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Examiners' Report
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International Advanced Level Geography WGE02 01

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Introduction

The paper totals 60 marks and candidates are given 90 minutes to complete the paper.

- This exam paper consists of 5 questions, with the last two being paired options. In most cases each question is slightly ramped in demand with longer, cognitively higher questions at the end of each sub-section.
- Questions 1 and 2 test a mixture of AO1 and AO2 skills, whereas Question 3 (compulsory), 4 (Option 1) and 5 (Option 2) are based largely on fieldwork which is examined as an AO3 skill for this particular exam.
- Centres are advised to check the definitions of the Question command words provided in the specification. The questions will always use these command words and the definition helps show what is expected of candidates.

Question 1 (b)

The first questions on this paper are usually multiple choice or straight-forward 'identify' questions, and this year was no exception. The majority of candidates were able to identify these two examples of coastal management correctly. Slightly fewer selected Offshore breakwater as the correct answer for 1(a)(ii).

Centres are reminded to look at less familiar images of these well known coastal management methods to ensure you can identify them.

Question 1(b) was more challenging, and many candidates only managed to score 1 mark here. Only 48% scored 2. The key was to find a way or reason that decisions can cause conflict, which could then be developed for a second mark.

Two marks are scored here.

(b) Explain **one** way that coastal management decisions cause conflict between different players.

(2)

Environmentalists / Conservationalists may want to protect dunes and Mangroves, however Urban planers may want to use that land for buildings such as tourist resorts causing major conflicts between the two players.

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Examiner Comments

The candidate has identified a group with a view about coastal management. Environmentalists want to ensure dunes and mangroves are protected, which will cause conflict when planners want to use land for tourist resorts. This answer shows how it is relatively straightforward to score two marks, as long as you identify two groups who have different opinions, and a place or an issue for them to disagree about.

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Examiner Tip

As soon as conflict is mentioned in a question, try to identify two groups that might disagree about an issue, and explain the two points of view.

Only 1 mark is scored here.

(b) Explain **one** way that coastal management decisions cause conflict between different players.

(2)

It may be costly and people may not find them aesthetically pleasing.

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Examiner Comments

The candidate has written two brief points here, one about management being costly, and one about it not being attractive. The points are not linked to each other, and neither has an expansion point.

Question 1 (c)

The questions on Q1 and Q2 require candidates to examine or assess for a maximum of 8 marks. Without this, candidates will not be able to reach Level 3 for 7 or 8 marks. Candidates require a good level of geographical knowledge and understanding of the topic of the question (AO1), and also need to be able to apply this to the theme of the question to interpret, analyse and evaluate the issues involved.

This question required candidates to discuss more than one coastal ecosystem and how these protect coasts from both erosion and flooding. At least two from sand dunes, coral reefs, mangroves and salt marshes should be discussed. The examination could come from comparing two or more different ecosystems, or from considering whether greater protection is provided for erosion or for flooding. Some also explored the 'can help protect' wording of the question by discussing how hard engineering might provide greater but more expensive protection. Including this as part of the examination was acceptable, as long as the main part of the answer covered coastal ecosystems.

Good answers examined the ways plants can provide a buffer to absorb wave energy and stabilise sediment to reduce the erosion and limit overtopping and inundation by sea water. High level examination assessed ways key features of the ecosystems influenced the level of protection. For example, the width of the vegetation belt and its height are important. Also comments were seen about what may happen in the future as sea level rises, and pollution levels increase which may damage plants and reduce their effectiveness in proving protection.

The question requires candidates to assess how coastal ecosystems protect coastlines from erosion and flooding.

8 marks are scored here. The answer is not perfect, and has breadth in terms of the range of ecosystems covered. It does mention both erosion and flooding with coherent comments about how an ecosystem may reduce the impact of these, so there is detail and development of ideas. It also 'examines' by considering the extent to which this will continue in the future as ocean acidification occurs, damaging coral reefs. The candidate applies their knowledge and understanding logically to find fully relevant connections and relationships with the different aspects of the question.

However some ideas are not fully explained, for example how would a salt marsh be damaged by flooding.

(c) Examine how coastal ecosystems can help protect coasts from erosion and flooding.

