GradeMax



Pearson
Edexcel

Mark Scheme (Results)

January 2022

Pearson Edexcel International A Level In Geography (WGE02)

Paper 2: Geographical Investigations

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January 2022
Question Paper Log Number P70695A
Publications Code WGE02_01_2201_MS
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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	Answer	Mark
1(a)(i)	**AO2 (2 marks)** **A** = slump, slip, slide, rotational slide, landslide **B** = rockfall, collapse, fall **For (B) do not accept landslide.**	**2**

Question Number	Answer	Mark
1(a)(ii)	**AO1 (2 marks)** Award **1** mark for explaining a factor and a further expansion mark, up to a maximum of 2 marks each: • Structure / lithology of the parent rock (1) can either slow down or speed-up rates of weathering • Chemical weathering of limestone (1) weakens rock making collapse more likely (1) • In heavily fractured rock (1) freeze thaw will operate more (1). **Credit other valid explanations.** Hardness, structure, and rock type as well as more indirect geological controls e.g. tectonics, slope are all valid ideas linking to mass movement.	**2**

Question Number	Indicative content
1(b)	**AO1 (6 marks)/AO2 (2 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** 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 • Threats may be local, regional, national or international. • Over-exploitation, drainage and dredging as well as contamination from artificial fertilisers are examples of local human threats. • Other less local threats include climate change, UV exposure, ocean acidification • Hazards, e.g tsunamis are also a threat Coastal ecosystem services are at risk from pollution from land-based run-off and marine dumping. **AO2** • Local factors are likely to be very important in influencing coastal ecosystems, but other global factors, e.g. climate change, plastic pollution and sea level rise may also be significant on vulnerable coasts • Ecosystems may be influenced by other factors such as coastal engineering which protect landscapes and associated features – these may mitigate some threats. • Threats will vary significantly in time and space, and in the future may get much worse due to pressure of population, climate change, pollution etc.

Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1–3	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate. (AO1) • Understanding addresses a narrow range of geographical ideas. (AO1) • Understanding of geographical ideas lacks detail. (AO1) • Applies knowledge and understanding to geographical information/ideas, with limited logical connections/relationships. (AO2)
Level 2	4–6	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas. (AO1) • Understanding of geographical ideas is not fully detailed and/or developed. (AO1)

		• Applies knowledge and understanding to geographical information/ideas logically to find some relevant connections/relationships. (AO2)
Level 3	7–8	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas. (AO1) • Understanding of the geographical ideas is detailed and fully developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically to find fully relevant connections/relationships. (AO2)

Question Number	Answer	Mark
2(ai)	**AO2 (2 marks)** Award **1** mark for each idea from the resource. • New modern looking buildings • A few cranes / evidence of construction equipment **OR** construction sites • High architectural quality • New building materials, e.g. steel and glass • Mixture old and new buildings • New road system • Roads closed • Landmark buildings **Credit other valid ideas.** Do not credit generic ideas, e.g. "infrastructure" on its own. Must be specific type, e.g. road.	**2**

Question Number	Answer	Mark
2(aii)	**AO1 (2 marks)** Award **1** mark for explaining a reason and a further expansion mark, up to a maximum of 2 marks each: • Old industrial buildings (1) which means that there may be local ground contamination / pollution (1). • People have moved out (1) so there may be a loss of shops and services (1). • Traffic has become very bad (1) which creates pollution / discomfort health problems (1). • There was lots of underused urban space in this area (1) so land costs are lower for regeneration (1). Credit other valid ideas.	**2**

<table>
<tr><td>Question Number</td><td colspan="2">Indicative content</td></tr>
<tr><td>2(b)</td><td colspan="2">

AO1 (6 marks)/AO2 (2 marks)

Marking instructions
Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.

Indicative content guidance
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

Sustainability includes social, economic, political as well as environmental considerations.
Regeneration generally means improvement through renewal and is different to reimaging for instance.
Urban regeneration schemes can be developed at a range of scales (small to very large) and have a range of different design briefs.
Smaller-scale regeneration projects focus on improving communities (housing, education and skills, employment opportunities) and increasing local representation.
Large-scale infrastructure projects (sporting events, expos, tourism development) are often the catalyst for regeneration, re-imaging and rebranding.

