



# Mark Scheme (Results)

January 2025

Pearson Edexcel International Advanced  
Subsidiary Level in Geography (WGE02) Paper 01  
Geographical Investigations

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

| Question Number | Identify the coastal ecosystems A and B.<br>Answer                                                                                                                                                                                                               | Mark       |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>1(a)(i)</b>  | <p style="text-align: center;"><b>AO2 (2 marks)</b></p> <p><b>Ecosystem A</b> = Coral reef<br/> <b>Ecosystem B</b> = Sand dune, dunes, psammosere</p> <p>Incorrect answers for A = wetland, swamp, under the sea.<br/> Incorrect answers for B = beach, land</p> | <b>1+1</b> |

| Question Number | Explain <b>one</b> way human activity threatens coastal ecosystems, such as those shown in Figure 1a and 1b.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mark     |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>1(a)(ii)</b> | <p style="text-align: center;"><b>AO1 (2 marks)</b></p> <p>Answers will depend on the chosen ecosystem. This does not need to be located.</p> <p>Award <b>1</b> mark for explaining a way and a further expansion mark, up to a maximum of 2 marks each:</p> <ul style="list-style-type: none"> <li>• Pollution from factories/residential areas enters the ocean which blocks sunlight (1) disrupts ecological functions of corals (1).</li> <li>• Tourists trample on sand dunes (1) which allows sand to be eroded and plants to be damaged. (1).</li> <li>• Bottom-trawling fishing methods drag heavy nets damaging coral (1) reducing biodiversity as habitats are destroyed (1).</li> <li>• Land reclamation extends over salt marsh (1) and habitats are wiped out (1).</li> <li>• Water pollution from fertilizer run-off leads to eutrophication in wetlands (1) as there are nutrients from agriculture (1).</li> </ul> <p>Credit other valid explanations.<br/> Allow answers which address coral reefs or sand dunes, or any other coastal ecosystem such as salt marsh or mangroves.</p> | <b>2</b> |

| Question Number | Examine the success of soft engineering approaches used to protect coasts from erosion.<br><b>Indicative content</b>                                                                                                                                                                                   |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1(b)</b>     | <p style="text-align: center;"><b>AO1 (6 marks) AO2 (2 marks)</b></p> <p><b>Marking instructions</b><br/> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> |

The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:

**AO1**

- Soft engineering is seen as a sustainable approach to protect coasts from erosion as it aims to be long term.
- It works alongside natural systems and processes such as coastal ecosystems and stabilisation of sediment.
- Examples include beach nourishment, beach profiling and dune stabilisation, cliff re-grading and drainage. It may be used as part of a strategic retreat or realignment approach.
- Soft engineering is an holistic and integrated approach.
- Coastlines where soft engineering is used may be able to cope better with future threats such as increasing storm events and rising sea levels.

**AO2**

- Success can be judged in economic, social and/or environmental terms, and different stakeholders will perceive success in different ways.
- Soft engineering may be economically sustainable and therefore successful as costs are lower and sediment may be brought in by natural processes and trapped by vegetation.
- Soft engineering is often more natural and attractive in appearance and may enhance the amenity value of a beach for tourism, making it successful in the eyes of business owners.
- A steep beach and high crest may be seen as a 'successful' profile for the beach by engineers, but this may reduce accessibility for beach users.
- New habitats are created by some soft engineering schemes which increase biodiversity, so for environmentalists, herpetologists and birdwatchers, this is successful. Volunteers may help with replanting, reducing costs.
- Beach replenishment increases the volume of sand so increases friction and is often successful in reducing erosion at the back of the beach, which protects the coastline.
- Replanting of dunes, and beach reprofiling may require fencing off and restriction of access which may reduce the experience of beach visitors and be seen as 'unsuccessful'.
- Soft engineering may not be seen as successful by some stakeholders as they may feel less safe. Strong storms may be intensified by climate change which may increase erosion of beaches, farmland, houses and roads. Dune replanting schemes or beach reprofiling may be washed away.
- This approach may lead to conflict between stakeholders including residents, visitors, NGOs, businesses and local government bodies. Consultation should consider the views of all and compromise may be necessary to find the most successful approach for each place.

