

GEOGRAPHY

Paper 0976/12
Paper 12

Key messages

To perform well on this paper, candidates need to:

- ensure that the examination rubric is followed correctly, answering three questions, one from each section.
- select the three questions with care. Read them all through and study the resources provided with them before making a choice.
- answer all parts of their three chosen questions and ensure that sub-questions are not missed.
- read the questions carefully. If it helps to do so, underline command words and words which indicate the context of the question.
- respond in the correct way to command words used in questions, in particular 'suggest reasons', 'describe', 'compare' and 'explain'.
- identify the correct focus specified in the question stem, e.g. internal or international migration, local or global.
- ensure that they respond correctly to key words and learn the meanings of geographical words and phrases to be able to define and accurately use geographical terminology. When defining words or phrases, candidates should not simply repeat a word or words as part of their definition.
- use the mark allocations and answer space provided in the question and answer booklet as a guide to the length of answer required and the number of clear points that need to be made.
- write as clearly and precisely as possible avoiding vague, general statements.
- write in full wherever possible, especially in the final two parts of each question, ensuring that ideas are developed with the correct focus.
- perform basic skills using diagrams, graphs, photographs and maps of various types, referring to them in an appropriate way to support ideas, rather than directly lifting material from them without any interpretation. Ensure that evidence is given where required to support an answer and that best use is made of the information provided, such as the compass, scale and key on maps. Practise the skill of describing the features or characteristics of an area from a map or photograph.
- base their answers only on the information in the given figure if the rubric of the question instructs this. Answers that do not relate to that resource should not be included as they will not gain credit.
- have a range of case studies so that appropriate ones can be chosen for the topics tested.
- ensure that each case study used is at the correct scale. The syllabus identifies the scale required for each case study.
- avoid writing a long introduction to any question (e.g. to provide locational or background information) at the expense of answering it in detail.
- develop points and link ideas wherever possible in case studies and include place detail.
- ensure that comparative language and phrases are used where a question requires a candidate to compare.
- ensure knowledge of physical processes and be able to explain a process using key terms and clearly sequenced ideas.
- write in detail and develop ideas in **(b)(ii)** questions where development marks are available.
- indicate that the answer is continued and clearly show the number of the question if using the extra pages at the back of the question and answer booklet. Candidates should continue their answers on the specified continuation pages rather than inside the answer booklet.

General comments

The examination differentiated effectively between candidates of all ability levels. Many candidates performed very well across the paper and demonstrated excellent Geography. Most candidates made good

attempts at their chosen questions. Weaker candidates found it difficult to interpret questions and write relevant answers. There was sufficient time to complete the paper.

As required, most candidates followed the rubric by selecting a question from each section. Occasional rubric errors were seen once again this series, candidates are reminded to answer one question from each section.

Candidates' presentation of answers was variable, though almost all were legible.

Questions 1, 4 and 6 were the most popular questions within each section; a significant number of candidates answered **Questions 3 and 5**. There were good answers to all questions, including those requiring extended writing. There were numerous excellent answers to all part **(c)** questions, including case studies. High quality answers in these sections were characterised by developed ideas with some clear place detail and/or data. Weaker responses tended to offer generic developments of ideas with little place detail or statistics to support them. Other weak responses were characterised by simple, brief statements. In some cases, a significant amount of detail included by candidates was not relevant to the question being asked, and sometimes long introductions occupied much of the answer space. To maximize their marks scored on the part **(c)** questions, an area for improvement for some candidates would be to develop or link relevant ideas and omit detail which is not relevant to the question.

To gain marks at the highest level, case studies require place specific information. Candidates should carefully consider their choice for each question ensuring that they select an appropriate example and that they have included appropriate place specific detail. It should be noted that case studies are not always required in part questions. For example, on this paper, neither **Questions 3 nor 4** required case studies. Where case studies are required, place specific detail needs to be included for maximum marks. Other styles of questions may also benefit from the inclusion of specific reference to place (e.g. **Question 4**) and statistical information related to the topic (**Question 3**) may also be relevant.

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

Comments on specific questions:

Question 1

Question 1 was more popular than **Question 2** with most candidates attempting it. Overall performance on this question was slightly better than on **Question 2**.

- (a) (i)** While there were many correct definitions, some did not score the mark as they did not state that many people lived in 'a small area/per square kilometre'. Some wrongly defined 'overpopulation'.
- (ii)** This was answered correctly by many candidates. Errors were usually the result of confusion over the number of zeros or dividing area by population. Most candidates gave answers to two decimal points as required,
- (iii)** Most candidates linked the distribution to the sparsely, moderately and densely populated areas and therefore were able to gain three marks. Some candidates were unable to look at the continent as a whole to describe the distribution, but instead focused on countries or used inappropriate terms such as 'above' or 'below' the equator. It is essential to be able to accurately use compass directions in this type of question.
- (iv)** Some candidates missed the key word 'physical' or were confused with human factors. Better answers linked population density to different factors, especially relief and climate, or gave reasons why the chosen factors affected population density. Weaker answers simply stated factors without providing any explanation.
- (b) (i)** Many candidates failed to score because they did not compare the two areas but only referred to one island. Most correct answers focused on building height and the amount of vegetation or open space. Relatively few answers referred to the buildings on Male being closer together. Many answers, in whole or in part, did not relate directly to population density; for example, they included writing about cars, crowded streets and ships.

- (ii) This was well answered, with many candidates gaining 4 or 5 marks for identifying, and in some cases developing, a range of problems caused by overpopulation. Some weak answers included vague generalisations that gained no credit (for example, single words such as 'overcrowded', 'crime', 'congestion', and 'pollution').
- (c) There was a variety of case studies; the two most popular countries named were Mexico and Poland. Most candidates suggested a variety of reasons for migration, but many did not develop them sufficiently. Some candidates only used statistics to compare two countries, usually Mexico and USA. Even if they use statistics, candidates should include some written development (for example, the most common developed response about finding paid work was the idea of remittances being sent home). Less popular answers focused on countries where people were forced to flee because of war or a natural hazard. In these cases, Syria tended to be the named country. Many of these were excellent answers as they offered developed reasons based on the perils of living in a war zone or the inability to cope with a hazard such as drought.

