Mark Scheme (Results)

November 2021

Pearson Edexcel GCSE A in

Geography (1GA0)

Paper 03 - Geographical Investigations:

Fieldwork and UK Challenges

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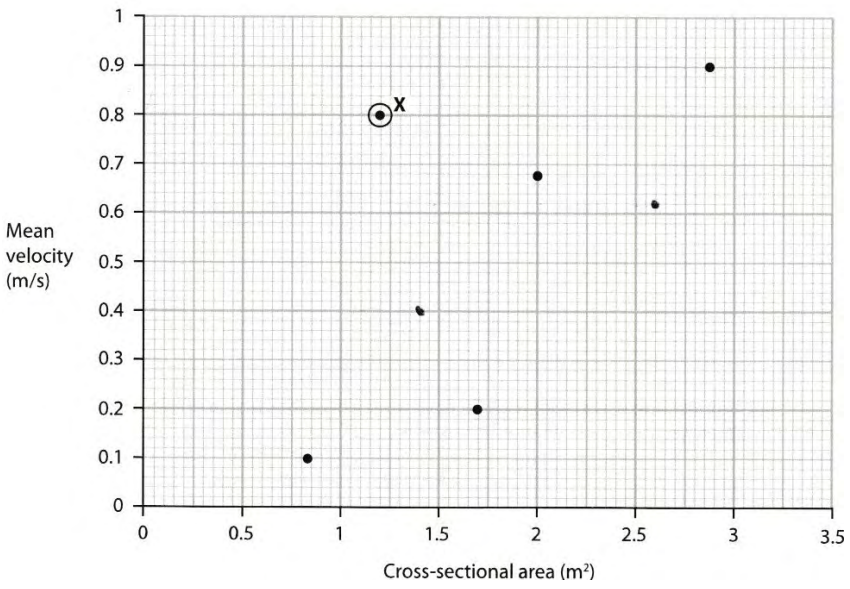
November 2021
Question Paper Log Number 65407
Publications Code 1GA0_03_2111_MS

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.

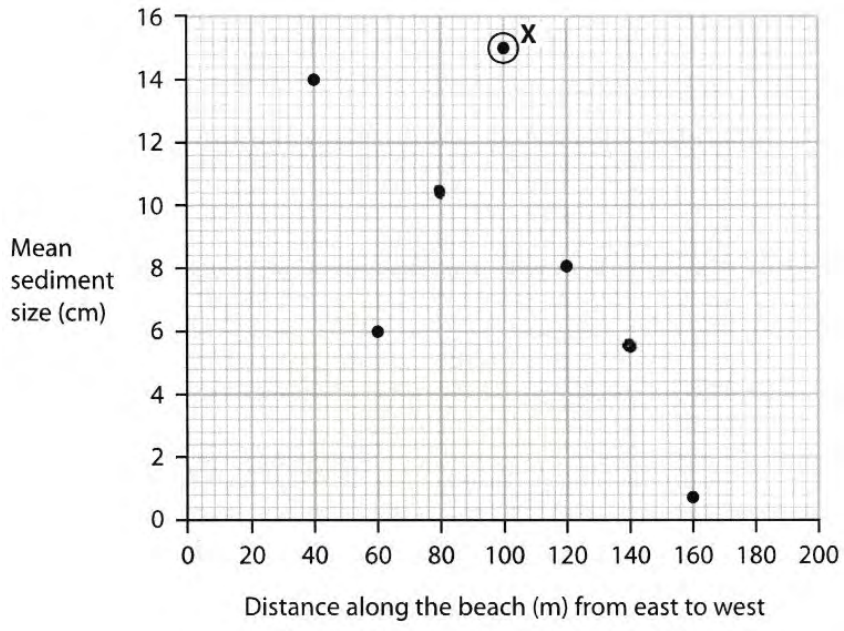
Question Number	Answer	Mark
1(a)	Award 1 mark for stating a fieldwork method. Measuring velocity using a float (1) Measuring river width using a tape measure (1) Measuring river depth using a metre ruler (1) **Other acceptable fieldwork methods may include** field sketch, questionnaire, interviews or taking photographs. **Accept any other appropriate response.**	**(1)**

Question Number	Answer	Mark
1(b)(i)	Award 1 mark for each correctly plotted point.  	**(2)**

Question number	Answer	Mark
1(b) (ii)	Award 1 mark for identification of a possible reason for the anomaly and further mark for an explanation of the anomaly, up to a maximum of 4 marks. The float could have been caught between debris/ rocks (1) leading to a slower recording of the velocity (1) The dropping of the float and use of the stopwatch could have been out of sync (1) plus development (1) The recording of the velocity at this site could have been conducted by a different group of students (1) plus development (1) **Accept any other appropriate response.**	**(4)**

