GEOGRAPHY

Paper 0976/12
Geographical Themes

Key messages

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

- Follow the rubric correctly by answering three questions only. One must be chosen from each of ***Sections A***, ***B*** and ***C.***
- Answer all parts of their chosen questions in the spaces provided, including questions which involve the completion of maps or graphs, e.g., **Q.1(b)(i).**
- Know how to respond to command words and words which indicate the focus and context of each question.
- Write answers of an appropriate length, being guided by the space provided in the answer booklet and the mark allocations of questions.
- Answer with precision and clarity, avoiding vague words or statements which should always be qualified or elaborated (e.g. pollution, overcrowding, resources, facilities).
- Develop ideas or link them to others when extended writing is required in those questions worth five or more marks.
- Interpret various types of source material, including graphs of different types, in order to support ideas. Accurate statistics (with units) should only be used if the question indicates that it is appropriate to do so.
- Interpret photographs, diagrams and maps carefully, referring to relevant evidence in them to support answers.
- Be able to describe differences (e.g. of features shown in photographs) or compare two features or time periods (e.g. of years shown on a line graph) by using comparative words.
- Learn geographical words and terms and use them correctly in answers and when writing definitions.
- Ensure that the answer is based entirely on the resource provided when the word 'only' is used in the question.
- Describe the distribution of a feature (e.g. settlements, deserts, earthquakes) on a map, referring where appropriate to scale, direction and other features.
- Have a wide range of case studies and choose them with care to fit the questions selected.
- Include relevant place-specific information in case studies, without including detail which is not relevant to the question set.
- If extra space is needed to answer a question, use the continuation pages at the end of the question and answer booklet. Ensure that any such answers are clearly labelled with the question numbers (e.g., **3(b)(ii)**) rather than page references.

General comments

The paper discriminated well with marks being distributed across the entire mark range. It was encouraging to see large numbers of candidates performing very well across the paper, showing good geographical knowledge and understanding throughout and handling the skills required with a high level of competence. Most candidates, whilst not performing so consistently across all questions, did make a sound attempt at many parts of their chosen questions. However, as always, a significant minority were less convincing, either in terms of correctly interpreting the questions or in producing detailed, accurate answers, thus enabling the paper to differentiate effectively between candidates of all abilities. Some candidates across the ability range did not score marks consistently as they did not respond correctly to all command words (e.g., 'describe' in **Q.1(b)(i)** or 'compare' in **Q.2(b)(i)** or key words/terms such as 'natural environment' in **Q.6(b)(ii)** or 'dependent population' in **Q.1(c)**. Sometimes key words are **emboldened**, as was the case with 'countries in Europe' in **Q.1(a)(iv)**. This is done to draw candidates' attention to a significant word(s) which should not be overlooked.

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There were rubric errors from some candidates, who tended to only answer the earlier/easier parts of all six questions and omitted any attempt at the later, higher scoring questions. In very few cases, candidates attempted to answer all parts of all six questions with inevitable impacts in terms of brevity and limited explanation in the parts worth more marks.

The presentation of answers from most candidates was acceptable, although the writing of a few candidates was barely legible in parts, and care was not always taken to complete tasks with sufficient accuracy (e.g., **Q.1(b)(i)**). Candidates may be losing marks if their work cannot be read. Answers were usually in an appropriate amount of detail. Occasionally, answers worth only two or three marks were too long and/or answers to questions worth a higher number of marks were too brief. However, most candidates were guided by the space provided and the mark allocations. Some candidates made use of the lined pages at the end of the booklet; however, some needed to do so only because they had included too much irrelevant material in their answers, particularly in case studies. A few did not clearly indicate which questions they had answered on these lined pages.

Questions 1, **3** and **5** were the most popular questions. Mean marks were highest on **Question 1** and lowest on **Question 2**, with marks for the other four questions being in a similar range. There were many good answers seen to most questions, including those requiring extended writing, particularly to the **part (c)** questions on problems caused by a high dependent population, the impacts of a volcanic eruption and river flooding, and the problems caused by tourism. There is an increasing trend to include unnecessary detail in case study questions. This often consists of a general introduction with irrelevant information about the topic being tested (e.g. the cause of a volcanic eruption when the question asks about its impacts). Such superfluous detail is not helpful as it is sometimes included at the expense of relevant information and development. The best case study answers seen were from those candidates who wrote with a clear focus on the question, developing or linking ideas and including place-specific information. Weak responses were typically poorly focused with brief lists of simple points (sometimes in bullet points), not all of which were relevant.

The following comments on each individual question will highlight candidates' strengths and weaknesses and are intended to help centres prepare their candidates for future examinations.

Comments on specific questions

Question 1

This was a very popular question, answered by well over 90 per cent of candidates. It was the highest scoring question for many candidates, although a full spread of marks was seen.

(a) (i) Most candidates ranked the countries correctly.

(ii) Many candidates described two areas, usually on the Morocco to Spain and Libya to Tunisia routes. They described the locations in different ways, but gained credit provided they referred in some way to an appropriate area of sea. Weaker answers referred only to countries, with no mention of the coast or sea area, or used directions such as 'north of Libya' which were imprecise.

(iii) Many candidates understood 'forced' migration and gave appropriate reasons. Other candidates focused on push factors for economic migration which were not accepted.

(iv) Despite 'countries in Europe' being emboldened, some candidates focused too much on the problems of migrants rather than problems for the country. Candidates who did focus correctly on the destination countries usually gained credit by referring to pressures on work, housing or resources such as food or water, housing and jobs. Other popular reasons were issues such as conflict with local people and increasing rates of crime. Marks were lost when candidates gave simplistic statements such as disease, overcrowding and overpopulation.

(b) (i) Many candidates correctly completed the divided bar, although some lost marks by careless plotting of the dividing lines. Candidates need a sharp pencil and a ruler to complete this type of task accurately. Some weaker responses had plotted one or more lines incorrectly and/or left some of the bar unshaded. A few candidates plotted the segments in reverse order, ignoring the pattern shown in the other completed bars, and a significant minority omitted the question entirely.

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(ii) Many candidates scored well on this question. They suggested a wide range of problems facing migrants and gained full marks. All ideas suggested in the mark scheme were seen in candidates' answers. Some answers were vague, such as poor quality of life, or they focused on just one issue, such as discrimination, rather than looking at a range of problems. Potential poverty was a valid issue, though candidates could not score multiple marks for listing things which the migrants cannot afford. Similarly, ideas such as lack of healthcare, education and food were not acceptable unless linked with difficulty of access for reasons such as poverty.

(c) The best answers focused on old dependents, especially in Japan but also in European countries such as Italy. Good answers linked ideas well to give developed answers. Answers which focused on young dependents were less successful and frequently went into irrelevant ideas about children working. Some candidates did not understand dependent population and wrote about issues related to overpopulation, most of which were not relevant. Another error made by some candidates was to continue the theme of migration by either writing about the migrants as dependents or the country being dependent on migrant labour.

Question 2

This was the least popular question on the paper, and many of the answers were weak, reflecting the fact that for many candidates it formed part of a rubric error.

(a) (i) Some answers were seen within the wide tolerance, which was allowed, but there were many which were well outside the acceptable range.

(ii) Many candidates gained marks by referring to the CBD and/or the roads. Others correctly observed that the shops and services are spread out through the urban area. A common error was to respond wrongly to the command 'describe the distribution' and to write about other aspects of shops and services.

(iii) Answers varied in relevance. Better answers identified that shops in the CBD would be likely to be larger and more specialist, and some answers included comparative examples. Weaker answers speculated that these shops were more expensive or had more customers, or they simply did not attempt a comparison. The best answers included terminology such as higher order, larger threshold population and wider sphere of influence.

(iv) This question discriminated well. Some candidates suggested different reasons with sound explanations, referring in particular to the location close to large numbers of residents and on a main radial road. Other answers included vague explanations which repeated the same idea of '*more customers*'. Some candidates wrongly suggested that shops were in their locations just to suit customers rather than for the benefit of the shop owners.

(b) (i) Many candidates used the diagram to identify at least one difference between the spheres of influence. Good answers gained full marks by including precise details about the extent of both spheres of influence, some accurately using the scale. Others simply referred to the size of the sphere of influence and some did not make any comparisons, particularly when referring to the CBD and the urban boundary.