Question 2

Only a small proportion of candidates answered this question. While some excellent answers were seen, generally the performance on this question was not quite as good as on **Question 1**.

- (a) (i) Many candidates gave an acceptable definition of 'inequalities'. A significant number responded by confusing the term with unfair or offering the word 'equal' rather than one showing understanding of its meaning.
- (ii) Most candidates described a problem and scored marks, with the most common types chosen being air pollution and noise. Some candidates correctly identified pollution types but did not go on to state a problem or referred vaguely to 'health problems' or 'disease'.
- (iii) Many candidates gave good answers which referred to ideas such as high car ownership, commuting, migration or population growth. Some candidates answered the question incorrectly by focusing on the problems caused by traffic congestion.
- (iv) Generally, candidates referred to the lack of houses for the large population and many developed this idea by referring to the need for many people to live in squatter settlements. Other common answers focused on people not being able to afford the available houses and old housing needing renovation.
- (b) (i) Most candidates used the maps well to describe three appropriate changes in land use.
- (ii) This question discriminated well. More perceptive candidates did concentrate on conflict, such as that caused by renovation of housing and changes to the industrial structure, or suggested ideas such as conflicts created by two neighbouring land uses. Weaker answers simply described problems such as people losing their homes, traffic congestion and various types of pollution.
- (c) A variety of countries was selected with India and various African countries, such as Nigeria, being common. Some candidates showed thorough knowledge of the reasons for rural to urban migration. Few candidates were able to link their developed statements to place specific references. As in **Question 1(c)**, weaker candidates suggested a variety of reasons for migration, particularly employment and the provision of various services, but did not develop them.

Question 3

This question was less popular than **Question 4** and, in general, candidates performed slightly less well on this question than on **Question 4**.

- (a) (i) Most candidates correctly estimated 17 km.
- (ii) Most candidates identified the correct landforms, though not all selected 'wave-cut platform'. The most popular distractor was a spit and, despite the instruction to select '**two**' landforms, some selected three or more.
- (iii) Most responses gained at least two marks for knowing that soft rocks are less resistant to erosion and then stating that a bay was formed where the soft rock had been removed. Full marks were

obtained by the reference to the idea of formation of a discordant coastline (alternating bands of rock of different resistance).

- (iv) This question was a good discriminator. Where candidates realised that a beach was formed by depositional processes, they usually scored at least three marks by referring to constructive waves (or loss of energy), shallow water in the bay and deposition of sediment. Weaker responses incorrectly tried to explain that the formation of the beach was related simply to erosion of the rock forming the bay.
- (b) (i) Most candidates correctly identified the appropriate methods.
- (ii) This was another question which discriminated well. Better candidates were able to explain how each of the shown methods of coastal management protects the coastline. Weaker answers were characterised by repetition of ideas about each method 'absorbing the power of the waves', or just stated that the different methods 'stopped erosion' by the sea or waves. The purpose of groynes was well understood by most candidates, and there were many appropriate references to them reducing longshore drift.
- (c) Most candidates gave some description on the conditions required for the development of coral reefs. A minority described the conditions in detail and developed their ideas by using appropriate statistical data to gain full marks. Some candidates offered only simple statements such as the coral reefs need 'warm water', 'clean water', etc. Some candidates wrote that coral reefs need 'a warm temperature', though did not relate development of the reefs to the temperature of the water. There were candidates who included irrelevant detail about the location and characteristics of the different types of coral reefs, while others focused more on their destruction by people or rising global temperatures.

Question 4

This was a popular question and was answered by a significant number of candidates.

- (a) (i) Most candidates correctly estimated 1050 mm.
- (ii) While many candidates correctly identified both climate graphs, some candidates mixed up **C** and **B**, and others just seemed to guess with all combinations of answers seen.
- (iii) Most candidates correctly identified climate graph **D** and then referred to valid ideas such as high temperatures and rainfall, and 'all year round'.
- (iv) This was a challenging question for candidates. Many responses scored only one mark for reference to the position of such areas being on or close to the equator. Better answers referred to the position of the overhead sun and the convection process.
- (b) (i) Many candidates scored three marks by correctly using evidence from the map. Where candidates missed the instruction 'using evidence from Fig. 4.2 **only**', they gave general reasons for deforestation, such as farming, and did not score.
- (ii) This discriminated well. The best answers focused on problems in the local environment, notably habitat loss, impact on the food chain, animal deaths, soil erosion, or human problems such as flooding or loss of homes, culture and livelihood. Some candidates included global problems which were not required as the question clearly stated 'the **local natural** environment'.
- (c) It is vital that candidates read the questions carefully. Many described the impacts of deforestation on local people and ignored the global element. This meant that they gave similar responses to those given in (b)(ii). Most candidates who did interpret the question correctly described the problem of global warming, linking it with an increase in greenhouse gases such as carbon dioxide and gained Level 2 marks. Better answers then included ideas about melting ice, rising sea level and their effects on people and wildlife in other areas, such as polar bears. A few good answers also referred to effects of changing climate patterns and/or named places affected. Weaker responses incorrectly wrote about problems in the local forest environment, naming those regions, and many mentioned global warming but then switched back to writing about local issues.

Question 5

This question was answered by several candidates but was not quite as popular as **Question 6**.

