall for one mark. They did not, however, show enough preciseness in providing accurate data to show how much the numbers had reduced e.g. instead of making a definite judgement that in the SARS outbreak numbers fell from 7.7 million to 6.2 million they would say '*approximately*' or '*nearly*' or '*just over*' which were too vague for credit. A reasonable range was allowed in the mark scheme for exact figures which benefited those that had made a clear decision. Some did give the figure that the numbers reduced to but not the figure that it reduced from. Very few candidates gained more than one mark here.
- (iii) While a few candidates listed advantages instead of disadvantages and others thought that tourists would take up jobs from local people, or that the residents would starve, the vast majority of candidates gave acceptable answers such as issues related to different cultures, loss of land/housing to accommodate tourist facilities, different types of pollution (air/noise/water) and crowding, traffic congestion as well as rising prices. Vague answers included '*pollution*' and '*resource loss*'; a few wrote about environmental impacts. Most scored two marks here.
- (b)(i) While there might be an argument that the Raffles Hotel could now be described as a '*cultural*' icon and part of Singapore's cultural heritage, of the four choices provided, the most obvious description, and the one almost all candidates correctly chose, was '*man-made*'.

- (ii) Most responses applied sound geographical terminology and description to the distribution of tourist attractions. Most recognised that they were clustered, linear or close to each other; that most were in the south with the Singapore zoo being an exception in the north and a few applied the scale e.g. '*most within 5 km of each other*'. A few described the location in relation to the other attractions e.g. '*next to the Raffles Hotel*' which was not a good geographical description.
- (c) (i) Almost all candidates stated that the reason for asking people if they were from Singapore was because their questionnaire was about visitors so any local residents would be of no use to the investigation. A few did observe that it would be a saving of time for the candidates and residents by asking this question; not so many added that, if they did ask the residents, the results would be inaccurate or irrelevant. A small number gave incorrect answers such as stating that they would then know how many tourists there were and why they were there which did not answer the question asked.
- (ii) If candidates had studied sampling, the issue here was that the method used was systematic but the candidate description was random. Some candidates answered this in the reverse order of the question asked e.g. described systematic sampling as one that involved interviewing every 5th person and that what had been described by the candidate was random; this was acceptable although it seemed a little illogical. A few referred to stratified sampling and other descriptions; others criticised the brevity of the method statement which they felt was rude and rewrote it in more considerate language. It is important for centres to make sure candidates know and understand the three sampling types listed in the syllabus – systematic, random and stratified.
- (iii) Almost all candidates chose the correct number of the questions as 2, 5, 6, 3 and 4 to gain both marks. A few did mix them up and a small number tried to write the actual questions in the space provided! Most errors were in the last row where two numbers were required. The question clearly stated in emboldened words '*...write the question numbers in the table below*'. Overall though this question was very well done.
- (d) (i) Most candidates did this well especially the shading aspect of the pie graph. It is worth noting that candidates should have a protractor and calculator in the exam room (see the front cover of the paper) and should therefore be able to work out that the 89 per cent plot required a line approximately 40 degrees left of the vertical. A large number seemed to have drawn their line by eye marking it too close to the 90 per cent mark provided. Taking time with the calculation is important here so that the line is plotted as accurately as possible. A few put their plot exactly on the 90 per cent mark and others placed it in the wrong key order so their line was at 95 per cent instead of 89 per cent. Quite a few did not attempt what was a relatively straightforward pie graph completion.
- (ii) The vast majority agreed that shopping was the main reason why people visited Singapore although some just wrote out the hypothesis word-for-word without indicating their decision. A second mark was available for stating that 35 per cent was the highest single reason – many responses just stated that the hypothesis was correct because 35 per cent visited for shopping or gave no data and just stated that shopping was the highest reason. Data must always be provided as evidence to support a hypothesis decision. A small number referred to 35 per cent as '*the majority*' which it is not.
- (e) (i) These plots were relatively difficult given the plethora of other plots provided on the graph so it was important for candidates to carefully assess both axes and the scales before plotting. Most managed to plot the 4 000 km/7 days plot very well and had obviously checked the vertical scale to place the 7 between the stated 6– and 8-day labels. The 1100 km/8 day plot was less well done – this appeared to be due to many candidates reading 1100 km as 11000 km and placing the plot too far to the right on the 8-day line. Those that took care did plot the 1100 km plot accurately just to the right of the 1000 km line which was halfway between the 0 and 2000 km labels. Quite a few did not attempt this question; maybe they thought the graph was complete.
- (ii) While many candidates correctly disagreed with the hypothesis for one mark, they seemed to assume that, if there was not a positive relationship, there must be a negative relationship. This is not true as it is quite acceptable to have no relationship/correlation as was the case here and better candidates did recognise this. Another issue that arose was how 'loose' candidates were in using the graph data e.g. stating that those who '*travelled 16 000 km visited for only 8 days compared to others who travelled for 3000 km staying for 15 days*' but these distances are incorrect – they

should be 15 400 km and 3100 km. It is important to be precise when quoting data from graphs or tables. Few candidates gained more than one mark here.

- (f) (i) Over a quarter of candidates did not attempt the flow arrow plots. The plotting involved drawing a pencil-thickness line from South Africa towards Singapore and a thicker arrow from Australia to Singapore using the key. Some did these very well scoring two marks; others drew the arrowheads in reverse or pointing in any direction, a few did not start the arrows in or even close to South Africa/Australia. Some Australia arrows were too narrow or wide compared to the key; a few just wrote the numbers in the country.
- (ii) All candidates are expected to know the names and locations of the continents as required in the syllabus. Few responses correctly stated Asia as the continent that most visitors came from. The most common errors were Europe – which had the most arrows but not visitors – Australia, Japan, China and Africa. A significant minority left the answer blank.
- (g) Candidates responded well to this rather different final question which, instead of requiring extended writing as usual, asked them to make judgements about the different errors made on each of three survey sheets provided in the Insert; a simulation exercise of the type of decisions they would have to make from any questionnaire survey used in fieldwork. Almost all correctly recognised that one of the answers/Question 3 on Fig. 2.8 had not been filled in. Again, the vast majority observed that on Fig. 2.9 the visitor had provide three ticked reasons for coming to Singapore instead of the requested **main** reason. There were less correct answers to the error in Fig. 2.10 though. While the majority did spot that for Question 3 the answer given was wrong in that the USA was a country and not a city or airport, a few stated that there was no error in the response or criticised the age-groups or reason ticked. Clearly, they had not noticed the USA being stated as a city or airport. A small number stated that a continent (the USA) had been wrongly stated as a city or airport for which there was no credit.