(ii) This was challenging for many candidates, especially those who did not understand the term 'sphere of influence'. The most common correct response was about the variety of goods offered, although others did refer to different numbers of the two types of stores and/or frequency of visits.

(c) This was the lowest scoring case study on the paper and relatively few candidates gained high marks. Most answers identified different ways to improve housing but did not describe them in any detail, thus many answers remained within Level 1. Many candidates did not focus on housing but included irrelevant ideas about crime, transport or employment. Many of the higher scoring answers focused on the improvements made to housing in squatter settlements, typically in cities in LEDCs such as in Brazil, Nigeria and India, referring to ideas such as self-help schemes and site and services schemes. Examples in MEDCs were of course acceptable, but few were seen with adequate detail and the correct focus.

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Question 3

Almost 90 per cent of candidates answered this question and there was a wide range of marks. Average marks on **Questions 3** and **4** were very similar.

(a) (i) Many candidates gave the correct figure. Some candidates wrote the figure in full (1,200,000), which with the word 'millions' at the end of the line was incorrect.

(ii) Most candidates correctly made the comparisons. Some weak answers reversed their answers by reading the key wrongly or just gave statistics, despite the instruction not to do so.

(iii) Many candidates made at least two valid suggestions, typically about the poor building quality of houses, lack of health care, and lack of education about what to do in an earthquake. Some weak answers did not attempt to link poverty with the consequences of an earthquake.

(iv) The question differentiated well. Better candidates focused on the cost of rebuilding, and identified specific buildings which had been destroyed. Some also referred to unemployment and the death of workforce, often linked to destruction of workplaces. Others considered the impact on production and trade, along with the impact on tourism. Weak answers suggested that '*everything needed re-building*' but gave no details, whilst others wrongly tried to compare the impacts on China and Haiti.

(b) (i) The question discriminated well between candidates. The most common correct responses referred to the plate boundary and fault lines. Better candidates also gave detailed descriptions of where, in Alaska, earthquakes were located and used terms such as 'clustered' or 'linear' in their answers. Some weak answers did not write about the distribution, focussing, for example, on the one earthquake which was 9.0 or larger on the Richter scale, and there were many simplistic references to '*on the plates*', '*in the sea*' and '*in Alaska*'.

(ii) There was a full range in quality of responses from very detailed explanation of the processes causing an earthquake to vague misconceptions about plates colliding and volcanoes triggering earthquakes. Some candidates offered alternative ideas about plates '*converging, diverging or sliding past each other*' which were not credited as **Fig. 3.2** clearly shows a convergent plate margin. Many candidates included correct terms such as 'pressure' and 'friction', some without really showing an understanding of the processes. The best answers used these terms in the correct sequence in order to show a full understanding of why an earthquake occurs.

(c) The question produced a range of responses. Common examples included named volcanoes in Iceland, Mount Merapi, Mount Sinabung, Mount St Helens, Etna and even Vesuvius. Historical examples are accepted; however, it is always good to see more recent examples being used, such as Cumbre Vieja in La Palma, which erupted in 2021. Some candidates limited their maximum mark by giving a location but not the name of a volcano. The question discriminated well as weaker answers gave a lot of simple impacts but did not develop the ideas, whilst higher scoring answers linked ideas together and included place detail, such as accurate dates or place names or numbers of people affected. Some candidates wasted time and space by writing about the cause of the eruption or describing the material coming out of the volcano at the expense of making detailed reference to its impacts.

Question 4

This was the least popular question of the pair. Overall marks and performance, however, were very similar to **Question 3**.

(a) (i) Some candidates identified the cirrus clouds, but many guessed at other types of clouds or made descriptive comments such as 'light' or 'high' clouds.

(ii) Some candidates identified the correct date, 3rd June, and referred correctly to the one okta of cloud cover shown in the table, **Fig. 4.1**, and the photograph, **Fig. 4.2**. Many candidates just stated that there was 'little cloud cover'. Other candidates identified the wrong date, usually 4th June when there was no cloud cover.

(iii) The question discriminated well. Good answers provided detailed explanations of how the maximum and minimum thermometer was used with others gaining at least one mark by referring

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to readings being taken daily or putting it in a Stevenson Screen. Many candidates did not explain its use but how it worked.

(iv) Most candidates correctly identified the four weather instruments. The barometer was the one where most errors were made.

(b) (i) Answers varied in quality. Better answers were succinct by identifying the respective high and low amounts of cloud in summer and winter, or the correct named months, and describing the change in spring or autumn. Weak answers simply identified cloud cover in individual months without linking this to seasonal variation.

(ii) A good discriminating question. The best answers gave detailed explanations of how to collect the data on both cloud cover and type, with weak answers typically gaining one mark by reference to doing it every day or taking photographs. This type of data collection had not been experienced by some candidates, whose answers referred to using instruments such as different types of thermometers, rain gauge and sunshine recorder. The use of a quadrat was an answer which was seen from significant numbers of candidates. This was only accepted if candidates explained that it was divided into eight sections and held up to the sky.

(c) Common examples were the Ganges, Nile and Elbe. As in **Question 3(c)**, a common error was to write about the causes of flooding and/or measures to reduce the impact, the consequence being that limited detail of the impacts was provided other than a brief list at Level 1. Good answers included detailed impacts on buildings, farmland, transport, and the spread of water-borne disease, along with appropriate place detail in the very best examples.

Question 5

Question 5 was more popular than **Question 6**, with a range of responses. Overall quality on the pair of questions was very similar.

(a) (i) Most candidates correctly identified Pula, but Rijeka was a common incorrect settlement named.

(ii) Despite the large tolerance, significant numbers of candidates were inaccurate in their measurement, using the scale incorrectly. Most candidates did correctly identify the south-east direction.

(iii) This question differentiated well. Most candidates identified the beach, or an appropriate activity shown in **Fig. 5.2**, such as sailing. Candidates were less successful in identifying the local/traditional/handmade products or souvenirs in **Fig. 5.3**, with many simply suggesting souvenirs or shops. Most candidates answered correctly about **Fig. 5.4** by referring in some way to historical buildings.

(iv) Many candidates identified jobs as the main benefit of tourism. Perceptive candidates also described business income, use of money from tourism to develop specific services or aspects of the infrastructure, and the notion of cultural exchange. Some candidates made vague references to quality of life, money or infrastructure being improved without sufficient precision.

(b) (i) The question gave clear differentiation. Good answers used the graph to identify clear trends and gave correct years with accurate data. Most candidates gained one mark for the '*increase*' idea, though weaker answers had mis-read the scale and gave inaccurate statistics.

(ii) Answers varied in quality. Many candidates identified war and natural disasters as reasons for change. More detailed answers also suggested development of new attractions, economic recession, and special events as other reasons. Weak answers confused annual change with seasonal change and so focused incorrectly on weather or gave vague answers such as '*development*', '*safety*' or '*politics*'. Other weak answers focused on individual tourists whose preference or economic circumstances might change. The idea of publicity was a common one, usually linked to bloggers or influencers rather than advertisements.

(c) Answers varied in quality. The best answers identified a popular tourist area, often a small island country, and described the impacts of different problems on both people and the natural environment, developing or linking several of their ideas. Common case studies included Jamaica, Mauritius, Masai Mara, and cities such as London and Dubai. Whilst some candidates gave

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balanced answers, many focused almost exclusively on environmental problems. Many weaker answers referred to issues such as noise, litter and air pollution, for example, but did not describe how these various types of '*pollution*' affected either people or the natural environment.

Question 6

This was the least popular of the two questions in this section and was answered by almost 30 per cent of candidates. Average marks were similar to **Question 5**.

(a) (i) Most answers were within the accepted range.

(ii) Most candidates identified the similarity that service employment was the largest sector, although some candidates answered that '*more*' or '*many*' people were in this sector, which was too vague for credit. Many candidates were also able to identify a difference, with correct ideas often referring to one specific sector such as agriculture. An error made by some candidates was to refer to change rather than the situation in 2020.

(iii) This question was more challenging and discriminated well. Good answers clearly compared changes in the three sectors, including industry. Some candidates described the change in the two countries separately; others, however, did not describe the change at all but just the situation in the two countries in 1990 and 2020, which was not creditable.

(iv) Many candidates found the question difficult, with lots of vague answers referring to development and demand but not giving any specific details. A common misconception was that workers moved from agriculture to services because the pay was better. Correct answers referred to mechanisation, a better educated population with more skills to work in the tertiary sector, and the possible growth of tourism.