- (a) (i) Most candidates drew an appropriate best fit line.
- (ii) Many responses correctly identified the positive relationship shown on the graph. Relatively few commented on the extent of the relationship or referred to anomalies.
- (iii) The most common answer was to explain that families could afford to send their children to school where GDP was high so they gained skills and got a better paid job. Some candidates also explained that in more developed countries where families were richer there was less need for children to work rather than attend school. Weak answers repeated the answer to the previous question, rather than attempting to explain the relationship.
- (iv) Knowledge of the HDI varied considerably. Many candidates gave a list of development indicators which sometimes included relevant ideas, such as life expectancy and GDP, but also others which are not used in HDI calculations. Many candidates included literacy as an indicator rather than years of schooling. Better answers referred to the HDI being a composite indicator which scores from 0 to 1, with scores closer to 1 indicating a higher general level of development.
- (b) (i) Most candidates gained two marks for recognising that more energy is used in North America and quoting appropriate statistics to support this. Others also recognised the greater variation in energy used in different parts of Africa than in North America.
- (ii) While this was a challenging question for many candidates, it discriminated well. It produced some excellent responses, which included ideas about population size, presence or absence of energy resources, ability to afford to develop or import these resources, and examples of what leads to a greater energy demand (e.g. manufacturing industry, vehicles and electrical appliances). Weaker candidates misinterpreted the map key and merely stated that some countries were more developed and would thus use more resources, or focused on oil rather than energy in general.
- (c) Many countries were named, most commonly Iceland, Germany, UK and USA, along with a small number of LEDCs. Most candidates identified or described the different types of energy resources but did not explain their importance to the country. The most common valid explanations referred to the availability of a resource (or suitable conditions to generate it) within the country, or some energy sources being renewable or non-polluting. Some candidates did not answer the question and explained why different resources were not important or why it was important that a country should have a variety of different energy resources.

Question 6

This was more popular than **Question 5**. Generally, candidates performed equally well on both these questions.

- (a) (i) A common error was to define tourism rather than the tourist industry. While there were a significant number of correct answers, many re-used the words 'tourism' and/or 'industry' in their answers which was not worthy of credit.
- (ii) Most responses correctly identified examples of the two different types of attraction, though some gave generic answers rather than using Fig. 6.1.
- (iii) Many answers scored three marks by correctly referring to evidence from the map. Where candidates missed the instruction 'using evidence from the Fig. 6.1 only', they wrote about general changes, such as 'pollution' or the creation of the national park, which were not creditworthy.
- (b) (i) Perceptive answers gave three different impacts of the information shown on the notices, while some responses were repetitive or irrelevant (for example, referring to protecting the visitors). Some answers simply lifted advice from the notice shown in Fig. 6.2, rather than explaining how this would help to protect the natural environment. A common misconception was that firearms would harm the environment by fire.

- (ii) This question allowed good discrimination. It was answered well by many candidates who referred to employment, income for local businesses, specified infrastructural improvements and cultural exchange. Better answers also suggested appropriate ways in which money could be used to benefit people in the local area. Some candidates were confused by the mention of 'people who live in or close to national parks' and suggested how they would benefit as tourists.
- (iii) This question was well answered. Many different problems were suggested, and many candidates scored four or five marks. The wording of the question here referred to 'local people'; however, some responses referred to the natural environment and/or the economy. These points which would have been valid had they been elaborated in terms of their impacts on the population; for example, 'water pollution' could reduce fish stocks for local fishermen and 'leakage of earnings from the country' could result in less of it being invested in hospital and schools within the country.
- (c) There were some good answers to this question most gave Lesotho as their example, or focused on countries in the Middle East such as the UAE or Oman. Most candidates could identify a variety of methods used to supply water, but many did not develop their ideas or link different ideas. The best answers focused on three different sources such as rivers, reservoirs and aquifers, and described how the water was treated and moved to where it was needed.

GEOGRAPHY

Paper 0976/22
Paper 22

Key messages

- In numerical answers candidates should always give the units of measurement.
- Candidates should be familiar with the interpretation of a key to a map, particularly where there is more than one feature on a line in the key, as for group of trees and forest.
- The correct method for giving an accurate grid reference is described in the syllabus and this should be used, particularly when giving the third and sixth figures.
- Where the question demands the use of a resource, evidence from it should be given in the answer. Theoretical answers should be avoided.

Comments on specific questions

There were parts of all questions which many candidates found to be demanding and these are described below. In the physical geography **Questions, 4 and 5**, candidates tended to do either very well or very poorly, perhaps indicating the emphasis given to the topics in teaching.

Question 1

- (a) This question was generally well done, although some candidates did not score maximum marks because they failed to select the correct 6th figure for the grid reference.
- (b) This question saw some strong but also weaker responses. It should be noted that the examiner does not expect absolute accuracy and that where the relief is steep, it is sufficient to plot at 100 m intervals using the thicker contours. Care should be taken with the summit's height and position. The location of the features should be marked so that the labelled arrowhead is close to the section line. A few candidates marked them on the base line and others omitted to identify their arrows.
- (c) Some candidates did not confine their answers to the main area of settlement on the map, as they mentioned settlement in all parts of the extract. Others noted that tourism would have contributed to its growth and let that theme dominate their responses, to the exclusion of other equally important aspects, such as the junction of routes, bridging point and opportunity for work in the industrial area and quarry. Physical reasons for its growth, such as the flatter land and a low position in the valley, were largely ignored in responses.
- (d) The full range of marks was gained in this question. Some candidates limited their responses by not reading the question carefully as they described the whole map, not the valley in the south west shown on Fig. 1.3. Others failed to compare by commenting on differences or similarities between the same feature on either side of the valley. For example, the presence of houses on one side was compared, not with their presence on the other side, but with a different feature such as the presence of a hotel. By asking about roads and settlement first, it was to be expected that they would not be included under land use, but many did, rather than concentrating on the differences in the amounts of forest and cultivation between the two sides. The term *relief* was better understood than in some years, although some included vegetation under this heading. The steep slopes on both sides and higher elevation reached by the north side were frequently described.

Question 2

- (a) The top of the bar was too low for credit on a large number of responses to this question. The remainder of (a) was correctly answered by almost all candidates.

