

GCSE GEOGRAPHY

PAPER 3 GEOGRAPHICAL APPLICATIONS

Mark scheme

Specimen

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aga.org.uk

Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 2 with a small amount of level 3 material it would be placed in level 2 but be awarded a mark near the top of the level because of the level 3 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Assessment of spelling, punctuation and grammar (SPaG)

Accuracy of spelling, punctuation, grammar and the use of specialist terminology will be assessed via the indicated questions. In each of these questions, three marks are allocated for SPGST as follows:

- **High performance** 3 marks
- Intermediate performance 2 marks
- Threshold performance 1 mark

Qu	Part	Marking guidance	Total marks
Sect	ion A	Issue evaluation	
01	1	One mark for correctly labelling both megacities, Lagos and São Paulo . No credit if only one is labelled or if two are labelled but one is incorrect. AO4 = 1 mark	1
Car Mo 0° Equ	pic of exico City	New York Karachi Mumbai Kolkata Jakarta Jakarta	180° E -60° N -30° N -30° S -30° S
01	2	One mark for correct answer: C 6 °S 106 °E. No credit if two or more answers shaded. AO4 = 1 mark	1

01	3				6
		Level	Marks	Description	
		3	5–6	AO3 Demonstrates detailed application of	
		(Detailed)		knowledge and understanding in evaluating the	
				relative importance of economic and physical	
				factors affecting migration to cities in	
				LICs/NEEs, with supporting evidence from	
				Figure 2.	
				AO4 Communicates ideas with clarity.	
		2	3–4	AO2 Demonstrates a sound understanding of	
		(Clear)		how both physical and economic factors	
				influence migration.	
				AO3 Demonstrates clear application of	
				knowledge and understanding in evaluating the	
				relative importance of economic and physical	
				factors affecting migration to cities in	
				LICs/NEEs, with supporting evidence from	
				Figure 2.	
		1	1–2	AO2 Demonstrates limited understanding of	
		(Basic)		how physical and/or economic factors influence	
				migration. May be limited to showing	
				understanding of concept of migration by simply	
				identifying factors.	
				AO3 Demonstrates limited application of	
				knowledge and understanding in evaluating the	
				relative importance of economic and physical	
				factors affecting migration to cities in	
				LICs/NEEs.	
			0	No relevant content.	
		Indicative co	ntent		
		•		nould show some understanding or an implied	
			•	g of the balance between the importance of	
				economic factors (both push and pull) in relation to	
		_		d could use examples from the resources to nderstanding.	
				economic factors are identified in the resources	
				used to express an understanding of the key idea.	
				ted links to physical factors, so additional	
		KNOW	neuge ar	d understanding will need to be incorporated.	

		 Economic factors are often described in simple terms (employment opportunities/incomes). At the highest level responses may show understanding of broader economic multiplier ideas. The major focus in the resources is socio-economic, although links to physical factors are mentioned. In evaluating the relative importance of physical and economic factors, the expectation is that responses will consider economic factors as the dominant force. However, they may consider specific examples where the situation is more complex. Credit the idea that physical factors are more important, if substantiated. AO2 = 2 marks, AO3 = 3 marks, AO4 = 1 mark 	
02	1	One mark for correct shading for Tanzania: Lines as shown in key for 70–80% (accept hatched lines in any direction). AO4 = 1 mark	1
02	2	One mark for correct answer: A Above 90%. No credit if two or more answers are shaded. AO4 = 1 mark	1
02	3	One mark for correct answer: two / 2. AO4 = 1 mark	1

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- In some cases economic growth may be seen as more important than managing pollution.
- There is clear evidence that many LIC/NEE cities have environmental issues.
- Environmental issues can be related to domestic factors such as discharging polluted water or untreated sewage into rivers or burning fossil fuels.
- Environmental issues can be related to industry and power generation.
- Environmental issues can be related to vehicle use.
- Lack of waste facilities is creating issues in many LIC/NEE cities.
- Urban growth is not necessarily a precursor to increased environmental problems. Effective management may reduce environmental problems.

AO2 = 2 marks, AO3 = 4 marks

O3 1 Credit statements applying knowledge and understanding to interpret the selected photograph and show an awareness of the cause-effect link between one of the conditions shown and possible effect on health.

Health can be seen in a broad sense and can include physical illness/disease and accidents.

One mark for identifying the condition shown in the photograph in Figure 5, eg

- river water appears to be dirty and polluted (1)
- poorly constructed buildings may be at risk from collapse (1)
- people living on the streets in filthy conditions (1).

Second mark for developing this interpretation by suggesting the resulting effect on health:

- river water appears to be dirty and polluted, which may lead to the spread of disease (2)
- poorly constructed buildings may be at risk from collapse, which could injure or kill people (2)
- people living on the streets in filthy conditions may be at greater risk of infection (2).