(8)

Coastal ecosystems such as coral reefs, mangroves, salt marshes and sand dunes play an important role in protecting the coast.

Firstly, coral reefs act as a natural barrier and absorb wave energy, resulting in a reduction in wave erosion as well as reducing the impact of storm surges & coastal flooding. Mangroves also help reduce the impacts caused by coastal flooding and storm surges by the roots of the mangrove absorbing the wave's energy. The roots of mangroves also help stabilise sediments by, which will help reducing erosion from wind and waves. Vegetation found on salt marshes trap sediment, preventing wind and wave erosion. But salt marshes are easily damaged by flooding. Sand dunes have marram grass; the roots hold on to the sediment and stabilise the dune even further, preventing erosion. However, the extent of protection from coastal ecosystems can depend on how large the ecosystem is. For example, Sundarbans is a large mangrove that will be able to reduce the potential impacts caused by erosion and flooding. A smaller mangrove forest would be able to reduce the damage, but not by a large extent. Furthermore, these coastal systems are under threat, for example, coral reefs are at major risk from coral bleaching, ocean acidification, etc. If coral reefs become damaged, their capacity to protect the coast will also reduce. Thus, for coastal ecosystems play an important role in protecting coasts from erosion and flooding.

(Total for Question 1 = 12 marks)

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Examiner Comments

The candidate includes 4 different examples of ecosystems and for each says a little about ways that ecosystem helps reduce erosion or flooding, with a little detail about how this occurs.

For example, salt marsh vegetation traps sediment which reduces wind and wave erosion. The roots of marram grass as part of a sand dune ecosystem are referred to as a means of limiting erosion. Mangrove plants reduce and absorb wave energy, reducing flooding. The links between the ecosystem and the protection of the coastline are made clearly in each sentence, and there is little irrelevant material.

In the final third of the essay there is assessment of what the future may hold as climate changes, and also assessment of how the area covered by an ecosystem and how the level of protection will be affected. The Sundarbans are used as an example here.

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Examiner Tip

One page of lines is provided for these 8 mark questions. It is expected that this will be sufficient for an answer scoring full marks. Whilst there is a great deal more this candidate could have written, all three of the bullet points on the Level 3 section of the mark scheme have been met.

Question 2 (a)(i)

Two 1 mark points were required here. 61% of candidates scored 2 marks. Those who failed to score often made points that were over-generalised. 'Pollution' was not acceptable, but 'air pollution' or 'water' pollution were each awarded one mark.

Data was given in the resource booklet to help candidates see the difference in population densities for contrasting cities. However there was no need to refer to this in 1 mark answers.

2 marks are scored here.

2 Study Figure 2 in the Resource Booklet.

(a) (i) Identify **two** possible problems caused by the population densities of Hong Kong and Dhaka.

(2)

1 Not enough resources like water and electricity.

2 noise pollution due to more people needing to use vehicles as transport.

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Examiner Comments

The candidate has briefly identified two possible problems caused by population density for the cities of Dhaka and Hong Kong. There is no requirement to know anything specific about these cities.

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Examiner Tip

The question here does not say 'different problems', but in such a question where there are a wide range of options it is good exam practice to demonstrate your geographical knowledge and understanding by selecting two separate types of problem, here provision of water and electricity, and noise pollution.

Question 2 (a)(ii)

Candidates struggled with this question and it proved to be very difficult to score 2 marks.

This answer scores 2 marks.

(ii) Explain **one** problem for cities that have low population density.

(2)

Cities with a lower population density will evolve a car culture. As the populace is more spread out, amenities will be further out of reach. This leads to long commute times, pollution and car-based infrastructure that is unappealing and unsafe for pedestrians.

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Examiner Comments

The candidate states that 'a car culture' will evolve from cities with a low population density. This is not enough to score a mark, but the candidate goes on to explain that a spread out population will have further to travel to reach amenities. This is then extended through explaining that this results in long commutes and would be 'unsafe for pedestrians', and also pollution.

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Examiner Tip

Think carefully about the wording of each question. Low population density is not the same thing as low population.

0 marks scored here.

(ii) Explain **one** problem for cities that have low population density.