(b) (i) Many candidates scored all three marks by accurately completing the table. Where errors were made, however, it was usually due to confusing inputs and outputs.

(ii) The question was a good discriminator. High scoring answers suggested a wide variety of effects on wildlife, habitats, vegetation, biodiversity, air pollution, global warming and acid rain, some of which were developed for additional credit. Common errors included reference to soil becoming infertile rather than eroded, emissions of smoke and fumes rather than a named gas, and ozone depletion rather than global warming.

(c) This produced a range of examples, including many good ones that were local to the candidates, along with a wide range in quality of responses. There were also well rehearsed textbook examples such as Nissan (Sunderland), Toyota (Burnaston, near Derby) and Pakistan Steel Mills (Pipri, near Karachi), along with examples of TNCs in China or a named LEDC. Where the candidate chose an appropriate area or zone rather than a whole country, e.g. Pipri rather than Pakistan, they could often give a range of developed ideas about how that region met the locational requirements of manufacturing industries and incorporate place detail. Many weaker answers knew what the factors of location were but could not convincingly link them to a specific location.

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GEOGRAPHY

Paper 0976/22
Geographical Skills

Key messages

- Candidates should not read the key in isolation from the map itself in **Question 1**. In **part (e)**, for example, several candidates suggested that the railway line avoided steeper slopes by creating cuttings, tunnels and embankments, but in fact no tunnel existed on the map. Similarly, in **Question 1(c)** no museum was found on the map, even though it appeared in the key.
- Many candidates showed in **Question 1** that they needed more practice on grid references, distance calculations, compass bearing, and identifying features on and completing a cross section.
- It is important to read questions carefully. For example, **Question 6(b)** referred to the role of the government in increasing agricultural output. Many candidates seemed to ignore this and wrote about how farmers could do this.
- Candidates should study the command words in each question carefully. For example, in **Questions 3(a)** and **6(a)** many candidates attempted to explain the location of the features they had identified in **Figs. 3.1** and **6.1**, but the question only asks for their description – in other words, state what you can see.
- Candidates should be able to use correct language and terminology when making comparisons.
- Candidates should practise their understanding of key geographical terms to avoid misunderstanding the question, for example, physical (natural) features in **Question 1(d)(ii)**.
- When candidates run out of space, they should be encouraged to write on the extra pages rather than use complex footnotes elsewhere on the page which are linked by arrows. In addition, when writing on the extra pages, they should make sure the question part is clearly stated.

General comments

Overall, the paper was answered well, a wide range of marks was attained, and very good responses were seen for all questions. The stronger candidates were given the opportunity to demonstrate their ability and made good use of geographical terminology. The weaker responses showed some geographical knowledge and understanding. The ability to successfully interpret maps, graphs and photographs and provide appropriate responses was displayed. Generally, candidates performed equally well across all the questions, with **Question 5** being done particularly well and **Questions 3(b) and 6(b)** less so. There was little evidence that candidates ran out of time to finish the paper with few question parts not attempted. In general, good use was made of English grammar and sentence structure to convey geographical ideas. Most candidates made good use of the space available for their answers and only used the additional pages when some or all of an answer had been crossed out.

Comments on specific questions

Question 1

(a) Candidates generally scored well on this section, demonstrating an ability to find features on the map and identify them using the key. The type of road at **A** was a secondary or B road, and the feature at **B** was a place of worship with either a spire, minaret or dome. Some candidates left out the building type here and stated 'with spire', etc. The feature at **C** was a mast, and the height above sea level of the contour at **D** was 85m. Some mistakenly gave the spot height of Tarbert Hill at 138m nearby. The land use at **E** was non-coniferous trees, forest or woodland. The section of the key 'Vegetation' where this feature is found was not credited.

(b) Although there were many correct answers, some candidates found **part (b)** challenging. The grid reference in **(i)** was 208484, and the distance in **(ii)** was 2.5 km. Some minor tolerance was allowed

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for both responses, for example, in **part (b)** responses between 2.4 and 2.6 kilometres were credited. A wide variety of answers were given by candidates in the latter, with some being out by a factor of ten or more.

(c) The cross-section question proved difficult for many candidates, with a significant number omitting **part (iii)**. In view of the clustered nature of some features at **X** on the cross-section, a number of different answers were credited. These were more precisely Carlung Farm or, more generally, building(s). Other candidates suggested one or more of an 'other road', 'drive' or track' which was allowed. Carlung House or Croek Hill were common errors here. Feature **Y** was clearly a main or A road**.** Some stated more precisely that it was the A78, although a few candidates incorrectly copied the exemplar from the map key, the A30. When completing the cross-section in **part (iii)**, there should have been a very steep western side to the hill. Owing to the clustering of the contours in this area which made the observation of the exact height difficult, a tolerance was allowed between 55 and 64m. Although many correct responses were seen, a large number peaked at approximately 40m.

(d) (i) This question was well answered with almost all candidates correctly identifying at least three tourist attractions along the coastline. Of these, the castle, pier, picnic site, coastal path (recreational route), hotel, golf course and beach were most commonly stated. Although frequently mentioned, the car park was not considered as a tourist attraction and whilst a museum appeared in the map key under 'Tourist and Leisure Information', one did not exist on the map and thus could not be credited.

(ii) When describing the physical features of the coastline, only those to the west of the coastal path were considered. There were plenty to choose from and candidates who were familiar with coastal landforms had few problems. Headlands and bays were commonly mentioned together with cliffs and islands or stacks. The presence of beaches or sand and shingle was often noted, as were loose rocks or rock outcrops.

(e) Those candidates who understood the concept of relief tended to score at least two of the three marks available. The best responses differentiated between height and gradient, making separate points on each, using evidence from the map. For instance, 'The railway line curves around Tarbert Hill' and 'The railway avoids the steeper slopes'. There was some repetition of points using different features. The use of cuttings and embankments was recognised by some candidates whilst others just copied the key and referred to tunnels which do not exist. Some candidates mistook the scale of the landscape, referring to mountains and mountainous rather than hills or hilly. Very few noted that the railway line follows the coastline to the south of the map.

Question 2

(a) (i) The majority of candidates gave a correct response of either 27.5 per cent or 28 per cent from **Fig. 2.1**. 27 per cent was also frequently seen but it was felt that this was not accurate enough. Although not expected, some candidates had clearly used a protractor and measured the angle for China's carbon emissions at 100° and divided this by 3.6 to get an answer of 27.8 per cent.

(ii) In most cases, **Fig. 2.1** was successfully completed with an angle of 139° to 142° drawn for the rest of the world. Examiners pointed out, however, that the shading was often untidy. Candidates should note that they are permitted to take a ruler into the examination to use on such occasions.

(b) The best responses used terms such as least/most/greatest to compare trends in the annual carbon emissions shown on **Fig. 2.2** between China, USA and India. These often started off noting that all three countries increased over the whole time period, and then said China had the most increase, India the least/is the lowest and/or China overtook USA as having the highest emissions. Few noted that USA fluctuated the most or that, whilst China and the USA fell toward the end of the time period, India continued to increase.

Weaker responses tended to give comparisons of single years or periods of several years, or descriptions of each country's trends without making any comparative points.

(c) This was generally answered well, with the ideas that LEDC's had fewer cars and fewer factories than MEDC's. The latter was often aligned with less use of machinery. Less frequently, some candidates suggested that LEDC residents were less able to afford household appliances or

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technological goods such as computers as well as taking fewer flights. Those who suggested that LEDC's used less electricity needed to state what this energy was used for.

Question 3

(a) Candidates engaged well with this question, examining **Fig. 3.1**, a river port in Germany (Dortmund), very carefully. Although some answers were unnecessarily lengthy, many scored the full 5 marks. Most commonly candidates referred to the space occupied by containers, as well as for warehouses, factories and a few houses or offices. Others noted the roads and the bridges as well as the areas of parked vehicles. However, it was evident that many candidates did not know a suitable term for a wharf/dock or berth for ships. In addition, the term 'storage' was often stated but needed to be qualified. Some did identify the cranes and many noted the trees that were adjacent to the main road. Many candidates described the activities of such a river port or how industries used it, for instance, terms such as exporting, importing, and transporting cargo did not answer the question. Weaker responses also described the way the water was used rather than the land. The port itself was outlined in yellow, so some candidates named features that fell outside this boundary, such as forest and residential areas.