Question number	Answer	Mark
1(b) (iii)	Award 1 mark for identification of a possible use of a flood risk map and further mark for an explanation of the use, up to a maximum of 3 marks. The flood risk map could have been used to investigate the areas of the channel at high risk of flooding (1) allowing groups to pre-plan survey sites (1) to ensure data could be collected safely (1) **Accept any other appropriate response.**	**(3)**

Question Number	Answer	Mark
2(a)	Award 1 mark for stating a fieldwork method. Measuring the width of the beach using a measuring tape (1) Measuring the beach gradient using a clinometer (1) **Other acceptable fieldwork methods may include:** field sketch, questionnaire, interviews, environmental quality survey or taking photographs. **Accept any other appropriate response.**	**(2)**

Question Number	Answer	Mark
2(b) (i)	Award 1 mark for each correctly plotted point.  	**(2)**

Question number	Answer	Mark
2(b) (ii)	Award 1 mark for identification of each possible anomaly and further mark for an explanation of the anomaly, up to a maximum of 4 marks. The data collection at 100m was conducted by a different group of students (1) plus development (1) The group of students collecting the data at the 100m were using faulty equipment (1) plus development (1) A recent storm deposited larger sediment (1) plus development (1) **Accept any other appropriate response.**	**(4)**

Question number	Answer	Mark
2(b) (iii)	Award 1 mark for identification of a possible use of a flood risk map and further mark for an explanation of the use, up to a maximum of 3 marks. The geology map could have been used to investigate the lithology of the coastline (1) providing context on the reasons for the landforms at the coastline (1) which could be used to support the primary data collected when explaining the reasons for the conclusions from the investigation (1). **Accept any other appropriate response.**	**(3)**

Question Number	Answer	Mark
3(a)	**No credit for naming the presentation technique.** Award 1 mark for identification of a possible presentation technique and further mark for an explanation of how the technique, up to a maximum of 2 marks. To present the environmental quality data the students could have used a radar chart (1) then overlaying these on a base map to show the changes along the transect (1). To present the land use survey the students could have used a base map to colour code the three categories (1) allowing for identification of the dominant land use at the different survey sites (1). **Accept any other appropriate response.**	(2)

Question number	Indicative content
3(b)	**AO3 (4 marks)/AO4 (4 marks)** **This question requires candidates to evaluate the 'reliability' and 'accuracy' of the fieldwork methods conducted by the student in Figure 3.** **Reliability** – candidates should consider the extent to which the measurements taken by the student were conducted in a consistent way. **Accuracy** – candidates should consider the extent to which the measurements taken were closest to the true value, affected by the equipment used. Candidates may demonstrate AO3 and AO4 through the following examples: • The environmental quality survey was conducted by different students at each of the survey sites **(AO4.1d – communicating findings),** possibly leading to a less accurate survey of the environmental quality of the urban area due to variations in the student's perceptions **(AO3.1d – making judgements)**, which could have been improved with the same student completing the survey at each of the sites to reduce the chance of variations between the scores and improve the reliability of the method **(AO3.1d - making judgements).** • The land use survey was conducted by walking along one street in the town recording each of the three categories present **(AO4.1d - communicating findings)**, whilst this was conducted in a consistent way at each of the survey sites, the decisions on the category that each building was placed in was subjective and may not have been accurately recorded **(AO3.1d – making judgements).** The students would have benefitted from comparing their decisions with other groups and confirming with their teacher on the day the data was collected **(AO31.d – making judgements).**

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3) • Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4)
Level 2	4–6	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity, using relevant geographical terminology occasionally. (AO4)
Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity, and uses relevant geographical terminology consistently. (AO4)

Question Number	Answer	Mark
4(a)	**No credit for naming the presentation technique.** Award 1 mark for identification of a possible presentation technique and further mark for an explanation of how the technique, up to a maximum of 2 marks. To present the data from the questionnaire the students may have used a divided bar chart (1) which were overlayed on a base map to indicate how people's views changed between the survey sites (1). To present the pedestrian count the students could have created proportional arrows (1) which were overlayed on a base map to allow the identification of comparisons between the different survey sites (1). **Accept any other appropriate response.**	**(2)**

Question number	Indicative content
4(b)	**AO3 (4 marks) / AO4 (4 marks)** **This question requires candidates to evaluate the 'reliability' and 'accuracy' of the fieldwork methods conducted by the student in Figure 4.** **Reliability** – candidates should consider the extent to which the measurements taken by the student were conducted in a consistent way. **Accuracy** – candidates should consider the extent to which the measurements taken were closest to the true value, affected by the equipment used. Candidates may demonstrate AO3 and AO4 through the following examples: • The pedestrian count was conducted for 2 minutes at each of the sites surveyed **(AO4.1d - communicating findings)**, whilst this was conducted in a consistent way at each of the sites the count was only conducted on one day, which may not produce the most accurate representation of the footfall **(AO3.1d – making judgements).** The students would have benefitted from conducting the pedestrian count on another occasion to improve the method **(AO3.1d – making judgements).** • The students asked a minimum of five people at each of their survey sites, using a random sampling strategy (**AO4.1d – communicating findings)** whilst this may have helped to reduce any potential bias, the views gathered by the student may not be fully representative. (**AO3.1d – making judgements)**