- (b) Responses to this question often gained both marks but some candidates failed to give the high birth rate as the reason.
- (c) More than half the candidates correctly answered *no* to this question but fewer gave reasoning which was sufficiently general, instead writing about individual countries as an example. The final part of the question was usually correct, with *death rate* being the most common response.

Question 3

- (a) Candidates observed the detail in the photographs well and applied their knowledge to gain good marks for both photographs. The majority identified a CBD and were able to give four pieces of evidence shown on the photograph for their identification. Common responses included *tall buildings, high density buildings, much traffic, many pedestrians, adverts or billboards, petrol station and building site*. Those who opted for inner city found this more difficult to justify from the evidence.
- (b) Many candidates noted that the large expanse of flat land and main road access would be favourable for industry to develop and others commented on the possible labour supply in the urban area in the background.

Question 4

- (a) Many candidates confused focus and epicentre and reversed the two. Many candidates thought the diagram in Fig. 4.1 showed a plate margin, rather than a fault. Some still gained credit by knowing that a build-up and release of pressure or tension was involved in the production of an earthquake.
- (b) Stronger answers obeyed the instruction in the question to use Fig. 4.2 and made it clear that, at the time of the earthquake, people would be at home or in bed or that darkness would cause difficulty and that the mud-bricks used to build the homes was too weak to withstand it. Some went far beyond the information in Fig. 4.2 and attributed the deaths to a mudslide.
- (c) There were many incorrect answers of 2000 years ago, instead of more than 2000 years ago.
- (d) The line on Fig. 4.3 was almost always correctly placed. Candidates usually quoted the features for intensity 6, sometimes noting the close proximity to intensity 7.

Question 5

- (a) Many candidates correctly named all three instruments. Many gave an abbreviated version of the names of **B**, **C** was the least well known and the incorrect answer of hydrometer was almost as frequent as hygrometer.
- (b) The majority of candidates correctly answered *west* or *north west* which suggested a great improvement in reading the instrument from previous papers, possibly because the question asked for the wind direction and they answered with what they thought was the direction in which it was travelling. It is to be hoped the success rate would have been so high if the question had asked for the name of the wind direction.
- (c) Only a few candidates failed to state the units but many gave incorrect answers to parts (ii) and (iii) because they read the wrong end of the indices or the position of the meniscus.
- (d) Many candidates correctly answered, *no, because the thermometer readings are different*. Some responses included the incorrect idea that the wet bulb thermometer measures the temperature of the water or that the presence of water remaining in the jar is an indication of relative humidity. Others thought that the relative humidity was 12% or 60%.

Question 6

- (a) A considerable number of candidates gave advantages *for* Kenya, instead of addressing the question asked and referring to the advantages *of* Kenya. Many others had no difficulty in giving three good advantages. The most common correct answers were the coast for import or export and the export market in surrounding countries. Less frequently candidates referred to raw materials within the country or the lakes for water supply.

- (b) When giving a disadvantage of Kenya for the development of manufacturing industry, many candidates found it difficult to make a suggestion based on Figs. 6.1 and 6.2. The most common correct answers identified the long distances between places or the need to import oil.
- (c) Most candidates were able to gain two marks for referring to two of the port or coastal location of Mombasa, crude oil imports, and the lack of need for further transport inland. Some responses included the idea that the ocean would be a good receptacle for waste from the processes which was not credited. Many candidates also suggested that the sea bed was the source of the oil.

GEOGRAPHY

Paper 0976/03
Coursework

Key messages

There was an increased entry for the June 2018 session compared with that for the Coursework Paper in June 2017.

It is now well recognised that a proposal should be submitted in advance for approval by CIE, however, there is no need to resubmit this year on year if this proposal remains unchanged. Therefore, with only a very few exceptions all candidate's work followed the route to geographical enquiry. Furthermore, all markers used the generic mark scheme found on page 35 of the syllabus document.

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. Although this report refers to the performance of centres in the June 2018 examination, comments are equally applicable for centres that make their entries for the first time in November 2018 or during 2019.

For centres that have not submitted a proposal, then it is recommended that they do so. It is the main opportunity for CIE to offer advice based on good practice as well as comment on proposals which may hinder a candidate. Provided suggestions are at an appropriate level for those studying IGCSE and the topic is on the IGCSE syllabus, then approval is nearly always forthcoming. Furthermore, for markers who are new to the coursework option or who have already marked this module but feel they need more practice in its application, it is advised that they attend the appropriate course operated by CIE in their country/region

General comments

It was clear that many candidates enjoyed the experience of working outside the classroom and collecting data for themselves. Most centres appeared to have devoted a whole day (or more) to data collection. Their candidates had been well organised into groups, used initiative to collect the data they required, and demonstrated a good sense of purpose.

All studies were of a clearly geographical nature with the number of Physical Geography studies this session moving closer to the number of Human Geography ones. The former are predominantly on rivers or coasts whilst the Human Geography ones tend to relate to tourism, urban land-use or environmental quality. There is no evidence that better marks are scored on one or the other. Nevertheless, it is apparent that those basing their studies on physical models e.g. Bradshaw were more likely to consider them in the analysis/conclusion than those featuring human ones e.g. Hoyt or Butler.

Comments overall

The programme of work for the candidates at most centres was clearly well organised, yet it also allowed individual learners to express themselves. Many centres adopted one or two core hypotheses with another hypothesis or guiding question chosen by the candidate. This invariably produced a good variety and more evidence of individual work. Whilst CIE would by and large, expect data collection to be a collaborative effort, some Moderators commented that for some centres relatively little individuality was displayed; all candidates using precisely the same aims and virtually the same graphs and diagrams. In addition, many candidates targeted too many hypotheses and this often resulted in a 'watering down' of their analysis/explanations, thus denying them access to the higher marks.

We would expect all candidates to adhere to the word limit of 2 000 words, give or take the odd one hundred words. Whilst the majority of candidates do so, there are still a relatively large number of candidates and a few centres as a whole, who write well over this limit. Some studies in excess of 6 000 words were reported.