Credit other valid answers.

| Level   | Mark | Descriptor                                                                                                                                                             |
|---------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 0 | 0    | No acceptable response.                                                                                                                                                |
| Level 1 | 1–3  | <ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate. (AO1)</li> </ul> |

|         |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |     | <ul style="list-style-type: none"> <li>• Understanding addresses a narrow range of geographical ideas. (AO1)</li> <li>• Understanding of geographical ideas lacks detail. (AO1)</li> <li>• Applies knowledge and understanding to geographical information/ideas, with limited logical connections/relationships. (AO2)</li> </ul>                                                                                                                                                                  |
| Level 2 | 4-6 | <ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas. (AO1)</li> <li>• Understanding of geographical ideas is not fully detailed and/or developed. (AO1)</li> <li>• Applies knowledge and understanding to geographical information/ideas logically to find some relevant connections/relationships. (AO2)</li> </ul> |
| Level 3 | 7-8 | <ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas. (AO1)</li> <li>• Understanding of the geographical ideas is detailed and fully developed. (AO1)</li> <li>• Applies knowledge and understanding to geographical information/ideas logically to find fully relevant connections/relationships. (AO2)</li> </ul>                        |

| Question Number | Describe the changes in traffic volume between 10:00 and 18:00<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Mark     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>2(a)(i)</b>  | <p style="text-align: center;"><b>AO2 (2 marks)</b></p> <p>Award <b>1</b> mark for each description of a change between these times. Maximum <b>2</b> marks.</p> <ul style="list-style-type: none"> <li>• Traffic volume falls from 10:00 until about 16:00 (1).</li> <li>• Traffic volume rises to a second peak at 18:00(1)</li> <li>• Lowest Traffic volume of about 920 vehicles per hour lasts from about 14:00 to16:00 (1)</li> <li>• In this period, Traffic volume is highest at 10:00 but falls to the lowest at about 14:00 (1).</li> </ul> <p>Accept other descriptions of a change in traffic flow in the stated time period using evidence from resource.</p> <p>No marks for reasons for the changes in traffic volume.</p> | <b>2</b> |

| Question Number | Explain <b>one</b> way human wellbeing in cities is affected by the volume of road traffic.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mark     |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>2(a)(ii)</b> | <p style="text-align: center;"><b>AO1 (2 marks)</b></p> <p>Award <b>1</b> mark for explaining a way human wellbeing is affected by traffic volume, and a further expansion mark, up to a maximum of <b>2</b> marks:</p> <ul style="list-style-type: none"> <li>• Traffic volume may increase stress for pedestrians or drivers because journeys take longer (1) so they may be late for work so risk losing their job(1).</li> <li>• Volume of traffic can lead to a wide range of linked diseases such as breathing problems (1) which cause long term health effects/ which reduce people's ability to work / earn money/do well at school (1).</li> <li>• Volume of traffic can lead to a wide range of illnesses (lung illness, heart attacks, asthma) (1) which reduce life expectancy (1).</li> <li>• Increased costs for businesses /delivery drivers which increases their stress (1) as journey times are longer (1).</li> <li>• The length of the working day will be extended due to slow journeys home (1) so families will have less leisure time with working parents (1).</li> </ul> <p>Credit other valid ideas.</p> | <b>2</b> |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| Question Number | Assess the costs and benefits of large-scale infrastructure projects used for urban regeneration.<br><b>Indicative content</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2(b)            | <p style="text-align: center;"><b>AO1 (6 marks) AO2 (2 marks)</b></p> <p><b>Marking instructions</b><br/>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b><br/>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• Large-scale regeneration infrastructure projects used for urban regeneration can involve different purposes and have a range of different design briefs.</li> <li>• Examples of large-scale infrastructure projects for regeneration, re-imaging and rebranding include sporting events, expos and tourism development.</li> <li>• Large-scale projects are often used as a catalyst for additional development and improvement. Often they have large economic, social and environmental costs and may be part funded by the state, which carries a risk in the shorter and longer term.</li> <li>• Sustainability may be an important aspect of some large-scale projects, specifically eco-cities. This may include social, economic, political as well as environmental considerations, and could bring benefits to the city.</li> <li>• Large-scale regeneration projects have varying costs and benefits (economic, social and environmental) for different groups involved.</li> <li>• Planners, local government, businesses and residents all play contrasting roles in regeneration and may have different views of the costs and benefits.</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• Large scale infrastructure projects are often focused around their economic benefits, rather than environmental or social benefits, since some schemes are privately funded and shareholders want a return. Therefore, success is mixed depending on who is considering the project.</li> <li>• A project that is completed on or near budget may be seen as having benefits which exceed the costs, if there is profit for shareholders. Alongside this, benefits might include prestige for governments or the development companies, modern office space for TNCs, a new attraction for tourists or accommodation for some residents, for example.</li> <li>• These criteria might be used to judge the benefits: jobs, new housing, environmental improvements, improvements in services.</li> <li>• Wealthy newcomers including overseas migrants may benefit more from the regeneration compared to existing residents who</li> </ul> |