(b) This question required candidates to pick out a factor and then give a brief reason why it was good for manufacturing industry. Thus, the most common creditworthy points were: the presence of a road or river used for moving goods, nearby housing for a labour supply or market, the provision of flat land which is easier to build on, and that it was a large area which could be used for expansion or for large buildings.

Many candidates, however, did not pick out the feature which made it a good place for manufacturing, especially the roads and river. In the latter case 'river port', taken from the question stem, was often used instead. Generic statements were also common, for instance, 'The water can be used for power generation' and 'Ships can be used for transport'. In addition, reference to the trees outside the port to reduce air pollution was not credited.

Question 4

(a) Most candidates scored well on **Questions 4(i), (ii)** and **(iii)**, showing an ability to extract information from a climate graph (**Fig. 4.1**). August was the month with the lowest rainfall, and September and October the months with the highest temperature. The total annual rainfall was estimated at 3000 mm. A minority of candidates mistook the line for rainfall and the bars for temperature.

(b) This question discriminated well with the full range of marks being credited. Few candidates specifically noted the extent that it was true by stating that it is true for temperature, but not true for rainfall; some responses were indecisive using terms such as 'mostly' and 'partially' which did not gain credit. Many recognised the small range of variation in temperature and stated that the temperature range was from 26 °C to 28 °C or that there was a difference of 2°C. On the other hand, it was often recognised that there was a distinct fall in rainfall from June to November and that there was a large variation in the rainfall. Some candidates correctly worked out the range of rainfall as 282 mm, but more common was the range 114 mm to 396 mm. Some candidates used the names of seasons, for example, summer, but these did not correspond to major trends. There was also a tendency for weaker responses to list months as rising and falling, with more general trends absent. Some also tried to unsuccessfully link temperature changes with rainfall rising and falling. Again, those who mistook the line for rainfall and the bars for temperatures inevitably drew incorrect conclusions on seasonality and provided statistics which were inaccurate.

(c) The reasons for high rainfall in equatorial regions were well understood by the majority. There was frequent reference to low pressure as well as high levels of humidity, evaporation and transpiration. Many knew the processes of convectional rainfall formation, even if the term was not used. Weaker responses seldom went beyond stating that there was a lot of tropical forest or that temperatures were high.

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Question 5

(a) The majority correctly stated that HDI stood for Human Development Index**.**

(b) Almost all candidates selected the Netherlands as the most developed country based on the data in **Table 5.1**. Furthermore, the majority gained all four marks by stating that the Netherlands possessed the highest life expectancy at birth, the longest years of schooling and the highest GNI per capita. Some achieved the same result by stating that these indicators were higher than Madagascar and the United Arab Emirates.

(c) This topic was well known with many candidates writing at length on a variety of factors to suggest why life expectancy in an LEDC is lower than in an MEDC. The lack of healthcare and appropriate medicine was seen the most, together with the suggestion that in addition, these could not be afforded by most of the population. Lack of trained nurses and doctors was also a common response. Another thread was the lack of sanitation together with a clean water supply, which can lead to the spread of diseases. A lack of education about hygiene and the spread of diseases were also commonly mentioned. Poor living conditions or standard of living were judged as being too vague as was the lack of education unless qualified as above.

Question 6

(a) The description of how land was being used in **Fig. 6.1**, a photograph taken in Bali, Indonesia, was generally well done, with the majority gaining at least two marks and many scoring four or five. The identification of features was key and those who were able to state what they saw achieved this. Arable or crop farming was commonly stated with many recognising flooded rice paddies. Beyond these, many referred to grassland, bushes or palm trees with forest in the background. Some noted that the land was terraced while others suggested the land in the foreground was sub-divided into rectangular plots. Few said that bunds or mud banks were present. The individual buildings were identified as houses or, more rarely, as being for storage, but these could not be described as a residential area as some suggested.

(b) Although a range of suggestions were made, candidates in general lacked knowledge on the ways governments could help increase agricultural output. Many candidates failed to acknowledge the ‘government’ aspect at all, and described activities that farmers could undertake instead. Others wrote as if governments provided or supplied a number of different inputs such as fertilizers and machinery. There was, however, reference to loans and subsidies but suggestions about what these were for were often omitted. Some did refer to reducing taxation and the reduction of imports of similar crops. Restrictions to prevent development on farming land were occasionally referred to. Provision of named infrastructure such as dams for irrigation or roads for transport of crops was credited. Finally, research, for example, into HYV or GM crops, and education or training on named aspects of farming were also seen.

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Paper 0976/03
Coursework

General comments

This report refers to the performance of centres in the June 2023 session; however, the comments made here are equally applicable for centres that make their entries for the first time in November 2023 or during 2024.

The original entry for the June 2023 session increased by almost 50 per cent compared with the IGCSE Geography Coursework entry in June 2022. This reflected the return of most schools to a normal routine since the COVID-19 pandemic and the fact that many centres felt able to conduct fieldwork. Entries are now on a par with those seen before the COVID-19 pandemic. A very limited number of centres withdrew at the last minute. Most centres outside of the UK opted for 0460/03 while most within the UK opted for 0976/03.

The range of topics undertaken included a much greater variety compared with the June sessions in 2021 and 2022. From the table below it can be seen that whilst rivers was the most popular topic, coursework submissions on human geography topics outnumbered those on physical geography. Tourism increased quite markedly, possibly because it is now much easier to interview people without COVID restrictions in place.

	Topic	Number of centres
human	population and migration	3
	settlement and service provision	8
	tourism and recreation	36
	urban settlement	37
physical	coasts	14
	rivers	39
	weather and climate	5
others*		6

*Include economic development, environmental quality and land use, transport, vegetation, and waste management.

It is 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. Problems seen may be due to a lack of training in the coursework option and there is training available online for teachers who are new to the coursework option. There is also a Coursework Handbook available from the school support hub which includes examples of coursework which are annotated to show how they should be marked. It is also recommended that centres read this report's content together with the *Moderator's Comments on school-based assessment of coursework* which each centre receives.

Almost all centres which entered candidates were able to conduct their fieldwork 'in the field' without relying solely on past secondary data or online questionnaires which was necessary during the COVID-19 pandemic. Most data was collected as part of a group exercise and then collated by a teacher when candidates returned to school. The complete data set(s) were then made available to all candidates for each to work on their own individual hypotheses. However, the Moderators also reported an increase in candidates collecting their data either individually or in small groups. In many cases this resulted in less data being collected, which was not sufficient for an in-depth analysis. For safety reasons, it is **not** recommended that candidates collect data on their own, 'in the field'. If a candidate needs 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.

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There was some concern expressed by Moderators about excessive teacher guidance outside of the data collection exercise. One Moderator reported that candidates from one centre used the same theory, identical computer-generated graphs with the same evaluative points and ideas for improvement. It is important to stress that individuality is vital in order to achieve the highest marks. This can be enhanced by candidates researching their own background information, and attempting at least one hypothesis which is not attempted by other candidates. In addition, candidates should use their own photographs as well as graphs, maps and field sketches.