(2)

Cities with low density could have high labour costs due to there'll be limited workers to fill job vacancies. And therefore ~~they may~~ the city may go into decline, due to there being less economic out put.

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Examiner Comments

The candidate is writing about low population rather than low population density. 'High labour costs' and 'limited workers' leading to 'less economic output' are linked points, but they do not answer the question set.

Question 2 (b)

The second compulsory 8 mark question asked candidates to assess the problems of waste management in both developed and developing world cities. Assessment was seen in terms of comparing the two locations and assessing the success or otherwise of the management approaches. Another approach was to assess the scale of the problems faced or the extent to which waste could be seen as a resource rather than a problem. Examples are not compulsory, but it should be noted that most of those who score high Level 2 or Level 3 marks have detailed reference to more than one place. These references help meet the bullet point in the mark scheme requiring 'detailed and fully developed understanding of geographical ideas'. They also help demonstrate relevant connections and relationships between their examples and the question they are asking.

Many centres appeared to use locations in their own countries as examples, which is good practice, as personal observation and local research can help develop understanding of the issue the home cities and country as a whole may face.

8 marks are scored here.

(b) Assess the problems of waste management for developing and developed world cities.

(8)

Waste management is when material has to be disposed after it has served its intended purpose.

Developed countries such as Sweden, use their waste to generate electricity for about a quarter of their population. This is a form of recycling, and does not cause much harm to the environment. However, Sweden ran out of waste and is now using Norway's waste to generate electricity. Developed countries will be able to find more efficient ways of waste management, but they are extremely costly. Furthermore, Sweden has yet to completely switch to this form of electricity, as it would be expensive to get rid of the other forms, and ensure that all properties receive this form of electricity. Developing countries such as India, rely entirely on landfills. Most of India's waste are sent towards Landfills as it is much cheaper for India, rather than developing costly plans to manage waste. However, this will lead to a lot of methane being released, especially when the waste is burned. This will contribute to an enhanced greenhouse effect. Also, the burning of certain waste would release toxic gases, it could cause breathing problems among the population. India is also heavily reliant on sewages to dispose their waste, however these pipes dump the waste in water bodies, causing extensive water pollution. A company in India, known as Sterlite dumped it's factory's waste in a river. This contaminated the surrounding villages drinking water and caused a widespread of diseases.

(Total for Question 2 = 12 marks)

TOTAL FOR SECTION A = 24 MARKS

Therefore, Thus, developed countries face problems such as waste less problems relating to waste management, but developing countries face a lot more problems regarding it's population as well as its environment.

The definition at the start of the answer is helpful.

The candidate then dives into detail about Sweden and shows how waste can be used as a resource for generating energy, which is partially assessed, but could be more fully applied to the question. How far does it solve the problems of Sweden's waste, for example.

The use of India as an example is more fully developed, with some explanation of air and water pollution issues. There is some comparison of the two settings. The assessment lacks balance as of course there are major pollution issues in developed countries as well as developing, and recycling in developing countries can operate very effectively.

When you assess, make sure you consider the counter argument to the points you are making. It is not true that there is a simple binary contrast when considering waste management. All countries face challenges.

Question 3 (a)

The following questions in Q3 are compulsory 'familiar' fieldwork questions, were candidates are required to write about their own experiences of fieldwork. The questions use the terminology and processes from the Route to Enquiry, and as in previous series the questions are ones that candidates can prepare for before the examination. Candidates should be confident about the title or question they investigated. Their investigation will have involved planning beforehand, the collection of primary data in the 'field', the processing and analysing of the data obtained when back in the classroom and the use of their findings to draw conclusions to their original question. They also must evaluate the methods used in the field and for data analysis.

This year the starter question required candidates to explain one reason why the title or question was appropriate for their investigation. The majority of candidates struggled here, with most scoring 0 or 1. Many jumped straight into explaining what data they collected and why, rather than reflecting why they were studying this issue in this place. Whilst of course most will be following the directions of their teacher, centres need to discuss with the candidates why this question was chosen. The best were able to point to an issue that needed investigating, perhaps comparing two different locations or to the use of secondary data (including previous students' work) which helped set up a question investigating what had changed and what had not.