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3) • Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4)
Level 2	4–6	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity, using relevant geographical terminology occasionally. (AO4)
Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity, and uses relevant geographical terminology consistently. (AO4)

Question number	Answer	Mark
5(a)	**A** 560 million	(1)

Question number	Answer	Mark
5(b)	Award 1 mark for each point identified, up to a maximum of 2 marks: Damage/ disruption to wildlife habitats (1) Loss/ damage to crops/ agricultural land (1) Cliff collapse (1) **Accept any other appropriate response.**	(2)

Question number	Answer	Mark
5(c)	Award 1 mark for the attempted addition (either through writing every single number or the calculation of the correct total) and the division of the data - 930 + 6550 + 522 = 8002 + / 3 (1) Plus, 1 mark for the correct answer written to the nearest whole number – 2667km (1)	(2)

Question number	Answer	Mark
5(d)	Award 1 mark for each identification of an impact and a further mark for explanation of each impact, up to a maximum of 4 marks. Coastal flooding causes damage to road and rail networks (1) disrupting people's daily commute (1). Coastal flooding causes damage to people's homes (1) resulting in costly repairs (1). **Accept any other appropriate response.**	(4)

Question number	Answer	Mark
5(e)	Award 1 mark for the identification of an approach to managing flooding (coastal and river landscapes), and a further mark(s) for explanation of how this protects coastlines/ river environments, up to a maximum of 3 marks. Sea walls (1) cause the waves energy to be reflected back to the sea (1) preventing the wave from toppling over the wall (1) Channel straightening (1) removes the natural bends in a river (1) to increase the flow of water away from potential areas at risk (1) **Accept any other appropriate response.**	**(3)**

Question number	Indicative content
5(f)	**AO2** • The risks associated with coastal flooding are increasing which is causing issues for people's lives and local economies that rely on coastal landscapes. • The number of properties at risk of coastal flooding has been steadily increasing with houses, businesses, roads, railways and farmland all exposed to coastal flooding. • There are many policies and practices that governments and organisations have attempted to implement through Shoreline Management Plans to protect people and properties living near coastlines. • The direct damage from coastal flooding costs the UK over £260 million every year. By 2080, it is believed that this figure could rise significantly if trends in sea level rise continue as expected. **AO3** • Changes to coastal landscapes from coastal defences have altered the natural processes along many of the UK coastlines, which is putting coastal communities under increasing risk if future sea level rise continue as predicted. • Future protection of coastal landscapes to reduce the potential risk of coastal flooding will not necessarily be financially viable for many of the communities that require the protection. This will lead to difficult decisions for communities and governments involved. • People living near coasts are provided with no insurance or compensation for their losses connected with coastal flooding, creating difficulties for people to adapt or relocate to reduce the risks posed by the floods. **AO4** • Figure 5a illustrates the changes in total expenditure from 2010 – 2021. Overall, spending is expected to increase, with expenditure at £690 million in 2010/11 compared with £750 million by 2020/21. • Figure 5b demonstrates the importance of increased expenditure linked to the evidence shown in Figure 5a with the risk of coastal flooding to large numbers of properties, roads and agricultural land. • Figure 5c illustrates the costs associated with implementing shoreline management plans across the regions of England with the highest costs expected in the Southern region between 2005-2105. • Figure 5d demonstrates the expected changes in the rates of erosion following 'no active intervention' applied to the coasts of England. Highest rates of erosion are anticipated to be along the eastern and south west coastlines. • Figure 5e illustrates the changes to mean sea levels since the 1900s with a clear trend of sea level rise as a result of global warming. • Figure 5f demonstrates the variations in views held about the protection of England's coastlines from stakeholders.

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–4	● Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) ● Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3) ● Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (A04)
Level 2	5–8	● Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) ● Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) ● Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	9–12	● Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) ● Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) ● Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Marks for SPGST		
Performance	**Marks**	**Descriptor**
SPaG 0	0	*No marks awarded:* ● Learners write nothing. ● Learner's response does not relate to the question. ● Learner's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning.
SPaG 1	1	*Threshold performance:* ● Learners spell and punctuate with reasonable accuracy. ● Learners use rules of grammar with some control of meaning and any errors do not significantly hinder meaning overall. ● Learners use a limited range of specialist terms as appropriate.
SPaG 2	2–3	*Intermediate performance:* ● Learners spell and punctuate with considerable accuracy. ● Learners use rules of grammar with general control of meaning overall. ● Learners use a good range of specialist terms as appropriate.
SPaG 3	4	*High performance:* ● Learners spell and punctuate with consistent accuracy. ● Learners use rules of grammar with effective control of meaning overall. ● Learners use a wide range of specialist terms as appropriate.

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