|         |      | <p>may be displaced or unable to afford to live/eat/visit the new development.</p> <ul style="list-style-type: none"> <li>• Costs might include the finances, debt, loss of habitat, emission of CO<sub>2</sub> from construction, increase in inequality and others.</li> <li>• Overall, the examples chosen will contribute to the summary as to how whether the costs or benefits dominate.</li> <li>• As the question says 'Projects' it is possible two or more will be assessed.</li> </ul>   |
|---------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level   | Mark | Descriptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Level 0 | 0    | No acceptable response.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Level 1 | 1–3  | <ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas. (AO1)</li> <li>• Understanding of geographical ideas lacks detail. (AO1)</li> <li>• Applies knowledge and understanding to geographical information/ideas, with limited logical connections/relationships. (AO2)</li> </ul>                                    |
| Level 2 | 4–6  | <ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas. (AO1)</li> <li>• Understanding of geographical ideas is not fully detailed and/or developed. (AO1)</li> <li>• Applies knowledge and understanding to geographical information/ideas logically to find some relevant connections/relationships. (AO2)</li> </ul> |
| Level 3 | 7–8  | <ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas. (AO1)</li> <li>• Understanding of the geographical ideas is detailed and fully developed. (AO1)</li> <li>• Applies knowledge and understanding to geographical information/ideas logically to find fully relevant connections/relationships. (AO2)</li> </ul>                        |

| Question Number | Explain <b>one</b> possible risk to you during your fieldwork data collection.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mark     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>3(a)</b>     | <p style="text-align: center;"><b>A03 (3 marks)</b></p> <p><b>NB:</b> the aim / question / hypothesis provides a context for the investigation and the subsequent parts that follow – no credit for this.</p> <p>Nature of question, title or hypothesis will vary depending on the location as well as the context of the investigation.</p> <p>Award <b>1</b> mark for explaining the risk / hazard associated with the collection of data for the students, and up to two further marks extending this explanation, up to a maximum of 3 marks.</p> <p>The nature of the risk will vary depending on the location as well as the context of the investigation.</p> <ul style="list-style-type: none"> <li>• Traffic as we visited sites along roads (1) which were busy (1) so we could have been injured (1).</li> <li>• Hypothermia as we were collecting data about the effects of winter storms on beaches (1) and students were unused to being outside in cold temperatures (1) and had to stay there for 3 hours to measure all the sites (1).</li> <li>• Collecting data on the rocky beach meant walking over wet rocks where we might slip (1) and fall over (1) and need to be carried back to the minibus (1).</li> <li>• We may have collected unreliable data because we had a poor sampling design (1) and only visited one site (1) because of problems with the weather (1).</li> </ul> <p>Accept other risks and management.<br/>NB No mark for explaining how the risk was managed/reduced.</p> | <b>3</b> |