It was acceptable to explain that their chosen research was practical in the sense that there were no government restrictions to what they were doing, or that it was culturally acceptable in their chosen location, or to explain that the location was close to their school. They needed to go further than this to obtain more than 1 mark however.

It must be noted that 'one reason' is required, which then had to be developed or expanded with up to two further marks available for a total of 3 marks.

For example one approach to a good answer, was to use a sequence of ideas. A candidate investigated transport issues in Doha, and explained that high private car ownership leads to congestion. Carrying out a transect through Doha meant that data could be compared to traffic counts from previous years to see if the metro had reduced congestion. This candidate set the scene by stating the issue, explains why it is an issue, and then explains the fieldwork that will help examine whether it is still an issue. This scored 3 marks.

1 mark is scored here

3 You have undertaken geography fieldwork as part of the course.

Use this experience to answer Question 3.

State the title or question of your fieldwork investigation.

How can coastlines be managed in a sustainable way? Lagos, Portugal

(a) Explain **one** reason why your title or question was appropriate for your fieldwork investigation.

(3)

The question was appropriate because we set out to look at past and present management strategies and conclude whether or not they have been effective long term and what problems they may have created along the coastline.

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Examiner Comments

The candidate has shown there is an issue (the effectiveness of coastal management and its effects further down the coast) but they have not explained why this is an issue in this particular location.

ResultsPlus
Examiner Tip

Remember that you are likely to know far more about your location than the examiner. Give them some brief background on what is happening in your location and why.

Question 3 (b)

Candidates found this question about secondary data more straightforward, with a mean mark of 1.78 and 65% scoring 2 marks or more out of the 3 marks available. Candidates had clearly prepared for this question and most were able to explain how their research benefited their investigation. Some wrote about its use in the planning stage or in helping them interpret their primary data collection or answering their question or hypothesis.

Typical answers referred to historical data, or old photographs or to maps of sediment movement or records of opinions of residents. Some had been able to access university level research about their locations which provided ideas that could be tested in the field.

The full 3 marks are awarded here.

(b) Explain **one** benefit of using secondary research in your fieldwork investigation.

(3)

One benefit of using secondary research is that it helped us analyse the potential [redacted] factors affecting our data collected through primary methods. For example, our beach profile was quite smooth - [redacted] which we expected due to our research on the government's (Ashgal, Qatar) investment in building up the beach artificially by depositing 335,000 m^2 of sand. Hence, we were able to come to more reliable conclusions from our results and by considering this an important human influence instead of mistaking it for a physical process.

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Examiner Comments

Here the candidate explains how reference to Government data about beach replenishment helped understand the ways the beach they studied was affected by this human activity. They were able to use this information in their analysis of factors affecting their primary data. The precise information about the volume of material added to the beach is a useful detail.

ResultsPlus
Examiner Tip

As in the previous question, remember that the examiner needs help to understand your fieldwork location, so stating the places you investigated and providing a few facts is very helpful.

Question 3 (c)

Again this question about the suitability of techniques to present data was successfully answered by many. The majority scored 3 or more marks here, with about 18% reaching Level 3. Some wrote about data collection methods. Good answers were able to refer to at least two different methods of presenting data and explain why they were suitable.

6 marks are scored here.

(c) Explain why the techniques you used to present your geographical data were suitable.

(6)

Radar

we used a bar chart to represent the noise level in Decibels and the PM2.5 of each site with each bar representing a site. This was suitable as we were easily able to see trends and make comparisons between sites as it was clear which sites had higher or lower readings. For the environmental quality survey we used a radar chart which allowed us to effectively present the complex data that we had with each of the five categories being able to be presented making it suitable as we had to present all five categories on one graph for each site. For the vehicle count we used a pie chart which was suitable as we could easily see the dominant vehicle type of the area as it would have the largest area on the graph allowing conclusions

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Examiner Comments

The candidate has explained three different methods and linked each to a piece of data and been able to explain why this method was suitable and helped analyse the data collected. For example, using a radar chart for the environmental quality data allowed all 5 pieces of data to be shown on one graph, and then different locations could be compared.

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Examiner Tip

It would be even better if one more complex presentation method could be referred to, for example locating the graphs on a map to allow for spatial analysis of the quality of environment scores.