AO3 = 2 marks

2

03	2				6
		Level	Marks	Description	
		3 (Detailed)	5–6	AO4 Communicates ideas with clarity	
				AO3 Demonstrates detailed application of	
				knowledge and understanding in evaluating the	
				relative vulnerability of cities in HICs and NEEs	
				to natural hazards, making detailed links	
				between content from different areas of the	
				course of study.	
		2 (Clear)	3–4	AO2 Demonstrates a clear understanding of	
		(Clear)		context (place) in relation to the question by	
				identifying and explaining the impacts of natural hazards on cities in HICs and NEEs.	
				AO3 Demonstrates some application of	
				knowledge and understanding in evaluating the	
				relative vulnerability of cities in HICs and NEEs	
				to natural hazards, making clear links between content from different areas of the course of	
				study.	
		1	4.0		
		(Basic)	1–2	AO2 Demonstrates a limited understanding of context (place) in relation to the question by	
				identifying some impacts of natural hazards on	
				cities in HICs and NEEs	
				AO3 Demonstrates limited application of	
				knowledge and understanding in evaluating the	
				relative vulnerability of cities in HICs and NEEs	
				to natural hazards, making basic links between	
				content from different areas of the course of	
				study.	
			0	No relevant content.	
		Indicative co	ntent		
		• The	question	requires candidates to make appropriate links	
				ent from different areas of the course of study.	
				nould compare the relative ability of countries to	
				espond to hazard events.	
				ay not have the same resource levels in relation to preparation.	
		-	•	itions (building quality/infrastructure/emergency	
				be poor, making LICs/NEEs more vulnerable in	
			vent of a	•	

- The secondary (longer term) impacts may be more significant in LICs/NEEs.
- There may be links to resources shortages in LICs/ NEEs.
- There may be a greater reliance on outside aid in LICs/NEEs.
- The recovery rates may vary because of a lack of resources.
- There may be observations that many LICs/NEEs are locationally more vulnerable to certain hazards.

AO2 = 2 marks, AO3 = 3 marks, AO4 = 1 mark

03	3				9
		Level	Marks	Description	[+ 3
		3 (Detailed)	7–9	AO3 Demonstrates thorough application of knowledge and understanding in evaluating the effectiveness of the chosen project in terms of socio-economic and environmental benefits.	SPaG]
				AO3 Applies knowledge and understanding to make a decision based on a wide range of supportive evidence, making detailed links between content from different areas of the course of study. AO4 Communicates findings with clarity.	
		2	4–6	AO3 Demonstrates reasonable application of	
		(Clear)	4 0	knowledge and understanding in evaluating the effectiveness of the chosen project in terms of socio-economic and environmental benefits. AO3 Applies knowledge and understanding to	
				make a decision based on a reasonable range of supportive evidence, making clear links between content from different areas of the course of study.	
				AO4 Selects appropriate information in order to support judgement.	
		1 (Basic)	1–3	AO3 Demonstrates basic application of knowledge and understanding in evaluating the effectiveness of the chosen project in terms of socio-economic and environmental benefits.	
				AO3 Applies knowledge and understanding to make a decision based on a limited range of supportive evidence, making basic links between content from different areas of the	

	course of study.	
	AO4 Selects information with some links to the judgement.	
0	No relevant content.	
Indicative content		
between conte	requires candidates to make appropriate links ent from different areas of the course of study. ng requires a thorough evaluation of the full range	

- Decision making requires an evaluation of the projects in relation to the challenges facing the city.
- There should be some clear reference to the particular socioeconomic and environmental challenges of the urban poor, rather than generic observations about improvements.
- The challenges identified throughout the exercise are effectively social and environmental, although economic development can be seen as important as stimulating individual and collective opportunities for improvement.
- Key factors identified throughout the exercise include housing quality, lack of basic facilities, air and water pollution and dealing with waste. These issues are seen in conjunction with rapid population growth and a growing number of people little in squatter/slum settlements.
- Links between these individual challenges are clearly expressed, especially in relation to health issues.
- It is evident that the challenges are huge and very difficult to manage, consequently any particular project is only likely to tackle some of the problems or a particular area of the city.
- Because of the enormity of the challenges and the limited resources available there is a need to make carefully considered judgements in relation to any proposed improvements.

AO3 = 6 marks, AO4 = 3 marks

of the data.

Spelling, punctuation and grammar (SPaG)

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

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	2
 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 	1
 No marks awarded The learner writes nothing The learner's response does not relate to the question The learner's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning 	0

Section B Fieldwork

O4 1 Credit any two techniques that might reasonably be used to collect fieldwork data in the areas shown.