| Question Number | Explain <b>one</b> way the internet was used to help plan your investigation.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Mark     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>3(b)</b>     | <p style="text-align: center;"><b>A03 (3 marks)</b></p> <p>Award <b>1</b> mark for explaining one way the use of the internet helped plan the investigation, and a further <b>2</b> expansion marks, up to a maximum of <b>3</b> marks.</p> <p>The way the internet was used will vary depending on the location as well as the context of the investigation.</p> <ul style="list-style-type: none"> <li>• Used the internet to research the population of the area (1) which allowed us find out about the contrasting characteristics of the people who live in the area (1) and decide on a stratified sample when we conducted our questionnaire (1).</li> <li>• A historical map of the coast (1930s) was found on an internet archive site which allowed us to see</li> </ul> | <b>3</b> |

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|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>the former position of the coastline (1). This helped us analyse coastal recession and coastal erosion risk over the last 100 years (1) and to decide on the location of our data collection sites (1).</p> <ul style="list-style-type: none"> <li>• Used Google maps to identify a safe place to access the beach (1) so we could park nearby and take all our equipment to the start of the data collection (1) and then easily move to the second location (1).</li> <li>• We found past photos of the area we were studying (1) so we could plan which locations to visit (1) and judge whether the regeneration was successful or not (1).</li> </ul> <p>Accept other valid ideas.</p> |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

| Question number | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3(c)            | <p style="text-align: center;"><b>A03 (6 marks)</b></p> <p><b>Marking instructions</b><br/>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b><br/>Content depends on candidates' choice of research question.</p> <ul style="list-style-type: none"> <li>• Use of charts and graphs show temporal and spatial differences in the data, enabling comparisons to be made.</li> <li>• Used a large-map to present data, using proportional arrows to show pedestrian flows and changes over time.</li> <li>• Use of diagrams and tables to show complex patterns or relationships so that conclusions can be drawn.</li> <li>• Photographs or field sketches (including annotated) help represent places and make comparisons with each other or with past photos to show the changes that have occurred.</li> <li>• Written up field notes which were tabulated or colour coded to analyse the differences observed, enabling the differences / similarities between places to be highlighted.</li> <li>• Using ICT / Excel to plot data e.g. a scattergraph to show a relationship which may be quicker and more accurate than completing by hand.</li> <li>• Using GIS to represent findings (geo-located) to eliminate mistakes.</li> </ul> <p>Nature of responses will be heavily dependent on the context of the fieldwork and the environment in which it was undertaken.<br/>Examiners should reward for detailed clear and specific data and information about presentation which are supported with depth and detail in terms of factual accuracy and realism.<br/>Accept other valid ideas.</p> |

| Level          | Mark       | Descriptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | 0          | No rewardable material.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Level 1</b> | <b>1–2</b> | <ul style="list-style-type: none"> <li>Limited understanding of the relationships between geographical questions and the background information, geographical context and research question (AO3)</li> <li>Uses a limited range of fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3)</li> <li>Limited evidence of an ability to draw conclusions and the evaluation is simplistic, limited to one stage in the route to enquiry. (AO3)</li> </ul> |
| <b>Level 2</b> | <b>3–4</b> | <ul style="list-style-type: none"> <li>Some understanding of the relationship between the background information, geographical context and research question (AO3)</li> <li>Uses some fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3)</li> <li>Some evidence of an ability to draw conclusions and the evaluation is relevant, but restricted to one or two stages in the route to enquiry. (AO3)</li> </ul>                                    |
| <b>Level 3</b> | <b>5–6</b> | <ul style="list-style-type: none"> <li>A full understanding of the relationship between the background information, geographical context and research question (AO3)</li> <li>Evaluates fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3)</li> <li>Clear evidence of an ability to draw conclusions and the evaluation is full, across a number of stages in the route to enquiry. (AO3)</li> </ul>                                               |

| Question number | Evaluate how the reliability of your results was affected by your sampling procedures and sample sizes.<br><b>Answer:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3(d)</b>     | <p style="text-align: center;"><b>A03 (12 marks)</b></p> <p><b>Marking instructions</b><br/>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b><br/>Content depends on students' choice of research question. Evaluation of the impacts of the sampling procedures and sample size in relation to the results could include some the following:</p> <ul style="list-style-type: none"> <li>Sampling procedures: number of sites, spacing, sample sizes, sampling methods including systematic versus random</li> </ul> |