Question 3 (d)

This 12 mark question is the longest essay on the paper and it was pleasing to see that many candidates wrote a full answer. However, many struggled to focus on the question set, which required them to focus on the accuracy and reliability of their conclusions. Many candidates did not address these two elements separately, but the best answers did do so.

Candidates are recommended to give a brief summary of what their field work was about at the start of the question. This sets the scene for what follows.

A large part of achieving accurate and reliable conclusions is to collect enough primary data using appropriate methods. Thus answers were likely to write about their primary data collection methods and the sampling framework that they used.

For example, was a systematic survey used to select locations for an environmental quality survey? Why was this? How did it affect your results? What are the limitations of using a systematic survey? Did you miss any key locations?

12 marks are scored here.

(d) Evaluate the accuracy and reliability of the conclusions to your fieldwork investigation.

(12)

Our conclusions were mostly accurate because of our ~~our~~ planning was and design. We chose systematic sampling as we measured the beach length to be 1000 metres using ArcGIS Online and decided that a sample size of 10 sites 100 metres apart would be best. This is because the sample would be representative of the entire beach as our sites were spread across the length of the beach. which meant that our conclusions would be reliable as our sample was representative Systematic sampling also removed bias as we could not choose the locations of our sites due to the fixed intervals. This ensured that our conclusions drawn would be reliable as we could not selectively choose our sites, and which would affect the data we collected. ~~was with sample is representative~~ A large sample size

also
and made our data more reliable as anomalous result were could be removed, which meant that our conclusions were stronger and more reliable.

Our data collection methods were mostly ~~remove~~ yielded accurate and reliable data and conclusions. For example, we recorded the wave count for 30 seconds and repeated this three times and took the mean average, which improved the reliability of our wave count data, and therefore conclusions. However, we ~~only~~ operator error could have meant that our conclusions were less reliable as it was hard to distinguish between a wave as one or two wave separate waves. This meant that some members of my group counted waves differently, which affected the accuracy of our data and therefore conclusions as well. Measurement error from mis-reading the value on the clinometer also affected the accuracy of our conclusions. Clinometers can be hard to learn to use and different group members read off the beach angle differently, so our data was less accurate.

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Examiner Comments

The first paragraph explains in detail why a systematic sampling strategy was used, and gives precise details. This provides the full understanding of the relationship between the background information, geographical context and the research question required for level 3. It helps demonstrate to the examiner that you understand how the data was collected and it goes on to say why this approach was used.

The discussion of bias is directly relevant to the question, as it helps improve the accuracy of the data collected and therefore of the conclusions to the investigation.

The second paragraph considers the issue of data collection methods used, and gives balance to the answer by focusing on something that reduced reliability, explaining that operator error using the clinometer may have occurred.

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Throughout the answer the candidate makes reference to their own work. They also have remembered that the command word is 'evaluate', so they have commented critically on the data they have collected. They evaluated how this affected their conclusions, both positively in making it more reliable, but also in terms of bias or inaccuracy as a result of operator error.

Question 4 (a)(i)

4(a)(i) and 4(a)(ii) are paired questions, requiring candidates to suggest a risk in visiting the area shown in the photograph (a coastal sand dune ecosystem) and then to explain one way that the risk could be reduced.

Both questions were worth 2 marks, so the candidate needed to ask themself 'because' or 'so' to ensure they developed the point, and did not introduce a second idea.

2 marks are scored here.

4 (a) Study Figure 3a in the Resource Booklet.

A group of students studied sand dunes as part of a study of coastal ecosystems.

They used a photograph of the area they intended to visit (Figure 3a) in order to consider health and safety.

(i) Suggest **one** possible risk for students visiting the area shown.

(2)

If the beach shown is near a harbour or port, fibreglass from old boats can be omitted into the ocean and wash up on shore, leading to risk of fibreglass cutting or stabbing their feet.

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Examiner Comments

The risk here is the 'cutting or stabbing of the feet' (1) which is the result of fibreglass on the beach (1).

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Examiner Tip

Make sure you can link your two ideas here by checking the word 'because'.

Question 4 (a)(ii)

4(a)(i) and 4(a)(ii) are paired questions, requiring candidates to suggest a risk in visiting the area shown in the photograph (a coastal sand dune ecosystem) and then to explain one way that the risk could be reduced.