Key messages

- A clear understanding was demonstrated by most candidates of the Route to Geographical Enquiry. This resulted in well organised studies containing the five sections outlined in the syllabus, often with a table of contents. However, some centres' coursework was imbalanced, typically with a long Introduction and Observation and Data Collection section at the expense of Analysis which was relatively short.
- While a good understanding of geographical theory was demonstrated, it tended to be more focused where the hypotheses appeared first and the theory could be utilised to justify the hypothesis.
- In the better studies, geographical models outlined in the introduction were referred to in detail in the analysis and conclusion.
- The most successful conclusions were conducted as a result of clear hypotheses laid out at the beginning of the enquiries. Two or three hypotheses are enough to ensure a sufficient depth of reasoning in the analysis. Too many hypotheses and data collected on too many parameters often leads to a simplistic analysis or overlong enquiries which lose focus.
- It is important that enough primary data on any one parameter is collected to allow candidates to exhibit a depth of understanding in their analysis. Not all data collection exercises produced enough data to allow the identification of clear trends and anomalies as well as the opportunity to perform statistical analysis.
- Data collection methods were well described and understood. Sampling procedures, however, were poorly described and understood and there was limited justification (if any) for the selection of data collection sites.
- All relevant primary numerical data that is used in the study should be included in tabular form. This was absent in some studies, despite the description of data collection methods appearing in tables.
- An impressive range of data presentation methods was utilised with many demonstrating the complexity required to score well. However, a large number were rendered ineffective by the absence of correctly labelled axes (to include units). Line graphs were often used inappropriately.
- All maps should have a scale and orientation, and those originally from secondary sources must be clearly utilised.
- The inclusion of photographs considerably enhanced many enquiries, but to be worthy of credit they must be well annotated as well as having a title. They should also be individual and not appear in other studies.
- The best responses gave well-reasoned explanations to support their findings; however, many reasons given were too speculative and were not backed up by the findings or theory.
- Most studies clearly confirmed or rejected their hypotheses in the concluding section. The best responses backed this up with key numerical data or reference to graphs and valid explanation.
- Evaluations were variable in quality, although most demonstrated that they understood some limitations of the study undertaken. However, more attention could be paid to what went well and why. Feasible suggestions for improvement or extension if the study were to be undertaken again often lacked detail.
- References to shortcomings in the methodology should only be written in the evaluation and not in the data collection section as this is a waste of the word count.
- Moderators often pointed out that some centres' submissions were excessively long and had lost focus, and they should therefore be reminded that the word limit is 2000 words. Where this is an issue, it is expected that a word count is declared in order to get the candidates to concentrate on this issue. Text placed in tables also counts towards the word limit.
- The Team of Moderators would like to compliment centres for their conscientious and copious comments made on scripts. New centres should note that they are expected to justify how the marks were awarded. Phrases from the *Generic Mark Scheme for Coursework Assessment*, which was used by every centre, can be utilised for this.
- The Moderators stated that overall, the marking done by centres was accurate. Where there were disparities, it was usually the undermarking of Organisation and Presentation and overmarking of the

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Analysis and Conclusion sections. The changes, if any, frequently occurred at the top and lower end of the mark distribution.

Comments on specific assessment criteria

As each centre will receive a separate coursework report on their own submission, which will refer to both 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. Many points are the same as in past exam sessions and therefore are repeated. It is felt this is of particular benefit to new centres, although some are still relevant for the more established centres.

The criterion of *Knowledge with Understanding* tended to be assessed accurately; where disparities occurred, it was often because the marker seemed to only take the candidate's introduction into account. This is largely the knowledge element, whilst the level of understanding can be demonstrated throughout the study. For instance, a judgement can be made on how well the theory has been applied such as in the provision of reasoned explanation in the Analysis or how perceptive the candidate has been in stating the limitations of the study in the evaluation. Knowledge can also be introduced at a relatively late stage such as to explain trends or anomalies in the data. This can be highlighted by markers in their comments made on the scripts.

Most enquiries were well organised with clearly stated aims and hypotheses and positive use of geographical terminology. These were often accompanied by the expected outcomes which were often related to theory. Where the word count is exceeded, introductions are still too long. Many followed some initial aims with a prolonged background information section. There are still some candidates who write all they know about rivers or include a generic section on the development of tourism, for instance, rather than carefully selecting their information to justify their hypotheses. Extended paragraphs about the history of the locality are often irrelevant, and a glossary of geographical terms is unnecessary, since many of the terms are not mentioned again. It was found that greater focus was achieved when candidates placed the theory after their hypotheses, rather than the other way round. On the other hand, some candidates tend to be far too brief in their use of theory; this was common using Bradshaw's Model or urban land use models, where once having scanned the diagram(s), just a few simple sentences (if any) to explain the relevance to the hypotheses were written. It should be noted that in the better studies, these models proved a focal point throughout, with good comparisons to the data collected.

The wording of the hypotheses is important. Nearly all those that were stated were plausible. The most successful formula seemed once again to encourage candidates to use two core hypotheses and a third chosen by the candidate him/herself. This 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. Furthermore, it is questionable whether some candidates understood the nature of a hypothesis. Some expressed their hypotheses as guiding questions rather than statements which is acceptable. However, for some candidates this seemed to result in a failure to fully explore the findings, with a brief 'yes' or 'no' in the concluding section.

For many centres, it is recommended that more attention is given to the detail shown on location maps placed in the introduction. It was reported that the gradual improvement witnessed in recent exam sessions was now not so evident. To be effective, scale and orientation are essential and just including 'not to scale' is not helpful. It is also expected that any map, from whatever source, is utilised by the candidate. This is usually achieved by locating the sites of data collection with an appropriate key. The better examples are usually well annotated and possess clarity so that relevant detail is easily accessed. However, there are still candidates who include a plethora of maps at different scales (e.g. world, regional and local) with little or no customisation to the area of study. More attention should also be paid to the quality of scanning since in many cases much of the detail, such as the scale, is illegible. This seems to be most common when Google Maps are downloaded. In comparison, it was noted that some candidates had spent time producing hand-drawn maps, which observed appropriate map convention and were often of a higher quality.

The criterion *Observation and Collection of Data* was accurately assessed by the markers and very few adjustments had to be made. It was refreshing to see that almost all centres were now able to undertake fieldwork data collection free from any COVID-19 related restrictions.

It must be stressed how essential it is to collect enough data to ensure the opportunity for sufficient depth of understanding and detail to be demonstrated in the analysis. Most but not all centres managed to collect questionnaires from at least the recommended 50 respondents. Those that did not were often single groups

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of three or four candidates working on their own and not as part of a larger class where data was pooled. Bi-polar analyses assessing the ENVQ also managed to achieve enough locations in the area of study.

River studies represented the largest number of centres. For these, ten locations are ideal, although this was not always achievable due to constraints of candidate safety or of time. Where the number of sites is under six, a centre might consider measuring each site at three different cross sections, each a minimum of 100 m apart. However, to show worthwhile trends in the parameters measured, individual sites should, at the very least, be several kilometres apart. The advantage of river studies is that a large number of different parameters can be measured, thus generating many different hypotheses which help make each candidate's coursework more individual. However, only three hypotheses should be chosen and thus this makes collection of data at six to ten different sites essential. Some Moderators also commented that candidates had described methods of data collection which were not used to answer their hypotheses. This also used up wordage which could have been utilised elsewhere

It was reported that few candidates went into any depth of discussion on their sampling strategy and its justification. This was particularly common for those undertaking questionnaires. If respondents were accessed on an opportunity basis, then it needs to be stated and justified. Even if sites for a river study are chosen by the teacher, the candidate needs to justify why they were chosen. This also applies to traffic surveys and pedestrian counts. More candidates attempted to justify the sites sampled for studies taking place in an urban environment or a tourist resort, but again explanation was very brief. Overall, it appears that methods of sampling are poorly understood.

The time given over to data collection is clearly an issue for many centres, especially when the time available on the school timetable is limited. A surprising amount of data can be collected in a relatively short space of time when a large number is divided into small groups to cover a large area, each coordinated to do similar activities at similar times, such as a pedestrian or traffic count. On return, the data is then coordinated centrally and then shared. Even so, centres that allocated more than half a day for data collection almost inevitably achieved much better results than those which attempted to collect data in one or two hours. Micro-climate studies conducted in and around schools seem to find time management less of an issue.

Many candidates write up their data collection methodology in tabular form. These are usually well set out and even include a link to the hypothesis to which the technique being described relates. However, many include some evaluation of each data collection technique. Since all wordage in tables counts towards the overall word count, this is best left for the concluding section of each study.

The use of secondary data can play a valuable role; however, it is usually only to back up the findings of the primary data collection. Comparing data collected at the present with that collected on the same topic in the past would be an example. On the now rare occasions where a centre is unable to collect primary data, then secondary numerical data such as from weather stations or censuses can be used. It must be noted that the use of secondary data does not extend to synthesising written information taken from the internet or textbooks and putting it together in essay format. This would not gain any credit for *Organisation and Collection of Data*, *Presentation of Data* or *Analysis* and was the case for one or two centres this session.

The best studies integrated tables of collected data with the methods of presentation or analysis. Since it is likely that parts of the data will be referred to in the text of the study, candidates should avoid placing it in an appendix. However, there were many studies where tables of data were completely absent and it is hoped that these centres will address this weakness in the future.