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|  | <p>versus stratified, opportunistic/pragmatic. These should be explained and justified with reference to the fieldwork investigation title or question, and in relation to the population being sampled.</p> <ul style="list-style-type: none"> <li>• Explanation of how sampling was done, e.g. explanation of random sampling procedure used, and evaluation of the extent to which this was achieved successfully, and how this affected reliability.</li> <li>• Sampling should be linked to specific methods of data collection, and how the sample chosen affected the reliability of the results. .</li> <li>• Sample size could be considered in terms of numbers of people/locations/ transect/ point samples, and how this was calculated and the extent to which it was achieved. Also, the time of the day or week or year, and whether repeat measurements were possible.</li> <li>• Planning and research before going out to select a representative samples / location for the visit could increase reliability (e.g. use of maps/google image to select appropriate sample sites).</li> <li>• Inaccessibility of sites chosen/ lack of ability collect data in the field, due to time of day, seasons, or unanticipated hazards such as bad weather. These could all reduce reliability.</li> <li>• Credit evaluation of issues of bias and reliability linked to sampling procedures/strategy and locations of fieldwork data collection if appropriate, and how the results were affected.</li> <li>• Credit evaluation of the size of sample in relation to chosen statistical technique for data analysis.</li> <li>• Credit comments about time / cost / safety where linked to the specifics of the sampling procedures and sample sizes.</li> </ul> <p>Nature of responses will be heavily dependent on the context of the fieldwork and the environment in which it was undertaken. However, examiners should reward for detailed clear and specific data and information which are supported with depth and detail in terms of factual accuracy and realism.</p> |
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| Level          | Mark       | Descriptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | 0          | No rewardable material.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Level 1</b> | <b>1–4</b> | <ul style="list-style-type: none"> <li>• Limited understanding of the relationships between geographical questions and the background information, geographical context and research question (AO3)</li> <li>• Uses a limited range of fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3)</li> <li>• Limited interpretation, analysis based on the data / information collected. (AO3)</li> <li>• Limited evidence of an ability to draw conclusions and the evaluation is simplistic, limited to one stage in the route to enquiry. (AO3)</li> </ul> |

| Level          | Mark        | Descriptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Level 2</b> | <b>5–8</b>  | <ul style="list-style-type: none"> <li>• Some understanding of the relationship between the background information, geographical context and research question (AO3)</li> <li>• Uses some fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3)</li> <li>• Interpretation and analysis based on the data / information collected form part of the response (AO3)</li> <li>• Some evidence of an ability to draw conclusions and the evaluation is relevant, but restricted to one or two stages in the route to enquiry. (AO3)</li> </ul> |
| <b>Level 3</b> | <b>9–12</b> | <ul style="list-style-type: none"> <li>• A full understanding of the relationship between the background information, geographical context and research question (AO3)</li> <li>• Evaluates fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3)</li> <li>• Critically considers the role of interpretation, analysis based on the data / information collected. (AO3)</li> <li>• Clear evidence of an ability to draw conclusions and the evaluation is full, across a number of stages in the route to enquiry. (AO3)</li> </ul>       |

| Question Number | Calculate the number of 15-24 year olds using smart phones.<br><b>Answer</b>     | Mark     |
|-----------------|----------------------------------------------------------------------------------|----------|
| <b>4(a)(i)</b>  | <b>A03 (1 mark)</b><br><br>Award <b>1</b> mark for correct answer:<br><br>14 (1) | <b>1</b> |

| Question Number | Calculate the percentage (%) of all visitors that were swimming.<br><b>Answer</b>                                                                                                  | Mark     |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>4(a)(ii)</b> | <b>A03 (2 marks)</b><br><br>Award 1 mark for correct answer, and one mark for appropriate working:<br><br>Total of participants =80<br><br>$20/80 \times 100$ (1)<br><br>= 25% (1) | <b>2</b> |

