Mark Scheme (Results)

January 2019

Pearson Edexcel International Advanced A Level In Geography (WGE02) Paper 01

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January 2019
Publications Code WGE02_01_2019_MS

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** = rockfall, slump, mass movement, land/mud slide, rotational slip **B** = headland, cliff	**2**

Question Number	Answer	Mark
1(a)(ii)	**AO1 (2 marks)** Award **1** mark for explaining a way and a further expansion mark, up to a maximum of 2 marks each: • Freeze thaw weathering involves water entering cracks in rocks and freezing (1). When the water freezes it expands, fracturing the rocks and creating debris (1). • The repeated action of heating and cooling stresses rocks (1) causing them to 'shed' off layers which are then moved downslope (onion weathering) (1). Credit other valid explanations, e.g. salt weathering Accept: weathering is linked to mass-movement process e.g. where a physical process, such as heavy rainfall causes saturation which in turn causes breakdown / movement of rock / soil.	**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**

<table>
<tr><td></td><td colspan="2">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
• Sustainable policies are those which encourage a softer and more long-term approach to coastal management
• Examples (low impact) include beach nourishment, beach profiling and dune stabilisation as well as various types of strategic retreat
• Sustainable policies accommodate, try to copy or work alongside natural systems and processes
• Policies can be both holistic and integrated
• Management is normally linked to integrated coastal management (plan), ICZM or similar, taking into account a large unit of coast, which is a systems-based approach.

AO2
• Perhaps the most important success of sustainable management is whether it can cope with future threats (increased storm events, rising sea levels) yet this is often difficult to predict or establish.
• Implementation can lead to local conflict e.g. schemes to flood sections of coast / create new buffers so success will be a function of which stakeholder is asked to evaluate.</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>
<tr><td>Level 1</td><td>1–3</td><td>• 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)</td></tr>
<tr><td>Level 2</td><td>4–6</td><td>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</td></tr>
</table>

		• 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(a)(i)	**AO2 (2 marks)** Award **1** mark for each city: • Pollution levels above WHO = Seoul • Largest daily variation = Hong Kong	**2**

Question Number	Answer	Mark
2(a)(ii)	**AO1 (2 marks)** Award **1** mark for explaining an improvement and a further expansion mark, up to a maximum of 2 marks each: Examples could include: • Encouragement of renewable energy through FITs (1) which reduces the need for	**2**

	traditional fossil fuel burning to generate electricity (1). • Banning the use of open fires / wood burners (1) which release particulate matter and smoke therefore lowering air quality (1). • By insulating houses it reduces the need for local heating demand (1) thereby reducing the burning of fossil fuels which might be used to generate heat or energy (1). Credit other valid ideas, e.g. emissions control on vehicles or other transport related solutions.	

Question Number	Indicative content
2(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** • A slum is a densely populated urban residential area with closely packed low-quality housing units in a place with incomplete infrastructure. • People-problems are linked to pollution levels, disease, unemployment and vulnerability to natural hazards • Overcrowding and lack of access to services are other widespread problems. • Environmental problems are air pollution, water pollution and urban heat island • There is overlap into environmental and social problems in terms of pollution degrading the quality of the environment and reducing biodiversity and spaces for plants and animals. **AO2** • The worst problems for many cities are linked to air quality and air pollution which may be the most complex to prevent,

	especially in cities which are growing rapidly. These can affect people and environments, especially ecosystems which are already vulnerable. • Specific transport problems may not affect all individuals and groups within an area, so the problems can be experienced with very different severities. Therefore, it can be difficult to assess or make comparisons • There may be particular local factors which change the impacts of problems, e.g. the physical geography of the urban area as it may impact on buildings and the development of infrastructure services, e.g. Hong Kong located to the south of industrialised coastal cities of SE China – avoids fog/haze/air pollution.	
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
3(a)	**AO3 (4 marks)** ***NB:*** *the aim / question / hypothesis provides a context for the investigation and the subsequent parts that follow – no credit for this.* Award **1** mark for explaining the focus and further marks for explaining why it was appropriate, up to a maximum of **4** marks. The nature of the focus will vary depending on the fieldwork areas chose. • A local coastal area offered a range of different coastal ecosystems (1). This was a manageable scale (1) and therefore the fieldwork could be repeated in order to consider reliability (1). The area was also safe for working in groups (1). • The urban environment had already been researched documenting change and rebranding (1) meaning that we could compare our results to those of other people (1). The rebranding was concentrated in small areas making it accessible (1) and as we had past data we could effectively measure success (1)	**4**

Question Number	Answer	Mark
3(b)	**AO3 (2 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.	**2**

	Nature of research techniques utilised will vary depending on the location as well as the context of the investigation. • Historic interview data from a number of respondents were used (1) to find out about attitudes towards rebranding in the city (1) • Old questionnaires (open questions) used to gauge opinions from stakeholders (1) such as impacts of change (1) • Coastal flood risk data from the Environment Agency helped gauge local risk factors (1) and therefore analyse the coastal stretch better (1) • Old postcards were used as evidence of change (1) so that this could be later used to help evaluate the degree of rebranding in the city (1). • Field notes recorded aspects of the site location and a description (1). This helped with the analysis and follow-up to link together understanding of geographical processes in the area. Allow questionnaires as a semi-qualitative technique (open questions).	

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: • Interview data from a number of respondents were used to find out about attitudes towards rebranding in the city. • Questionnaires (open questions) used to gauge opinions from stakeholders such as impacts of change. • Field sketches were undertaken to give an accurate representation of the landscape to help with later analysis.