Once again, Moderators stated that *Organisation and Presentation* was the criterion where on average candidates scored the most marks. However, it was also the criterion which resulted in the greatest disparity between Markers and Moderators, especially at the lower end of the mark distribution. 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 either not been utilised 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 undermarked. These techniques must be effective in portraying the data; for instance, there were examples of line graphs used for discrete 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, where the same data is presented in several different ways, only one technique can be counted. Since the emphasis must be on positive marking when assessing the data presentation, only the three most complex and effective graphs should be considered by markers. There is no place in the mark scheme to deduct marks for other ineffective or inappropriate graphs.

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Most candidates followed the route to geographical enquiry and therefore produced studies with an appropriate structure; thus little comment is required on the *Organisation*. A few neglected to write an evaluation, or left this to comments on the methodology in the data collection section. It is expected that an evaluation should follow on from the Conclusion. Similarly, concluding comments are sometimes made after each hypothesis is dealt with in the Analysis. Again, a summary section entitled 'Conclusion' is still required. Most candidates are integrating their graphs and diagrams with the text of the Analysis. This helps to ensure candidates analyse the data shown by each graph/diagram/map in turn, making sure that none are redundant. Candidates should be discouraged from placing all their graphs together in one section, whether it is before the Analysis or in an appendix at the end. This also includes statistical tests. It is good practice to provide a table of contents with page numbers at the beginning of the study. However, if amendments are made, the original page numbers are not always accurate. Candidates should check this as one of the last jobs before submission of their work. More candidates are including risk assessments which undoubtedly demonstrates their organisation. There was, however, little mention of a pilot study being carried out in the main data collection exercise, which also would have added to the Organisation.

A large range of skills was demonstrated by candidates in the representation of their data. There is clearly a drive in some centres to encourage their candidates to produce more complexity and this was largely successful. Where this was not the case, there is still a reliance on basic bar charts, line graphs, pictographs and pie charts. These techniques can be located on maps to make the technique more complex. Scatter graphs with appropriate lines of best fit, divided and stacked bar graphs and radar graphs are other techniques used by candidates which have the appropriate level of complexity. Cross sections produced in river studies are considered a higher-level skill, although these were rarely created to the same scale in order to facilitate ready comparison. There were also some excellent field sketches which were clearly linked to one of the hypotheses and were very well annotated. However, at times, others were rather untidy and the relevance was difficult to ascertain and features difficult to identify. Few candidates used statistical techniques such as Spearman's Rank Correlation. These can count as a complex presentation technique if the candidates demonstrate the complete working themselves and do not just rely on the press of a computer key to get the result.

Markers are reminded that, where candidates use a statistical technique such as Spearman's Rank Correlation, for it to count as a complex presentation technique, the candidates must demonstrate the complete working themselves. On some occasions, the working was incomplete; for example, the formula was not entirely filled out correctly with the data.

Unfortunately, many bar graphs, line graphs and scatter graphs were rendered ineffective by the lack of or incomplete labelling, particularly on the Y axis. Such labelling should include the name of the parameter along with the units of measurement. On some occasions, titles were also missing. Since most graphs are produced by using computer programmes, all centres should advise their candidates that having input the data, they should inspect the results carefully and make any necessary changes. Furthermore, an increasing trend is the incorrect use of line graphs for non-continuous data. Their best use is to track data over short or long periods of time.

Several centres' candidates produced some very well annotated photographs, graphs and maps. Anomalies on graphs, for instance, were highlighted by a circle leading to an arrow and relevant comment. However, this was not the case in many studies where photographs had no annotations and were not referred to in the text. Many others had just a title and/or simple labels which would not count as complex. These served little purpose. Centres should ensure that their candidates know exactly what is expected by annotations: a paragraph written underneath the photograph, for instance, would not count. Three appropriate annotations would be expected on any photograph for it to be complex. In addition, some centres ask their candidates to draw a field sketch as part of the data collection exercise. However, these rarely appear in the finished version of any study. Some of those that are included are rather untidy. Candidates should be encouraged to submit them but having tidied them up and with appropriate annotations.

It is best for the original hand-drawn graphs, field sketches and diagrams to be included in any study rather than being scanned into the study, albeit at an appropriate place. These become more difficult to read, especially when they are scanned in monochrome. Candidates are reminded that each graph should be drawn by themselves and not by one person in their original group with the rest scanning it. Furthermore, since it is expected that individual initiative is demonstrated in the use of presentation techniques to attain the highest marks, the same range of computer-generated graphs appearing in every study that a centre's candidates submit should be avoided.

The *Analysis* continues to be overmarked by many centres, especially at the top end of the mark distribution. The requirement for reasoned explanations at Level 3 is still being overlooked by markers when reasons

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given are very short and tenuous. Again, some of the marker comments on the scripts revealed that the higher marks were being given for explanations which were not fully developed. The *Analysis* section is where candidates can really demonstrate their level of understanding. However, the depth of analysis can be severely limited by the lack of a sufficient amount of raw data on any one variable for interpretation purposes. Here, the onus is on the centre to make sure their candidates have enough data at their disposal to achieve their potential.

This was the weakest criterion for many candidates, in particular the level of explanation. Most analyses consisted of description derived from graphs. There was a clear effort to use all the graphs presented and to make some interpretation of the trends or patterns identified. Few responses remained at L1, but most were marooned in L2 or the bottom of L3 due to a lack of viable or detailed explanations. There were some thorough descriptions with good use of data as support, and the more able candidates used one or more of geographical theory, secondary data or personal observation to support their explanations. In addition, they clearly identified anomalies from graphs, using numerical values to show why they are anomalies, and explained them with reasons that were creditable. Some manipulated their data, producing averages, for instance. However, in general, explanation was speculative with no firm foundation. Some candidates identified anomalies but put it down to candidate errors which were not substantiated. Phrases such as 'The reason might be/could be/may have been' were too common, and further backed the notion of being unreliable.

There was some valid use of statistical techniques, principally Spearman's Rank Correlation. Although scatter graphs with best fit lines were often used as a pre-cursor to the testing, there tended to be a lack of a full statistical analysis. Many candidates did not really explore the implications of what their statistical work indicated or display an understanding of the technique they had used. The correlation coefficient value itself was often poorly interpreted, especially when a correlation coefficient was produced by the computer, and no workings were shown. This lack of understanding also extended to tests for the level of significance.

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. The key data should be either examples of numerical data or stated characteristics shown on graphs, maps and tables which are clearly referenced; for example, 'On Fig. 2 it can be seen that….' Many responses which were given high Level 3 marks lacked the expected depth of discussion and explanation.

Most candidates summarised their findings well, although many were rather brief. All the hypotheses tended to be either confirmed or rejected. The best enquiries quoted key data or referred to figures (graphs, maps, and statistical tests) used earlier in the study, as well as providing some explanations. Unfortunately, many responses lacked the evidence to support their assertions, and explanation was rather superficial. Models or theory quoted in their introduction were not mentioned. This particularly applied to urban land use models, although Bradshaw was an exception, but statements were still limited in many cases. Most common was the lack of key data which limited progression to the higher Level 3 marks. Some candidates introduced new ideas in their conclusions and it was felt that these would have been better in the *Analysis*.

An evaluation section is an expected part of the conclusion, although markers are reminded that they should consider comments made in the methodology section, which usually refer to the effectiveness of the equipment used. Candidates tended to make some valid criticism of their data collection strategies and many came up with one or more realistic improvements, with better candidates stating the implications of their suggestions. Once again, sampling procedures received very little attention. In addition, there were many generic improvements suggested which needed some development, for example, 'We needed more time' or 'We should have sampled more sites'. Most of the evaluation is still reserved for negative comments rather than stating what went well and why it was effective. Weaker responses seemed more likely to make positive comments but these were rather superficial, for example, 'The fieldwork went very well' with 'very good results'. The evaluation remains a good gauge of a candidate's level of understanding of the topic undertaken.

Administration

Once again centres must be praised for the hard work of their markers and their accuracy in utilising 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, although for many centres there was no change. For those that were adjusted this was by no means across all of the mark distribution. As was the case last June, there seemed to be a pattern of negative adjustments above 50 marks and positive ones for those below 37 marks. Some centres were a little harsh and a small positive adjustment was made. Those very few centres to which a large negative adjustment was applied were

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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.