| Question Number  | Suggest how the design of this recording sheet might lead to unreliable results.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mark     |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>4(a)(iii)</b> | <b>A03 (3 marks)</b><br><br>Award <b>1</b> mark for an explanation of an appropriate reason and up to <b>2</b> further marks for explanation or further reason/s. <ul style="list-style-type: none"> <li>• There is no 'other' category (1) so people are ignored or put into an inaccurate category(1).</li> <li>• There are overlapping age categories / no group for 54 to 60 (1) so visitors will be allocated to the wrong age-group (1) and the results will have combinations of age-groups in the same group (1).</li> <li>• Some people might fall into two categories (1) so might be counted twice (1).</li> <li>• It is not clear how long the observation period was/ what time of the day was (1) so different groups might have observed for different lengths of time (1).</li> <li>• All under 15s / and more than 60s are grouped together (1) which might mean that some activities are ignored or wrongly categorised (1) which makes results inaccurate and therefore false conclusions might be drawn (1).</li> </ul> Accept other valid ideas. | <b>3</b> |

|  |                                                                                                                        |  |
|--|------------------------------------------------------------------------------------------------------------------------|--|
|  | No marks for comments about the results obtained.<br>This is a question about the design of the data collection sheet. |  |
|--|------------------------------------------------------------------------------------------------------------------------|--|

| Question Number | Explain how one secondary data source could help these students investigate the impact of visitors on this coastal area.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mark     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>4(a)(iv)</b> | <p style="text-align: center;"><b>A03 (3 marks)</b></p> <p>Award <b>1</b> mark for explaining how one secondary data source might help investigate the impacts of visitors, and up to 2 expansion marks.</p> <ul style="list-style-type: none"> <li>• Photograph of the beach at the end of a busy sunny day showing litter (1) would enable students to carry out comparison studies with the start of the day (1) showing the scale of the problem (1).</li> <li>• Council data showing number of business owners running cafés/shops nearby (1) could show how many employees they have (1) and how much their business depended on visitors (1).</li> <li>• Photos /field sketch from the students' own visit could be compared with old photos (1) which would show how the appearance of the area has changed (1) to understand what buildings/ facilities have been added to meet the needs of visitors(1).</li> <li>• Timelapse images from Google earth in past (1) would show if erosion through the dunes has increased (1) when compared to present day measurements of footpath width using tape measure (1).</li> </ul> <p>Do not accept primary data methods unless these are linked to a secondary data source.<br/>Accept other valid ideas.</p> | <b>3</b> |

| Question Number | Explain the advantages of using this interview plan.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mark     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>4(b)</b>     | <p style="text-align: center;"><b>A03 (3 marks)</b></p> <p>Award <b>1</b> mark for explaining an advantage of using the plan, and further advantages or expansion marks as relevant, up to a maximum of <b>3</b> marks.</p> <ul style="list-style-type: none"> <li>• Clearly structured / has a logical sequence (1).</li> <li>• Confidentiality of interview is assured (1) so official may be more honest(1).</li> <li>• Considers ethical considerations in introduction (1).</li> <li>• Background is focused on finding out about the respondent and their role (1).</li> <li>• Plan is focused on finding out about impacts on the coast (1) and doesn't have irrelevant information not related to the focus (1).</li> </ul> | <b>3</b> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <ul style="list-style-type: none"> <li>• This sort of information is difficult to obtain from other sources (1) so it provides relevant/up to date ideas (1).</li> <li>• Clear timings are given (1) which help the respondent understand the interview plan/know how much time it will take (1).</li> <li>• Open questions allow respondent to give detailed answers (1).</li> </ul> <p>NB the idea of bias is unlikely to be relevant. Responses must be related to this plan, rather than interviews in general.</p> <p>Accept other valid ideas.</p> |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

| Question Number | Calculate the number of 15–24 year-olds using smartphones.<br><b>Answer</b>        | Mark     |
|-----------------|------------------------------------------------------------------------------------|----------|
| <b>5(a)(i)</b>  | <b>A03 (1 mark)</b><br><br>Award <b>1</b> mark for correct answer:<br><br>= 14 (1) | <b>1</b> |