	• Digital photographs were taken of the fieldwork equipment so that this could be later used to help evaluate the methods and their reliability. • Field notes recorded aspects of the site location and a description. This helped with the analysis and follow-up to link together understanding of geographical processes in the area. 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)

Level	Mark	Descriptor
		• 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 / determines 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.

Level	Mark	Descriptor
	0	No rewardable material.

Level	Mark	Descriptor
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) • 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)(i)	**AO3 (2 marks)** Award **1** mark per relevant piece of information from Figure 3a and a further development mark of how this can help plan the investigation. Maximum **4** marks per resource. • The GIS map could show them suitable locations for data collection (1) and help them to plan a fair sampling framework (1) Figure 3a might make them think about a possible idea / focus to test / hypothesis / question (1) so they might consider setting up a comparison experiment(s) in another similar coastal ecosystem (1). • Figure 3b might help them understand the range of species so they can think about planning their recording sheets (1) and consider the impact their fieldwork might have on the ecosystem (1). They could also use the satellite map to consider a risk assessment (1) and work out necessary precautions (1). Accept other valid ideas.	**4**

Question Number	Indicative content	Mark
4(a)(ii)	**AO3 (2 marks)** Award **1** mark for explaining a disadvantage and a further expansion mark up to a maximum of **2** marks. • Social media is largely unfiltered (1) so that it may give a poor representation of people's feelings (1). • Social media can be difficult to access at a community level for an outsider (1) therefore the sample of people may not be representative (1). • Information for social media can come in a range of rich formats, e.g. images, but these can be biased (1) so this gives the researcher poor evidence (1). • The researcher would need to use their own accounts to access social media (1) and they may be worried about privacy or 'trolling' (1).	**2**

	Credit other valid ideas.	

Question Number	Answer	Mark
4(b)(i)	**AO3 (1 mark)** 80 Accept 0–80	**1**

Question Number	Answer	Mark
4(b)(ii)	**AO3 (1 mark)** 14.29 (%) Accept 14.28 or 14.3 or 14	**1**

Question Number	Answer	Mark
4(b)(iii)	**AO3 (1 mark)** **Correct answer:** **B** – Stratified **Incorrect answers:** Reason is as other distractors are not taking into account the uneven nature of the sites apart from each other. **A** – Systematic **C** – Random **D** – Regular	**1**

Question Number	Answer	Mark
4(c)	**AO3 (3 marks)** Award **1** mark for the advantage and a further expansion mark up to a maximum of **3** marks. • The kite shows spatial change along a transect (1) so the user can see how particular plants change in their frequencies at different points (1) therefore it makes comparisons easier (1) • The kite diagram is a clear visual representation of the % frequency data (1) so the user can make comparisons between plants at different points (1) and see where there are the biggest changes in percentage frequency. • It is easy to see how the dominant plant type changes between sites (1) and therefore see changes up and down in percentage frequency (1) which helps you understand the ecosystem better (1). Accept other valid advantages and developments of these.	**3**

Question Number	Answer	Mark
5(a)(i)	**AO3 (2 marks)** Award **1** mark per relevant piece of information from Figure 4a and a further development mark of how this can help plan the investigation. Maximum **2** marks per resource. • Knowledge of traffic flows in Figure 4a (1) might give a focus for particular locations therefore help them plan (1). • Figure 4a might make them think that the model is different for their location, (1) so they might consider setting up a comparison	**4**

	experiment(s) in another location (1) / get different secondary data for that area (1). • Figure 4a might help them understand the range of traffic movements during a 24hr period (1) and consider the impact of this on their fieldwork design (1). Accept other valid ideas.	

Question Number	Indicative content	Mark
5(a)(ii)	**AO3 (2 marks)** Award **1** mark for explaining a use of GIS and a further expansion mark up to a maximum of **2** marks. Award **1** mark for explaining a disadvantage and a further expansion mark up to a maximum of **2** marks. • Social media is largely unfiltered (1) so that it may give a poor representation of people's feelings (1). • Social media can be difficult to access at a community level for an outsider (1) therefore the sample of people may not be representative (1). • Information for social media can come in a range of rich formats, e.g. images, but these can be biased (1) so this gives the researcher poor evidence (1) • The researcher would need to use their own accounts to access social media (1) and they may be worried about privacy or 'trolling' (1). Credit other valid ideas.	**2**

Question Number	Answer	Mark
5(b)(i)	**AO3 (1 mark)** 100 Accept 0–100	**1**

Question	Answer	Mark

Number		
5(b)(ii)	**AO3 (1 mark)** 16.43 Accept 16.42 or 16.4 or 16	**1**

Question Number	Answer	Mark
5(b)(iii)	**AO3 (1 mark)** **Correct answer:** **B** – Stratified **Incorrect answers:** Reason is as other distractors are not taking into account the uneven nature of the sites apart from each other. **A** – Systematic **C** – Random **D** – Regular	**1**

Question Number	Answer	Mark
5(c)	**AO3 (3 marks)** Award **1** mark for the advantage and a further expansion mark up to a maximum of **3** marks. • The compound bar shows spatial change along a transect (1) so the user can see how transport type changes in their frequencies at different points (1) therefore it makes comparisons easier (1). • The compound bar is a clear visual representation of the traffic count data (1) so the user can make comparisons between transport type at different points (1) and see where there are the biggest changes in percentage frequency. • It is easy to see how the dominant transport type changes between sites (1) and therefore see changes up and down in percentage frequency (1) which helps you understand the traffic / transport system better (1).	**3**

	Accept other valid advantages and developments of these.	