AO2

Regeneration is often focused around economic rather than environmental improvements since some schemes are privately funded and shareholders want a return.
Regeneration may not benefit all individuals and groups within and area, so the sustainability aspect can be met with mixed success, but this will vary by scheme and location.
Expect assessment of the importance of ‘green’ or environmentally sustainable aspects of regeneration, local management, social justice/ equity and human wellbeing as well as provision of jobs / education and income opportunities; assessment of top-down versus bottom-up management; stronger answers will refer to real-places / examples within the assessment.

</td></tr>
<tr><td>Level</td><td>Mark</td><td>Descriptor</td></tr>
<tr><td>Level 0</td><td>0</td><td>No acceptable response.</td></tr>
</table>

Level 1	1–3	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate. (AO1) • Understanding addresses a narrow range of geographical ideas. (AO1) • Understanding of geographical ideas lacks detail. (AO1) • Applies knowledge and understanding to geographical information/ideas, with limited logical connections/relationships. (AO2)
Level 2	4–6	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas. (AO1) • Understanding of geographical ideas is not fully detailed and/or developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically to find some relevant connections/relationships. (AO2)
Level 3	7–8	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas. (AO1) • Understanding of the geographical ideas is detailed and fully developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically to find fully relevant connections/relationships. (AO2)

Question Number	Answer	Mark
3(a)	**AO3 (4 marks)** Award **1** mark for identifying a risk and a further expansion mark up to a maximum of **2** marks. Nature of risk, and risk management will vary depending on the location as well as the context of the investigation. • In the urban area there was lots of traffic, so the risk was of being struck by a vehicle (1). This was managed by only using a designed crossing (1). • Fieldwork was carried out in the winter so there was a small risk of hypothermia (1). Lots of warm clothes were used (1). • The wet rocks at the coast presented a slip and trip risk. (1) Walking boots were used to minimise the risk of falling over (1). • Risk of poor-quality data collection (1) leading to unreliable conclusions (1). **Credit other valid ideas.**	**2**

Question Number	**Answer**	**Mark**
3(b)	**AO3 (4 marks)** Award **1** mark for explaining the research and a further mark for explaining how it was linked to the investigation, up to a maximum of **2** marks for each idea. Nature of the technology and usage / analysis will vary depending on the location as well as the context of the investigation. **Internet** • 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) • A historical map of the coast (1930's) was found on an internet archive site and allowed us to see the	**4**

	former position of the coastline (1). This helped us analyse coastal recession and coastal erosion risk over the last 100 years (1). **GIS** • GIS was used to generate a large-scale city map, used to locate possible sites (1) and this helped determine the sampling strategy allowing for reliable data collection and subsequent analysis (1) • ArcGIS Online was used to determine the travel times in a city. (1) This helped us analyse how congestion changes at different times of the day. (1). **Credit other valid ideas.**	

Question number	Answer
3(c)	**AO3 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** Content depends on students' choice of investigation question. Primary data may include the following ideas: • Different sites means that there is a better spatial spread of data which may help improve the quality / reliability of conclusions. • Many natural systems change spatially, so sampling at different points allows that spatial change, e.g. ecosystem zonation to be tested and / or explored. • Taking measurements at different places and / or at different times allows the calculation of means and medians and the operators can infer something about reliability. • Some systems / places change over time, e.g. traffic and transport, so sampling at different times allows for a better "picture" of those changes. 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.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–2**	• Limited understanding of the relationships between geographical questions and the background information, geographical context and research question (AO3) • 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) • Limited evidence of an ability to draw conclusions and the evaluation is simplistic, limited to one stage in the route to enquiry. (A03)
Level 2	**3–4**	• Some understanding of the relationship between the background information, geographical context and research question (AO3) • Uses some fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • 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. (A03)
Level 3	**5–6**	• A full understanding of the relationship between the background information, geographical context and research question (AO3) • Evaluates fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • Clear evidence of an ability to draw conclusions and the evaluation is full, across a number of stages in the route to enquiry. (A03)