| Question Number | Calculate the percentage (%) of all visitors that were sitting in a cafe.<br><b>Answer</b>                                                                                         | Mark     |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>5(a)(ii)</b> | <b>A03 (2 marks)</b><br><br>Award 1 mark for correct answer, and one mark for appropriate working:<br><br>Total of participants =80<br><br>$20/80 \times 100$ (1)<br><br>= 25% (1) | <b>2</b> |

| Question Number  | Suggest how the design of this recording sheet might lead to unreliable results.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mark     |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>5(a)(iii)</b> | <b>A03 (3 marks)</b><br><br>Award <b>1</b> mark for an explanation of an appropriate reason and up to <b>2</b> further marks for explanation or further reasons. <ul style="list-style-type: none"> <li>• There is no 'other' category (1) so people are ignored or put into an inaccurate category(1).</li> <li>• There are overlapping age categories / no group for 54 to 60 (1) so visitors will be allocated to the wrong age-group (1) and the results will have combinations of age-groups in the same group (1).</li> <li>• People might fall into two categories (1) so be counted twice (1).</li> <li>• It is not clear how long the observation period was/ what time of the day was (1) so different groups might have observed for different lengths of time (1).</li> <li>• All under 15s / and more than 60s are grouped together (1) which might mean that some activities are ignored or wrongly categorised (1) which makes results inaccurate and therefore false conclusions might be drawn (1).</li> </ul><br>Accept other valid ideas. | <b>3</b> |

| Question Number | Explain how one secondary data source could help these students investigate the impact of visitors on this regenerated site.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mark     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>5(a)(iv)</b> | <p style="text-align: center;"><b>A03 (3 marks)</b></p> <p>Award <b>1</b> mark for explaining how one secondary data source might help investigate the impacts of visitors, and up to 2 expansion marks.</p> <ul style="list-style-type: none"> <li>• Photograph of the site at the end of a busy day showing litter (1) would enable students to carry out comparison studies with the start of the day (1) showing the scale of the problem (1).</li> <li>• Council data showing number of business owners running cafés/shops nearby (1) could show how many employees they have (1) and how much their business depended on visitors (1).</li> <li>• Photos /field sketch from the students' own visit could be compared with old photos (1) which would show how the appearance of the area has changed (1) to understand what buildings/ facilities have been added to meet regenerate the site (1).</li> <li>• Timelapse images from Google earth in past(1) would show how use of the area has changed (1) and what has been retained from the original buildings (1).</li> </ul> <p>Do not accept primary data methods unless these are linked to a secondary data source.<br/>Accept other valid ideas.</p> | <b>3</b> |

| Question Number | Explain the advantages of using this interview plan.<br><b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mark     |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>5(b)</b>     | <p style="text-align: center;"><b>A03 (3 marks)</b></p> <p>Award <b>1</b> mark for explaining an advantage of using the plan, and further advantages or expansion marks as relevant, up to a maximum of <b>3</b> marks.</p> <ul style="list-style-type: none"> <li>• Clearly structured / has a logical sequence (1).</li> <li>• Confidentiality of interview is assured (1) so official may be more honest(1).</li> <li>• Considers ethical considerations in introduction (1).</li> <li>• Background is focused on finding out about the respondent and their role (1).</li> <li>• Plan is focused on find out about impacts of tourism (1) and doesn't have irrelevant information not related to the focus (1).</li> <li>• This sort of information is difficult to obtain from other sources (1) so it provides relevant/up to date ideas (1).</li> </ul> | <b>3</b> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <ul style="list-style-type: none"> <li>• Clear timings are given (1) which help the respondent understand the interview plan/know how much time it will take (1).</li> <li>• Open questions allow respondent to give detailed answers (1).</li> </ul> <p>NB the idea of bias is unlikely to be relevant. Responses must be related to this plan, rather than interviews in general.</p> <p>Accept other valid ideas</p> |  |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