This is a concern for the Moderators since writing well over this limit often means that a candidate loses focus on the aims of the investigation or has attempted too many hypotheses. Please encourage candidates to declare their word count in future submissions; this should help them to analyse their findings in a more succinct fashion so retaining a clear focus on their investigation aims. Please note that where text is placed in tables, this also counts towards the word limit. At present, there is no penalty for exceeding the word limit, but this is under review, and there is no guarantee that this may change in future sessions.

Moderators reported that most centres applied the mark scheme consistently and for most any adjustments made were minor. These changes were largely from 45 marks upwards. Below this figure, most markers were very accurate. On the whole *Knowledge with understanding* and the *Conclusion* were adjusted negatively, while *Organisation and Presentation* was adjusted positively. One or two centres had to be adjusted quite markedly, but these were usually centres which were new to the moderation process and detailed reports were written to explain why.

Although a good balance was achieved by most candidates between the assessment criteria, there was still a sizable number whose introduction was too long. The description of the methodology could also have been pruned; when part of an extensive data collection exercise, it is only necessary to describe those methods which are linked to a candidate's own hypotheses. In these cases the analysis and the conclusion were often too short.

Some markers should once again be reminded that the criteria of *Knowledge with understanding* does not just apply to the introduction. A higher level of understanding is thus shown when theory is applied in the *Analysis and Conclusion*. Urban models of land-use for instance, were often dealt with at length in the introduction, but many candidates failed to return to them in any depth to help explain patterns in their data. Background information was usually appropriate in content, although often disproportionately long. Glossary definitions could be dispensed with for example, or at least be limited to those relevant to the two or three hypotheses to be tested. Similarly much of the local information e.g. historical information about the study area, adds little to the aims of the investigation. High level responses however, did link the geographical theory to the aims of their study and these links formed a clear focus which helped to demonstrate their clear understanding of their aims and geographical ideas. Candidates are becoming stronger at justifying their hypotheses, rather than just listing them. This gives them a clear focus on the reasoning behind their data collection. Unfortunately, this is not the case with the locations chosen for study. Even if these locations are selected by the centre, one would expect some reasons for their selection even if it was as simple as, 'These were the only locations which were not on private land and thus were the only ones accessible to us', when explaining the sampling points on a river.

Most centres ensured that more than enough data was collected on a variety of parameters and from a range of sources, in order for each candidate to select only that which is appropriate for his/her own hypotheses. The methodology of the data collection is increasingly being written up in tabular form. This often includes some evaluation of the data collection methods. However, it often occupies too many words and can be trimmed to only include methods relevant to the hypotheses being tested. Data collected as part of an exercise involving the whole class tends to work much better than sending candidates out in pairs to collect data on their own. A much larger quantity of data can be collected allowing statistical testing if desired. Data from at least 50 questionnaires helps give the data statistical validity but is not easy to achieve by one or two small groups. Quantitative data rather than qualitative data tends to work best, readily allowing graphical presentation. The descriptive write-up of a few interviews will be unlikely to provide for sufficient depth in the *Analysis*. Secondary data should only occupy a subsidiary role although may be essential for comparison purposes, for example in a study with an historical element, candidates continue to score well in the *Observation and collection of data* criterion and this was generally marked accurately. It is noted that fewer centres are choosing less than the recommended 6–10 sites for a river study, although it is important that safety elements are not compromised to achieve enough sites or to cover the whole course of a river. One further weakness in many studies is the failure to justify the method of sampling.

The criteria *Organisation and Presentation* tended to be a little undermarked. Many candidates provided some elements of sophistication in their presentation which warranted the higher marks in Level 3 instead of the lower marks. Isolines, choropleths, beach profiles or river cross-sections, and bars or pie charts located on an base map would be examples here. Another might be a number of appropriate and well annotated photographs. A correctly worked example of Spearman's Rank Correlation, for instance, would also qualify as a complex technique. Candidates should be told however, that photographs need more than just a title and cross sections of a river/beach profiles should be drawn to the same scale to facilitate comparison; it is one thing to use a complex technique but another to ensure that it effectively displays the data. There has been, however, some improvement in basic presentation skills such as titles, keys, scales and the provision of north arrows, but this is still variable both between and within centres. There is an overreliance on internet

sourced maps or satellite images with often little or no customisation to the study location including a lack of a scale. There is also a tendency to overuse the term 'not to scale'. Some scanned images are not legible and thus add little in value to the study. This is also the case when several types of graph are used to present the same variable. Some of the best maps and graphs were hand drawn. Most centres followed the recommended structure for their studies including tables of contents and page numbering. In some cases however, the page numbers did not match those in the former, especially when a candidate had for instance, added an extra piece of text or graph. Most, but not all centres are encouraging their candidates to integrate their data presentation with their analysis.

The *Analysis* continues to be the weakest area of study for many candidates, and a criterion which can be overmarked. It should take up more of the word count than any other section, although of course it is quality, not quantity that is the most important. The better studies tended to analyse each chart or graph as they appear in their work, rather than waiting until the end. This had the added benefit of ensuring that all data was analysed sufficiently and this tended to help candidates draw conclusions at the end. These studies used data values effectively, manipulating their data to support their descriptions including anomalies which had been highlighted, for instance on scatter graphs. There was a preponderance of description rather than explanation. Again some purely descriptive accounts were overvalued by markers within mid Level 3. There should overall be much more focus on developing explanations. The best ones were based on theory and linked to specific site characteristics. Too often however, explanation was, brief, tenuous and rather speculative e.g. 'It may have been a soft rock' or 'It may have been a busy day'. Anomalies were often dismissed as resulting from bad data collection techniques. The use of statistical techniques as part of the *Analysis* continues to grow and is not solely limited to Spearman's rank correlation. In most cases it is a positive addition to candidate's studies. However, when incomplete it tends to reveal a lack of understanding in its purpose. In particular, when the calculations are done by computer and only the results are listed for example, a series of correlation coefficients are given without the workings, or without explanation of their meaning. In addition, there is often a lack of significance testing of the results.