Question number	Answer
3(d)	**AO3 (12 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** Content depends on students' choice of research question. Presentation and analysis should include some the following: • Choice of data presentation technique so that the end user can have geographical meaning. • Use of ICT to support with either analysis or presentation. • Analysis techniques, e.g. quantitative v qualitative tools, how and why some might be more appropriate than others. • Presentation and analysis impacts on both the range and quality of data and in turn has effects upon the accuracy of the presentation and the analysis and the validity of conclusions. • Presentation and analysis may have shaped the nature of the conclusions and possible comments about reliability and accuracy, etc. • Some presentation techniques, e.g. the drawing of a cross-section by hand can be time consuming and lead to inaccuracies. Credit explicit advantages and disadvantages relevant to fieldwork and enquiry.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Limited understanding of the relationships between geographical questions and the background information, geographical context and research question (AO3) • 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)

Level	Mark	Descriptor
		• Limited interpretation, analysis based on the data / information collected. (AO3) • Limited evidence of an ability to draw conclusions and the evaluation is simplistic, limited to one stage in the route to enquiry. (A03)
Level 2	**5–8**	• Some understanding of the relationship between the background information, geographical context and research question (AO3) • Uses some fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • Interpretation and analysis based on the data / information collected form part of the response (AO3) • 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. (A03)
Level 3	**9–12**	• A full understanding of the relationship between the background information, geographical context and research question (AO3) • Evaluates fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • Critically considers the role of interpretation, analysis based on the data / information collected. (AO3) • Clear evidence of an ability to draw conclusions and the evaluation is full, across a number of stages in the route to enquiry. (A03)

Question Number	Answer	Mark
4(a)	**AO3 (2 marks)** Award **1** mark for an initial reason and a second mark for the development, up to a maximum of **2** marks. • Median is a better measure of central tendency (1) since it is not skewed by outliers (1). • Median is the middle value (1) and mean is influenced by extreme numbers so less reliable (1). • Mean has the disadvantage that it is influenced by outliers (1) so it makes our measurement / outcome less reliable (1). • The site 4 data in Area A is an anomaly (1) so this is making the mean higher than the rest of the data suggests (1). **Accept other valid ideas.** Note "more accurate" own its own should not be credited.	**2**

Question Number	Indicative content	Mark
4(b)	**AO3 (3 marks)** Award **1** mark for explaining a disadvantage and a further expansion mark up to a maximum of **3** marks. • Not everyone can access social media (1) so there is a limited group of people who contribute (1) leading to ones-sided views or opinions (1) • Bias towards young people (1) meaning that their views are not always representative (1) so conclusions may be unreliable (1) • Some information inaccurate (1) which lowers the reliability of analysis (1) giving low confidence in conclusions (1) • Not reviewed / edited (1) so there is no "check" on what is being said (1) which leads to biased / unreliable views (1)	**3**

	• Extreme views are common on social media (1) so they may be biased (1) and uniformed which leads to inaccurate conclusions (1). **Credit other valid ideas.** No credit for simply stating a type of social media or the fact that it is out of date without context.	

Question Number	Answer	Mark
4(c)(i)	**AO3 (1 mark)** 15 (1) Accept 15.0 (1)	**1**

Question Number	Answer	Mark
4(c)(ii)	**AO3 (1 mark)** **C** 45-50 (1)	**1**

Question Number	Answer	Mark
4(c)(iii)	**AO3 (2 marks)** Award **1** mark for a reason and a further expansion mark up to a maximum of **2** marks. • Sample size may be small in comparison with total number of visits (1) means that it may not be representative of people in the area (1). • No indication of the time (day) when the data was collected (1) which could impact on the type of responses / attitudes (1). • No indication of who was being asked (locals vs visitors etc) (1) and this could introduce bias and is may not be based on a fair sample (1). • No 20-24 age category (1) therefore can't measure / record their preferred activities and they are excluded (1) • Gap at 41-44 (1) therefore can't get the activity of these people (1) • Estimating age is difficult (1) so it makes the judgements in 3b difficult to trust	**2**