4(a)(ii) is worth 3 marks.

Candidates need to suggest a way to manage or reduce the risk stated in 4(a)(i). Again linked points were required, which could result in a very short answer successfully scoring all three marks. Most commonly seen were weather related risks and management, particularly sunburn reduced by the use of sun cream, to reduce likelihood of skin cancer, and slips and trips falls reduced by wearing suitable footwear to support the ankles.

Most managed to achieve 1 or 2 marks, with relatively few gaining all 3 marks.

Avoid drifting into a second 'way' or reason on these questions, as only one can be credited.

Question 4 (b)(i)

Almost all were able to calculate the mean for beach slope angle correctly and score the 1 mark available.

This is the answer required. No working is needed as it it is only a 1 mark question.

The students visited a beach on one morning in August to investigate beach slope and sediment characteristics in relation to coastal erosion risk.

(b) Study Figure 3b below.

Sample number	Beach slope angle (°)	Length of sediment long axis (mm)
1	8	10
2	5	8
3	5	9
4	12	12
5	4	6
6	6	6
7	8	12
8	8	9
9	10	14
10	13	12

Figure 3b

Beach slope and sediment data on one morning in August

(i) Calculate the mode for beach slope angle.

(1)

8

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Examiner Comments

Most who got this wrong used the wrong set of data.

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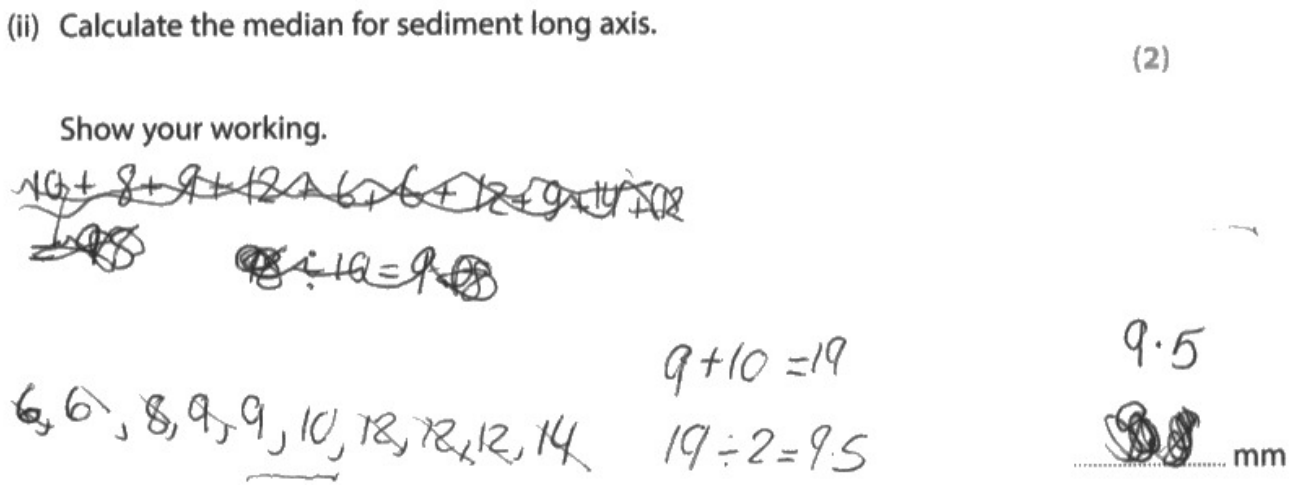
Examiner Tip

Make sure you check carefully you have used the right numbers.

Question 4 (b)(ii)

2 marks were available here, one for the working and one for the correct answer.

This is the most commonly used method.



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Examiner Comments

2 marks are scored

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Examiner Tip

Make sure you check carefully you have used the right numbers.

Question 4 (b)(iii)

This final question used the same data as the preceding 'calculate' questions.

Candidates had to explain why the data may lead to unreliable conclusions. Unlike other questions, more than one reason was allowed, and each could be expanded for further marks. There are many ways this could be answered, as indicated in the mark scheme.

Most wrote about small sample sizes, and that data was only collected on a single day.