Many conclusions are still too short. Candidates are now well versed at linking their conclusions back to, as well as giving a verdict on, each of their hypotheses. However, each conclusion should be backed up with key evidence and in an increasing number of cases this has been absent. This evidence is usually selected numerical data, although can be reference back to stated characteristics shown on figures such as graphs, maps or tables. Reference to theory linked to the hypotheses and which was outlined in the introduction, was rather limited especially in studies which made a comparison with the various urban models. On the other hand the evaluation was considered in many cases to be very strong with most candidates making positive attempts to identify issues and suggest possible remedies should their projects be repeated. This in particular, referred to the methodology, with some evaluation appearing in the last column of methodology tables as well as at the end of the study. The *Conclusion and evaluation* criteria were not always assessed accurately by markers. Conclusions with little or no supporting evidence should not score highly in L3, even if the evaluation was very strong.

Administration

In almost all the samples were sent in good time to CIE, some well before the deadline of 27th April. Most of the paperwork was completed accurately and included with the sample. It is important that the completed Coursework Assessment Summary Forms are included for all candidates and not just for those in the sample. Candidates should always be listed in candidate number order. In most cases the sample included an appropriate number of scripts representing a fair cross section of the marks awarded (to include the top and bottom of the mark distribution).

As was stated in last June's PERT, that there are still quite a few instances where errors in the paperwork have been reported. These usually took place in one of the following instances;

- Most commonly where the addition of the assessment criteria marks on the individual candidate record card was incorrect and this was subsequently transferred to the Coursework Assessment Summary Form and then the MS1's.
- Transcription errors from the Coursework Assessment Summary forms to the MS1 forms. Occasionally, this may occur where an internal moderation has taken place, and the candidate's original marks have been entered instead of the changed mark.

Although, Moderators do correct these errors whenever they are found, it is recommended that all centres should have their candidate's marks double checked.

Where a centre has more than one marker it is essential that an internal moderation takes place. There is evidence that these have been conscientiously carried out by most centres and marks changed accordingly. However, the change for an individual candidate is not always reflected in the change in marks for individual assessment criteria, only the overall totals. This information is essential for the Moderator's job to be carried out effectively. There have been occasions when one marker's marks from a centre have differed markedly in standard from the remainder of the markers and an internal moderation is the best way to resolve this problem.

Finally, many thanks to markers who have made comments on scripts to justify the level of marks awarded. This is very helpful, and, points made have, by and large, reflected the candidates' level of attainment well. If markers have not done so before, they can make comments on the actual studies (in pencil) to justify the marks/levels awarded for each of the assessment criteria. The wording should reflect the wording/phrases used in the generic mark scheme, and this will then aid the smooth running of the moderation process.

GEOGRAPHY

Paper 0976/42
Alternative to Coursework

Key messages

- 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 e.g. *partly true* in **Question 2(d)(iv)** – do not then disagree with it and try to justify your view. You need to support the decision made by the students 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. 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.
- 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. Make sure your shading matches the key e.g. if diagonal shading slopes to the right, do not draw yours sloping to the left. This was important in **Question 1(b)(i)**.
- If you are referred to data from a Table or graph it is more sensible to use the exact figures from the Table rather than make judgements from the graph.
- 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 2(d)(iii)**.
- 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(c)(iii)** Fig.1.5 and Table 1.2.
- Take into account the marks awarded. Examiners do not expect you to be writing outside of the lines provided so do not write a paragraph when only two lines are given – this wastes time.
- Make sure you understand how the fieldwork is being carried out e.g. in **Question 1(c)(i)** many candidates did not gain marks for how to use the questionnaire with people because they kept suggesting ways to devise questions to improve the questionnaire which had already been decided. Also in **Question 2(e)(ii)** the question clearly stated that the work for the Hypothesis should be carried out at the 5 sites already used in the question yet many candidates wrote about choosing three sites or several other sites including the source and mouth.
- Be careful in the loose 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.
- It is important that, when you write the remainder of an answer elsewhere, you signal it by writing something like – *'continued on page 16'* to ensure it is seen. It needs also to be noted that too many candidates gave the wrong sub-section number by their extra work this session which made it more difficult to match to their earlier answer and credit correctly. This year, as in 2017, many candidates chose to write long answers and frequently wrote down the sides of the pages or were given separate 4–16 page booklets despite additional pages with lines being provided for this very purpose! As there

are always spare pages at the back of the exam paper, Centres should not be issuing separate booklets for extra work.

General comments

Most candidates found this examination enabled them to demonstrate what they knew, understood and could do. Weaker responses tended to score well on the practical questions such as drawing graphs or diagrams, making calculations and making choices from tables, and those of higher ability scoring 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) – and there were no reports of time issues as the booklet format does not allow or encourage over-writing of sub-sections.

Most points for teachers to consider, when preparing candidates for future Paper 42 questions, relate to misunderstanding or ignoring command words, the use of equipment in fieldwork 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 also often relates to them not fully reading the question or missing out graph completion questions. Such failings mean that some candidates do not obtain a mark in line with their geographical ability.

Centres should be aware that, 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. Some fieldwork experience is vital even if there is only limited opportunity within the Centre. Familiarity with maps, tables, sampling methods and the various graphs listed in the syllabus is also important for success in this examination.

Question 1 proved to be slightly easier than **Question 2**. This question focused on the topic of shopping centres in Bangkok, Thailand. It involved high-, middle- and low-order services, different reasons for choosing a shopping centre and identifying spheres of influence from questionnaire responses. A pie graph, bar graph and divided bar graph required completion. Candidates also needed to make judgements about two Hypotheses using statistics as well as applying knowledge and understanding to justify or disagree with them.