	• Collected in one place only (1) which may not be representative of the sample area / people (1). **Credit other valid ideas, related to either sampling or the activity survey itself.**	

Question Number	Answer	Mark
4(d)	**AO3 (3 marks)** Award **1** mark for a reason and a further expansion mark up to a maximum of **3** marks. • Generally, a larger sample size means that there is more reliability (1) leading to safer conclusions (1) and making the overall investigation more trusted (1). • Bigger samples tend to mask effects of anomalies (1) so your results are more convincing (1) leading to stronger conclusions (1). • If you have only a small sample, then it's difficult to trust the results (1) as there may be gaps in the data collection (1) so the conclusions can be trusted less (1). **Credit other valid ideas.**	**3**

Question Number	Answer	Mark
5(a)	**AO3 (2 marks)** Award **1** mark for an initial reason and a second mark for the development, up to a maximum of **2** marks. • Median is a better measure of central tendency (1) since it is not skewed by outliers (1). • Median is the middle value (1) and mean is influenced by extreme numbers (1). • Mean has the disadvantage that it is influenced by outliers (1) so it makes our measurement / outcome less reliable (1). • The site 4 data in Area A is an anomaly (1) so this is making the mean higher than the rest of the data suggests (1). **Accept other valid ideas.** Note "More accurate" own its own should not be credited.	**2**

Question Number	Indicative content	Mark
5(b)	**AO3 (3 marks)** Award **1** mark for explaining a disadvantage and a further expansion mark up to a maximum of **3** marks. • Not everyone can access social media (1) so there is a limited group of people who contribute (1) leading to ones-sided views or opinions (1) • Bias towards young people (1) meaning that their views are not always representative (1) so conclusions may be unreliable (1) • Some information inaccurate (1) which lowers the reliability of analysis (1) giving low confidence in conclusions (1) • Not reviewed / edited (1) so there is no "check" on what is being said (1) which leads to biased / unreliable views (1) • Extreme views are common on social media (1) so they may be biased (1) and uniformed which leads to inaccurate conclusions (1).	**3**

	Credit other valid ideas. No credit for simply stating a type of social media or the fact that it is out of date without context.	

Question Number	Answer	Mark
5(c)(i)	**AO3 (1 mark)** 15 (1) Accept 15.0 (1)	**1**

Question Number	Answer	Mark
5(c)(ii)	**AO3 (1 mark)** **C** 45-50 (1)	**1**

Question Number	Answer	Mark
5(c)(iii)	**AO3 (2 marks)** Award **1** mark for the reason and a further expansion mark up to a maximum of **2** marks. • A relatively small sample size (1) means that it may not be representative of people in the area (1). • No indication of the time (day) when the data was collected (1) which could impact on the type of responses / attitudes (1). • No indication of who was being asked (locals vs visitors etc) (1) and this could introduce bias and is may not be based on a fair sample (1). • No 20-24 age category (1) therefore can't measure / record their preferred activities and they are excluded (1) • Gap at 41-44 (1) therefore can't get the activity of these people (1) • Estimating age is difficult (1) so it makes the judgements in 3b difficult to trust • Collected in one place only (1) which may not be representative of the sample area / people (1).	**2**

	Credit other valid ideas**,** related to either sampling or the activity survey itself.	

Question Number	Answer	Mark
5(d)	**AO3 (3 marks)** Award **1** mark for a reason and a further expansion mark up to a maximum of **3** marks. • Generally, a larger sample size means that there is more reliability (1) leading to safer conclusions (1) and making the overall investigation more trusted (1) • Bigger samples tend to mask effects of anomalies (1) so your results are more convincing (1) leading to stronger conclusions (1) • If you have only a small sample then it's difficult to trust the results (1) as there may be gaps in the data collection (1) so the conclusions can be trusted less. Credit other valid ideas.	**3**

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