4 marks are scored here.

(iii) Explain why the data shown in Figure 3b may lead to unreliable conclusions.

(4)

The data was taken in one morning in August, meaning that it is not representative of the sediment characteristics and beach slope in relation to coastal erosion risk at all times of the year or even at all times of the day. It can lead to unreliable conclusions due to the lack of averages taken from multiple times/days. This is because the weather or season (e.g. winter) could have a different effect on beach slope, for example during a windy season, there is a higher risk of sediment transportation and erosion.

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The candidate explores a narrow range of ideas in some depth. These involve the fact that the data was collected in a short time frame so cannot represent patterns of sediment size and beach angle which will change during the year.

ResultsPlus Examiner Tip

These 'unfamiliar' fieldwork questions are ones you will not have seen before. You should apply the skills of interpretation you have practised in class to the data and questions you are given in the exam.

Question 5 (a)(i)

5(a)(i) and 5(a)(ii) are paired questions, requiring candidates to suggest a risk in visiting the area shown in the photograph (a busy urban setting) and then to explain one way that the risk could be reduced. The first question is worth 2 marks, so the candidate needed to ask themselves 'because' or 'so' to ensure they developed the point, and did not introduce a second idea.

Only 1 mark is scored here.

5 (a) Study Figure 4a in the Resource Booklet.

A group of students studied an urban area as part of a study of regeneration.

They used a photograph of the area they intended to visit (Figure 4a) in order to consider health and safety.

(i) Suggest **one** possible risk for students visiting the area shown.

(2)

One possible risk for students visiting the area shown is the traffic danger as the figure shows the traffic management is not [illegible] the safest for pedestrians posing a potential risk.

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The candidate has identified traffic as the risk but has not expressed this in terms of how the students would be affected.

There are 2 clear marks here.

5 (a) Study Figure 4a in the Resource Booklet.

A group of students studied an urban area as part of a study of regeneration.

They used a photograph of the area they intended to visit (Figure 4a) in order to consider health and safety.

(i) Suggest **one** possible risk for students visiting the area shown.

(2)

One possible risk for the students is that ~~wh~~ whilst crossing the road, they could get hit or bumped by a car that is travelling at a fast speed, if the students are not aware of ~~upcoming~~ approaching cars. ~~wh~~ This could lead to serious

ResultsPlus
Examiner Comments

The marks were scored through the comments about 'Approaching cars on the road (1) might hit the students causing injuries (1)'.

Question 5 (a)(ii)

5(a)(i) and 5(a)(ii) are paired questions, requiring candidates to suggest a risk in visiting the area shown in the photograph (a busy urban setting) and then to explain one way that the risk could be reduced.

The second question here is worth 3 marks.

Candidates now need to suggest a way to manage or reduce the risk stated in 4(a)(i). Again linked points were required, which could result in a very short answer successfully scoring both marks. Most commonly seen were traffic related risks and management, particularly crossing the road in a safe place (1) to avoid being hit (1) and checking the weather forecast (1) to avoid extreme weather (1).

Most managed to achieve 1 or 2 marks, with very few gaining all 3 marks.

1 mark is scored here.

(ii) Explain **one** way the students could manage this risk.

(3)

Be careful when crossing the roads, read carefully signs in the street (for example the stop sign.) ~~[illegible]~~ Ask for help when crossing.

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Examiner Comments

The candidate has offered several different ways that the risk could be managed (be careful/read the signs/ask for help) but none of them go on to say what the result would be.

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Examiner Tip

Remember to ask yourself 'because' or 'so' to extend these answers.

Question 5 (b)(i)

Almost all were able to calculate or identify the mode for noise level correctly and score the 1 mark available.

1 mark is scored here.

The students visited the city centre on one morning in August to investigate traffic flows in relation to transport issues.

(b) Study Figure 4b below.

Sample number	Noise level (dB)	Number of vehicles (per minute)
1	60	85
2	72	80
3	87	121
4	65	102
5	60	72
6	76	145
7	80	109
8	65	126
9	65	70
10	77	101

Figure 4b

Noise level and vehicle data on one morning in August

(i) Calculate the mode for noise level.