Moderators also appreciated the conscientious approach of most markers in adding comments to their candidates' scripts to justify the marks awarded, as well as those who added a cover sheet with some overall comments. These generally used the wording from the *Generic Mark Scheme for Coursework Assessment* and facilitated the smooth running of the moderation process. Very occasionally, it highlighted when a marker had misinterpreted the mark scheme. If centres have not done so, it would be very much appreciated if markers were to make these comments (in pencil) on the scripts for their next submission.

Please note that only one piece of coursework is required for each candidate. Where two different fieldwork exercises have been carried out, it is for the centre to ensure that only the one attaining the highest marks according to the *Generic Mark Scheme for Coursework Assessment* is sent to be moderated. The centre must also ensure that coursework based on different topics are of equal value in giving candidates the opportunity to achieve their full potential.

Please ensure you check the latest documentation from the School Support Hub to ascertain the exact number of scripts that you should send for your centre's sample. There were one or two centres which did not send enough sample scripts on this occasion, and this delayed the moderation process.

Almost all centres submitted their coursework samples on time or before the 30th April deadline, with the appropriate paperwork completed. 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 piece of coursework and not sent in the overall package in one pile. In addition, please make sure that candidates are listed in candidate number order on the Coursework Assessment Summary Form.

Most of the paperwork was completed accurately and included with the sample. In almost all 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).

Please continue to double check the paperwork to make sure there are no mathematical errors. Very few errors were detected in this session. However, it is worth restating the following points.

Errors usually take 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 to 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 mark has 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 candidates' 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 total out of 60. 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 those of the other markers, and an internal moderation is the best way to resolve this problem.

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GEOGRAPHY

Paper 0976/42
Alternative to Coursework

Key messages

- When answering hypothesis questions that ask whether you agree or not, always give your opinion first 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*', '*generally true*' are too vague.
- If you are provided with a decision about a hypothesis such as in **Question 1(d)(iii)** where candidates were told that the hypothesis was *Partially True,* do not then disagree with it and try to justify a different decision. You need to support the decision made with evidence.
- Note that if the question requires data as evidence such as in **Question 2(e)(ii)** on this paper, 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. If the question says *'…do **not** use statistics*' as in **Question 2(g)**, then only descriptive statements will be credited.
- When giving figures in an answer, always give the units if they are not stated for you, e.g. **Question 1(d)(iii)**: *'There were 14 pebbles between 10.1–15 cm at C'*. It is also important that your numbers are clear, for example, a 1 can look like a 2; 4 can look like a 9; 7 can look like a 1, sometimes 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 to use a sharp pencil as this gives a clear dark image. Check you understand the scales used and the importance of any plots provided. If adding plots to complete a graph, these should be in the same style as the plots already on the graph, e.g. in **Question 1(c)(ii)** and **(iii)**, one plot was a cross, the other a line beneath three crosses.
- When completing bar graphs, make sure your shading matches the key, for example if the shading is horizontal, do not draw shading that slopes to the right or left. These points were important in **Question 1(d)(ii)** and **Question 2(e)(i)**. Shading is not always credited, but it is good practice to do it correctly as it may count for a mark.
- If you need to refer to data from a table or graph, use the exact figures from the table rather than make erroneous judgements from the graph. Try to avoid words like *'almost'*, *'nearly'* or *'approximately'* and choose a precise number, e.g. in **Question 2(d)(ii)**.
- When you think you have finished, go back and check that all graphs have been completed; too many candidates lose marks by missing out graphs, e.g. **Question 1(b)(ii)**, **Question 1(c)(ii)** and **(iii)**, **Question 1(d)(ii)**, **Question 2(d)(i)**, **Question 2(e)(i)** and **Question 2(f)(i)**.
- Read questions carefully and identify the command word, e.g. '*describe'* or *'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 2(f)(i)**, Table 2.4 (Insert) and Table 2.5 (Insert).
- Consider the marks awarded. Examiners do not expect you to be writing outside or below the lines provided, so do not write a paragraph when only two lines are given as 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 is less than 50 per cent, e.g. **Question 2(f)(ii)**.
- It is important that, when you write the remainder of an answer elsewhere, you signal this by writing something like *'continued on page 16'* to ensure it is seen. It needs also to be noted that several candidates gave the wrong sub-section number to their extra work which makes it difficult to match to their earlier answer.
- If you need to add extra work, make sure you use the extra pages provided; do not request an additional booklet if the additional pages have not been used.
- You are expected to have a calculator, protractor and a ruler in this exam; it was clear that in several cases these did not appear to be used, for example drawing freehand bar graphs in **Question 1(d)(ii)**.

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Sharp pencils also produce a more accurate plot on bars; a few drawn lines were too broad to judge accuracy.

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 and most achieving marks on most sections. The overall range of marks was from 0–59 with weaker candidates scoring on the practical questions, such as drawing graphs or completing tables or 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 on areas for improvement with this paper. As there are no question choices to make, it is difficult to miss out sections, though candidates still do (especially completion of graphs). There were no reports of time issues; the structured booklet format does not encourage over-writing of sub-sections, although **Question 2(g)** did lead to many unnecessarily lengthy responses covering more than a side of A4.

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 it is only in the school grounds or simulated in the classroom. Particular questions where candidates did not score well often related to them not fully reading the question or just completely missing out straightforward graph completions. This means that some candidates do not obtain a mark in line with their geographical ability.

Centres should realise that, although this is an *Alternative to Coursework* examination, candidates will still be expected to show that they know how fieldwork equipment is used and about different 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. Sampling techniques remain an important part of fieldwork that can be taught and demonstrated within the classroom or school, but it tends to be poorly answered by many candidates.

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Comments on specific questions

Question 1

(a) The key to answering this question well was to realise that the suggestions by the teacher were to do with staying safe on the beaches. Those that realised this and focussed their ideas on safety issues scored high marks, but other irrelevant suggestions did not gain credit. Charging their phones would be a good idea in case of emergencies, not just to keep contact with each other or work out calculations. Checking the weather forecast would find out if storms or high winds, for example, might result in postponing the work, not just that it might rain so they would get wet. Organising the students into groups of three was not to check on each other's work or collaborate but to help in case of a problem such as an injury, where one could stay with the injured student while the other went for help. Checking the tide tables would indicate when a high or low tide might take place so they could assess the risk of being stranded or trapped on the beach or being swept away, not to find out when the most amount of beach would be accessible to carry out the work. Candidates tended to lose sight of the 'safety' angle as they worked through the four suggestions or just referred to 'safety' without any elaboration.

(b) (i) A significant minority did not attempt the question on measuring wave frequency. This is a standard fieldwork exercise conducted at the coast and involves counting waves over a fixed time. To gain marks candidates needed to identify a point or use a pole or just note how many times the waves broke on the beach in a fixed time using a timer or stopwatch. It was not enough to suggest just counting the waves in a minute as they were told that in the question. The waves had to do something, for example break, crash, hit a pole or pass a person standing in the water, and a timer or stopwatch was needed to check the fixed time of the counting. Repeating the exercise and working out an average was an extra credited suggestion but not just working out an average. Many suggested using a counter or clicker; however, as the highest number of waves likely to be counted would be less than 15 waves per minute, a counter or clicker was not required so this was not credited. A small number included a clinometer in their wave-measuring equipment whilst others wrote about beach profiles or mentioned rivers. A few suggested measuring floating objects over a fixed distance and painting pebbles on the beach and tracking them, which were all irrelevant responses.

(ii) This was quite a challenging plot to do but many placed it exactly on the 13.2 line. To get the mark for 13.3, however, it needed to be just above it which was achieved by just below half of the candidates. A small number did not attempt the plot, and others were careless in locating it or drew the line freehand despite the fact that they should have a ruler with them for the examination.

(c) (i) Measuring slopes or velocity along rivers involves fieldwork techniques similar to those for measuring beach profiles, and this has been a regular question in previous exam sessions, but many candidates did not gain high marks for it. A few discussed how they would measure river velocity. The diagram in the Insert needed studying as it indicated the equipment to use and how the students did the measuring. Several candidates did not appear to have used the diagram as they suggested putting the ranging poles at 5 or 10 metre intervals despite the diagram showing that they were placed at breaks of slope. Too many also thought the clinometer measured distance or gradient when it just measures the angle. The best answers used the diagram and referred to the ranging poles being inserted vertically at the breaks of slope at the same height above the beach and the string being attached at an agreed height to both poles, so that the clinometer could be aligned along the string to read off (not calculate) an angle. They then added that it measured the beach profile by repeating the operation from the low water mark up to the back of the beach. A number of candidates involved wave frequency in this question, which was irrelevant.