Question 2 proved to be slightly more difficult than **Question 1**. This question was about carrying out fieldwork on a local river in England. It required candidates to know how to measure the gradient of a river, to decide whether the data found created a steeper gradient downstream, whether pebble size became smaller downstream and to explain why this took place. They were also asked to suggest a suitable Hypothesis to investigate along a river and to describe a fieldwork method to investigate it. Skills tested in this question included deciding which site had the greatest variation in angle measurements, plotting a point on a line graph, and plotting a pebble length and an average length on a graph. They needed to make judgements from evidence with regard to one Hypothesis; they were told that the students had decided that the second Hypothesis was *partly true* and needed to justify that decision instead of making their own judgement.

Comments on specific questions

Question 1

- (a) This proved a straightforward opening question with most candidates correctly choosing appropriate pairs for the three marks i.e. *rarely/often*; *expensive/cheap* and *far away/close* or words with equivalent meaning. A significant minority thought high-order goods were bought frequently and low-order goods were bought rarely. A few gave numerical answers, some gave examples of the types of goods and a few missed it out completely.
- (b)(i) The majority of candidates were able to draw three accurate plots and shade the sections correctly using the provided key; most gained full credit here. A few plotted in the reverse order and others added to the length of the bar to match the one above. A small number drew their own separate bar graph which gained no credit. The 45 plot was the one that was most incorrectly plotted. A few did not attempt this question.

- (ii) It was crucial the candidates read the Hypothesis carefully as it refers to ‘...numbers...’ not percentages or proportions. Almost all agreed that the evidence supported the Hypothesis and then quoted comparative statistics for the number of high-order goods and services at Central Ladprau Plaza compared to La Villa i.e. 114:7. Stronger responses made good comparisons between the numbers and gained full credit; weaker responses quoted the figures without any qualitative comparisons such as ‘more than’, ‘only’. Many compared the total number of shops and services instead of comparing the different order types. Some also compared percentages and proportions which were not relevant to the Hypothesis.
- (c) (i) The key part of the question referred to ‘...using the questionnaire with people...’ In other words, as stated, the students and teacher had agreed the questions they would use and the questionnaire was provided in the Insert for candidates to see. Despite this, very few candidates gave three pieces of advice that the teacher might have given to the students. Instead many candidates suggested what type of questions to use, e.g. have closed and open questions, have tick boxes, ask them why they are there and how they travelled. All of these ideas were already on the questionnaire. There was also too much emphasis on being polite and variations of this idea; some candidates gave three separate pieces of advice as *be polite*, *say please at the start and thank you at the end*. Stronger responses gave perceptive answers such as using a sampling method, asking a mix of age/gender, carrying it out in pairs and visiting different areas of the shopping centres. This was one of the least well done parts of **Question 1**.
- (ii) This was a straightforward pie graph completion involving a plotted line exactly at 80 per cent and two shadings using the provided key. Some candidates plotted the line from an anti-clockwise view thereby making it at 55 per cent which was incorrect. It was hard to understand why other plots were not at these two locations but by far the majority did get the two marks available. The horizontal shading was too often seen at a 45 degree angle.
- (iii) Almost all candidates agreed with the Hypothesis but not all compared the main top two reasons for shopping between the two centres; a few compared every reason. The stronger answers did contrast the two reasons in each i.e. *large variety/near work* in Central Ladprau Plaza and *near homes/good value for money* in La Villa using accurate correct paired statistics. Some candidates did compare the reasons but gave no supportive statistics. A few just described the reasons for shopping at one shopping centre and ignored the other. A small number compared the least favoured reasons with statistics which was an odd way to support a Hypothesis which covered the main reasons for people shopping at both centres. It was surprising that some candidates thought the Hypothesis was *partly true* given the evidence provided.
- (d) (i) Almost all plotted 7 correctly although there were a few that did not attempt the question; maybe because there were two genuine zero points on the graphs (monorail in Central Ladprau Plaza and underground train at La Villa), they thought the graphs were complete.
- (ii) This was done well by most candidates who compared different methods of travel between the shopping centres; the better candidates used comparative words e.g. ‘more than...’ as well as giving paired statistics. A few thought the numbers were percentages which they were not. Some grouped the data into public and private transport although there was no evidence provided as to which method was private or public. Specific methods of transport needed comparing here.
- (iii) This was quite well done especially by candidates who gave a full explanation rather than just listed words e.g. ‘weather’ on its own was not credited but an answer that suggested ‘if it was raining less would walk to a centre’ gained credit. Other single words that needed elaboration for credit included distance, money, traffic, access – but overall most did gain good credit here.
- (e) (i) Many candidates chose the correct second row option as the answer. Almost all the other choices were seen as ticked in equal amounts but most knew what a sphere of influence (Sol) was. A few ticked two boxes thereby eliminating the mark for the correct response.
- (ii) By far this proved to be the most challenging question on the paper. Some candidates scored well but the majority failed to gain much credit for their often detailed generic response. The question asked how the students could use the answers to investigate the Sol of the two shopping centres. Candidates who did this well understood that this was a practical question which was basically saying ‘now you know which districts they were from and how far they travelled, how could this information be used to identify the Sol?’.

As geographers they were expected to suggest drawing up tables of data from the **Question 3** and **4** answers then, on a map of Bangkok, locating districts where customers had come from and shading these using a choropleth system. They could also have added flow lines from where they lived and ultimately draw a line around the furthest distances to identify the sphere of influence of each centre. Stronger responses did this, often including a small labelled diagram to show that they knew what a Sol should look like. Most candidates just described what the two questions revealed, i.e. knowing or seeing where they came from and how far they travelled. With this information they stated that you could work out the Sol but few actually described how. Some just described what the Sol was and how it could differ depending on the distance and direction of its customers. This was a disappointing response especially as in (i) a large majority clearly knew what a sphere of influence was.