60 72 65 77 76 80 82
60 65
65

(1)

65 dB
65 (decibels)

ResultsPlus
Examiner Comments

Make sure you check carefully you have used the right numbers.

Question 5 (b)(ii)

2 marks are available here for calculating the median.

The candidate has identified the relevant numbers but performed the wrong calculation.

(ii) Calculate the median for number of vehicles.

(2)

Show your working.

70, 72, 80, 88, 101, 102, 109, 121, 126, 145

102 - 101 = 001

1

ResultsPlus
Examiner Comments

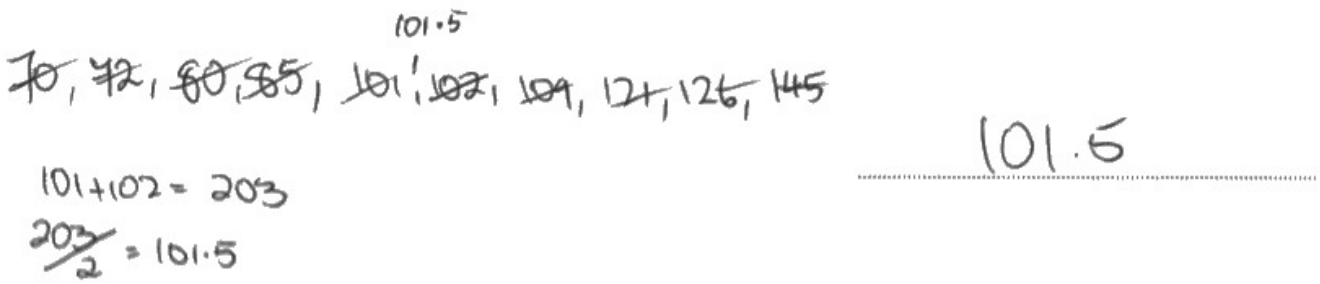
Think carefully about your answer. Is 1 a reasonable or likely answer for this set of data?

2 marks are scored here.

(ii) Calculate the median for number of vehicles.

(2)

Show your working.



ResultsPlus
Examiner Comments

This candidate has used the most commonly seen method to answer the question correctly.

ResultsPlus
Examiner Tip

Make sure you check carefully you have used the right numbers. Some used the noise level data for this question instead of the number of vehicles.

Question 5 (b)(iii)

This final question used the same data as the preceding 'calculate' questions.

Candidates had to explain why the data may lead to unreliable conclusions. Unlike other questions, more than one reason was allowed, and each could be expanded for further marks. There are many ways this could be answered, as indicated in the mark scheme.

4 marks are scored here.

(iii) Explain why the data shown in Figure 4b may lead to unreliable conclusions.

(4)

There are anomalies, in the number of vehicles per minute the number of vehicles jump from 126 to 148, which is a 19 difference, which may suggest an error. And since the vehicles are counted per minute, the vehicles may be moving very fast, therefore it is likely that students may miscount, Not recording correct figures. and for the noise level it does not mention the interval taken between each recording, in addition only 10 sample sizes were taken on one morning. so may not be very representative and it should be recorded on several morning to compare data and increase accuracy and validity.

(Total for Question 5 = 12 marks)

ResultsPlus
Examiner Comments

The candidate has raised a wide range of relevant ideas as reasons the data may lead to unreliable conclusions. It mentions the irregular nature of the data points, the difficulty in recorded noise levels accurately and the fact that data was only recorded on one morning. Full marks are awarded.

ResultsPlus
Examiner Tip

These 'unfamiliar' fieldwork questions are ones you will not have seen before. You should apply the skills of interpretation you have practised in class to the data and questions you are given in the exam.

Paper Summary

Based on their performance in this paper, candidates are offered the following advice:

- Practise the evaluative style of writing needed for the 12 mark question on Q3 and also the two 8 mark questions
- Practise 'chains of three' ideas for the 'one way' questions
- Learn your case study or 'place context' examples and use these ideas to support your written answers, particularly for the 8 mark questions
- Check you know the 'Route to Enquiry' for the fieldwork part of the course and be ready to write about each different part of it. Check you are confident about the terminology.
- Check you know how to calculate a median for a set of numbers, whether it is odd or even

Grade boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

https://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html

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