(ii) Half of the entry realised that there was only one measurement of 9 degrees at Beach A and plotted the cross correctly where the 9-degree angle of slope on the vertical axis met the number 1 on the horizontal axis. However, a significant minority did not attempt this question.

(iii) Drawing the average line at 6.8 degrees was done successfully by the vast majority of candidates. Just a few drew it slightly above or below the line and a small number did not attempt it. As is often the case, a few plotted a cross instead of a line or drew the line freehand and outside the correct range beneath the crosses above.

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(iv) Almost all candidates made the correct decision that the hypothesis was true. However, many just described the steepness and wave frequency at C as being high, but what was needed for supporting evidence was a comparison with Beach A, which had the lowest angle and wave frequency, plus comparative statistics for Beaches A and C. A small minority missed out this question, but many gained 3 marks.

(d) (i) The question asked how the student would measure the size of the pebbles after collecting a sample of 30 from the beach; they did not have to describe how to collect the pebbles. However, many candidates described sampling techniques to collect the pebbles, despite being told that they had already been collected. The best answers focussed on using callipers, measuring tapes, pebbleometers or rulers to measure the longest length/axis of each pebble in millimetres or centimetres as indicated on Table 1.3. Several candidates described elaborate ways to measure volume or weight or use a roundness chart, none of which are to do with size. This highlights the importance for candidates to study the resource provided and to read it carefully before they answer the question.

(ii) Candidates successfully completed the three graphs despite this not being a straightforward graph completion exercise. They had to add up the number of pebbles in the three defined categories from the list in Table 1.3 and then plot the totals 7, 9 and 14. Overall, this was well answered. A few missed it out and some plotted numbers that were not whole as a few appeared to have calculated averages within each category instead of just adding them up. Candidates should be aware that sometimes shading also gains credit and it should be done in the correct way, in this case matching the direction of the diagonals in the graphs for the other two beaches.

(iii) This question was a good differentiator as many candidates ignored the variation in wave frequencies between the beaches and focussed on describing the difference in pebble sizes and numbers without any comparative explanation of why the hypothesis was partly true. Few candidates achieved 3 or 4 marks, but those who did gave evidence for supporting the hypothesis, such as Beach A having the lowest wave frequency and lowest number of large pebbles compared to Beach B or C which had higher frequencies and larger pebbles, in both cases proving the hypothesis to be true. To make the hypothesis partly true, they then gave evidence against the hypothesis such as Beach B having a lower wave frequency than Beach C but having a greater number of large pebbles, again backed up with data. Answers arguing against the hypothesis were better than those for it.

(e) Many candidates did not attempt this comparison between constructive and destructive waves which is an essential part of studying coastal processes. The question required a comparison between the two types of waves not what they did regarding sediment or longshore drift, which was seen in several answers. References to swash, backwash, height, frequency, wavelength and amplitude all gained credit. Judgements such as less/more aggressive or vague answers such as small/big, slow/fast were not specific enough, and their suitability for surfing or paddle-boarding was irrelevant.

Question 2

(a) Most candidates chose '*natural*' as the correct answer for the best word to describe the hazards of earthquakes, landslides, and heavy monsoons. '*Tectonic*' was the most common error, as was ticking three boxes instead of one.

(b) (i) The advantages and disadvantages of random sampling proved to be quite a challenging question for most candidates. The most common correct advantage was that it can be quick, easy to use or that there would be less bias. A few stated that it might be a disadvantage by not being representative and a few said it would take time, though that needed qualifying depending on which random technique was used. If random sampling involved asking anybody, that could be relatively quick, but if it used random number tables or a generator, it would take more time. A common error was to suggest difficulties with using the questionnaire, giving answers more relevant to **Question 2(c)(ii)**.

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(ii) Questions on sampling techniques such as *systematic*, *random* and *stratified* are often set on Paper 4, but candidates frequently show a lack of knowledge and/or understanding about them. This particular question asked for 'other' sampling techniques, yet some candidates still wrote about random sampling. Of those that answered the question well, systematic was the most common answer followed by stratified. The question asked about a technique to sample people, but some candidates suggested inappropriate examples. For instance, for systematic – ask every 10 minutes or every 20 metres, neither of which were practically appropriate. The best answers suggested regular or equal intervals such as every 5th or 10th or nth person. The stratified choice was less well done as candidates tended to just say '*select people by age'* rather than '*by age-groups*' or '*by gender*'. Few then went on to suggest selecting people in those groups related to the population profiles. Inappropriate techniques suggested included '*point sampling, group sampling, interviews or questionnaires, selective sampling, strategic sampling and quadrat sampling'*.

(c) (i) Most candidates could provide a definition of primary data that was acceptable. The most common answers referred to it being '*first hand*' or '*original*' or data the students collected by themselves.

(ii) This was well done by most candidates, although a few described errors in the content of the questionnaire rather than the practical difficulties of collecting the data. Difficulties in using the questionnaire covered language difficulties, the ability to read or write, the issue about providing private information, and the people being too busy or not wanting to take part. A few also realised that, for a student to carry out 100 questionnaires in each village was a lot to do and that the sample might not be covered. Equally, that if the questionnaire was issued, they might not get them back or they could be incomplete. Answers related to the cost of printing and the amount of paper used were not credited.

(iii) This was a successful question with the vast majority correctly choosing *'interview'* as the better option that could be used to collect the data.

(d) (i) While the plots at 25 per cent and 85 per cent were relatively straightforward and mostly accurate, many candidates also drew accurate lines on the pie graph as well as shading the sections correctly. A few did the diagonal shading in the wrong direction, but most candidates gained 2 or 3 marks here.

(ii) Most candidates correctly decided that the hypothesis was false or incorrect and that Kanyam had a higher level of education than the inhabitants in Chamaita. Most made a correct supporting statement such as Kanyam had a higher percentage in secondary education than Chamaita and provided supporting data with 43 per cent of Kanyam in secondary compared to just 22 per cent in Chamaita. Comparing the number that had no formal education at all was also used to support a correct decision. A few opted for '*partly true*' based on the higher primary percentage in Chamaita; they needed to look at the overall data here to see that Kanyam had the higher level of education.

(e) (i) While a significant minority did not complete the divided horizontal bar graph, those that did it scored well. A few plotted the line at 70 instead of 72 and one or two shaded the diagonals in the wrong direction, but overall, most obtained 2 marks here. A few reversed the plotting and also reversed the shading.

(ii) Candidates needed to provide separate comparisons that referred to different uses of fuel for cooking and for lighting in both villages. Several managed to provide detailed answers comparing the overall uses of fuels without any reference to cooking or lighting, thereby gaining no marks. The best answers compared the highest fuel used for cooking in both villages, e.g. firewood in Chamaita and electricity in Kanyam, with supporting data (46% / 39%) and also gave a similar answer for the importance of candles in Chamaita as opposed to electricity for lighting in Kanyam. A few described in detail the use of fuel in each village but with no comparison, while others described similarities.

(f) (i) A number of candidates did not answer this question, but those who did gained the mark by correctly plotting 22. The main error was in not checking the horizontal scale and plotting the line two squares across from 20 at what was actually 24, not 22.

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(ii) This was answered quite well, although a lot of candidates spent too much time suggesting why Chamaita was not economically developed instead of focussing on the evidence of increased economic development in Kanyam as required. The best answers identified the low percentage of subsistence farming, some secondary industry with the tea factory and the increased tourist activity with examples providing income and jobs in Kanyam. A few candidates referred to the villages as separate countries.

(g) There were some lengthy essay-type answers to this question that often used the additional pages. The lines provided should have been enough to discuss their solutions for 5 marks as more concise focussed answers might have been more effective and saved candidates' time. Most candidates scored at least 2 marks, with many achieving all 5 marks. The key to success was to provide reasons as to why Chamaita would find it hard to develop economically. Table 2.6 in the Insert listed the six problems identified by the questionnaire and candidates were allowed a maximum of 2 marks per problem to ensure the answer covered at least three of the problems. Most candidates could suggest how and why these problems would limit economic development, but not all focussed on the '*economic development*' idea, although the more able could link some problems to this, for example poor sanitation could cause disease leading to a reduced workforce. This was done well, although a small minority did not attempt it.

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