Question 2

- (a) Most candidates correctly ticked the third and fourth rows although a significant minority made incorrect choices with '*Look at different features along the river*' being a popular wrong choice. Quite a few only made one choice when the question asked them to identify two advantages. A small number ticked three choices which meant that one correct choice was cancelled out by an incorrect one.
- (b) (i) This question proved difficult for most candidates. Many listed the right equipment required but then described how they would measure the depth, width or even velocity of the river which would not give a gradient measurement. It was important to indicate that the measurement would be taken along the river or downstream; quite a few stated '*across the river*' or '*from bank to bank*'; it was unclear where they were measuring the distance. Although they were told the distance at each site was 10 metres, too many chose a different distance or decided to carry out the work at breaks of slope. A few thought measuring river depth would provide the gradient. Stronger responses did describe where they would place two ranging poles with a distance measured using a measuring tape and then they could use a clinometer to measure the angle by focusing it on the same height on both poles. Quite a few stated that the clinometer measured the gradient; it should be the angle. Many candidates missed a few of the stages out but still scored well by knowing the correct use of the equipment though not necessarily in the correct sequence of its use. This was the third highest sub-section on the paper where no attempt was made to answer the question.
- (ii) There were some very strong to this question. Stronger responses stated that it would be possible to calculate an average and thereby eliminate the effect of anomalies as well as reduce the chances of errors. Less strong candidates did recognise that Group B could calculate an average whereby Group A may have made a mistake with one measurement only. Weaker answers stated that making more measurements would provide a more accurate result which is not necessarily true.
- (c) (i) Although most candidates did work out that Site 1 had the largest variation in measurements, all the other possibilities were also seen.
- (ii) Almost all candidates correctly plotted the average angle at 4 degrees and drew a straight line to the 10 on the horizontal axis; occasionally the latter was not carefully placed. A small number drew lines above or below the 4 degree mark; others just put a dot on the 4 without drawing the line in and there were a few who made no attempt at this easy plot.
- (iii) It is unusual to have a mark scheme where candidates can make one of two possible judgments about the Hypothesis and still gain full marks. However, in this case as in real fieldwork, some statistics do not always provide one clear-cut answer. Although, overall, the gradient did not get steeper between Sites 1 and 5 thereby requiring a judgement that the Hypothesis was *false*, there was a significant anomaly at Site 3 which able candidates could spot consequently the decision that the Hypothesis was *partly false/true* was also allowed providing the evidence included reference to this anomaly and not just Sites 1 and 5. The majority of candidates chose *false* and recognised that overall the gradient was gentler downstream as it went from 9 degrees at Site 1 to 6 degrees at Site 5. A few candidates were confused by the degrees and agreed with the Hypothesis thinking that a fall in degrees downstream meant it was getting steeper.
- (d) (i) This was the least successful sub-section in **Question 2**. Selecting pebbles at random does mean that the choice could be biased and also unrepresentative as the student may have just chosen

pebbles s/he likes or chooses them all from the same area. These were popular responses. Many candidates just gave generic or irrelevant responses such as the choice would not be accurate, the pebbles might all be the same weight or shape.

- (ii) The majority of candidates correctly chose the systematic option as the sampling method employed by Group B to collect pebbles at equal distances across the river bed. *Balanced* and *stratified* were the most common incorrect answers.
 - (iii) These were two straightforward plots which were correctly drawn by the majority of candidates however this sub-section had the largest number not attempting the graph work at all. It appears that many candidates look at some graphs and assume they are complete because they have many plots on. This is not the case; Site 2 was missing a plot at 13.4 and an average line at 7.2. There were a few misplaced plots from candidates who did not score well; it is important to carefully check the scales. Some plots were put above the wrong Site number.
 - (iv) Candidates needed to look at the average size of pebbles on the previous graph and explain, using evidence, why the Hypothesis about the pebble size becoming smaller downstream was *partly true*. This required candidates to identify sites where the size decreased e.g. Site 1 and 2 and also sites where it increased e.g. Site 2 to 3. There was also a mark for paired data to support the increase or decrease stated. Stronger candidates did this well often taking the overall Site 1 to Site 5 as the decrease but then recognising an anomaly at Site 3 which produced the highest average size. Weak answers did not identify any sites but just stated that the size increased and decreased. Many quoted individual pebble sizes from the graph that suited their argument; they should have focused on the average to make sensible judgements about the Hypothesis.
 - (v) Most candidates picked up marks by referring to the traditional processes of river erosion that would make pebbles smaller downstream i.e. attrition, abrasion and solution – hydraulic action was not credited as it is not considered a major process in making pebbles smaller. Some candidates explained what the processes did without naming them; a few named attrition and abrasion but then gave the wrong definition to each.
- (e) (i) This sub-section done so well by most candidates. In past sessions asking for a Hypothesis has not resulted in much success but here candidates seemed to know that a Hypothesis should be expressed as a statement or question to be investigated and provided appropriate ones to do with the river's characteristics. Common Hypotheses were related to the width, velocity and depth increasing/decreasing or changing upstream/downstream with measuring the velocity using floats the most popular choice. Inappropriate answers included references to colour change, changes in vegetation, pollution levels or the number of fish changing downstream. There was a significant minority who just gave a topic e.g. *width, velocity*, with no Hypothesis stated. These candidates were allowed some credit in (ii) for their method but it was limited to half of the available credit as they had not stated a Hypothesis. Only a few decided to investigate gradient or pebble size which they were clearly told not to choose.
- (ii) Almost all candidates who had stated an appropriate Hypothesis in (i) gained good credit in this question about methodology; indeed stronger responses gave so much detail that they had easily obtained all available credit well before the end of their answer. It was notable that those who chose to use a flowmeter to measure velocity had little idea of how it should be used or how it worked other than putting it in the river and reading the digital display. Candidates who had given inappropriate Hypotheses struggled to describe a relevant fieldwork method; indeed quite a few made no attempt to answer this section if they had not managed to think of a suitable Hypothesis in (i).