2

Possibilities include:

River – techniques that address depth, width, wetted perimeter, velocity, gradient, sediment size and shape.

Urban – traffic counts, pedestrian counts, environmental quality surveys, land use mapping, building heights, photographs, field sketches.

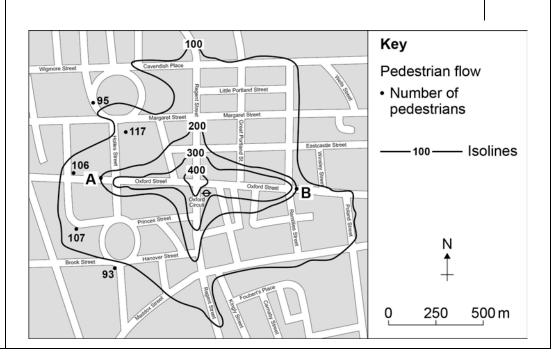
No credit given if area is not identified.

AO4 = 2 marks

One mark for accurately completing isoline for 100 pedestrians. The line must pass to the right of numbers 93 and 95 and to the left of numbers 107, 106 and 117.

1

AO4 = 1 mark



04	3	Credit statements about pedestrian flow pattern using information on the map, eg	2
		 greatest concentration of pedestrians is at junction of Oxford Street and Regent Street (1) flows elongate along these roads away from the junction (1) main flows are east—west along Oxford Street (1) uniform reduction in pedestrian flows from 400–200 stretching from junction north—south and east—west (1). 	
		Can credit answers referencing the 'target' type of pattern evident.	
		No credit for answers just listing or comparing numbers of pedestrians at particular sites.	
		AO4 = 2 marks	
04	4	Only one alternative method is required.	1
		Accept any reasonable option that shows the data and distribution, eg	
		No credit for answers such as bar graphs or pie charts as there is no spatial dimension evident for these skills.	
		AO4 = 1 mark	

04 5 Explanation must relate to accuracy.

Accept two single comments or one developed comment.

Examples of single comments

- cannot guarantee that exactly five minutes were used at each location (1)
- some students may have started counting earlier/later than they should (1)
- actual counts not accurate people missed or counted twice
 (1).

Examples of developed comments:

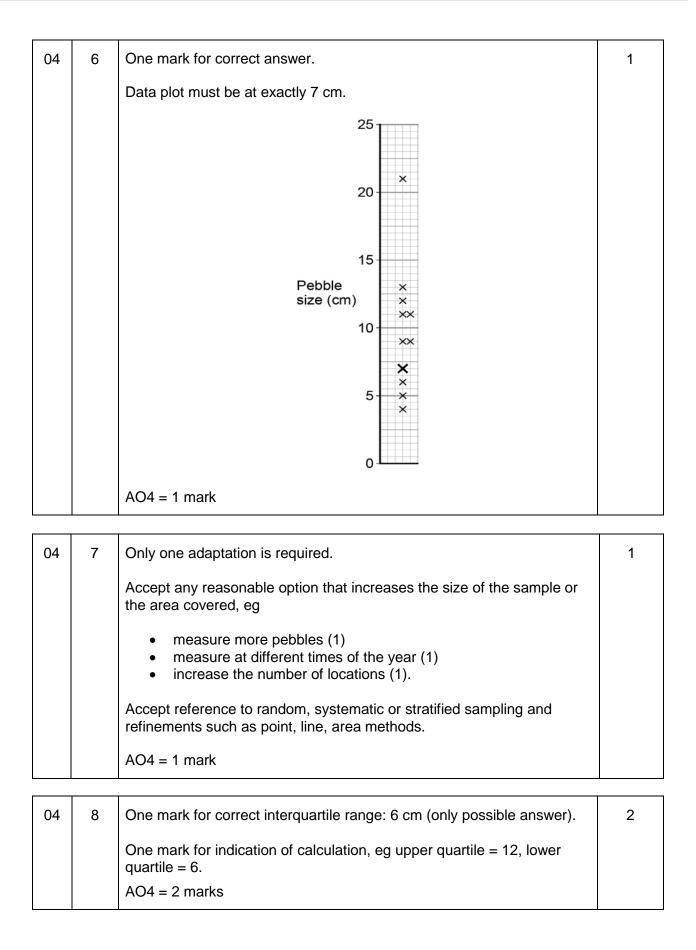
- cannot guarantee that exactly five minutes were used at each location therefore cannot make fair comparisons between sites (2)
- some students may have started counting earlier/later than they should therefore their results would be higher/lower than had they counted at the correct time (2)
- actual counts not accurate people missed or counted twice as not easy to count everyone in large group or notice that someone has crossed the location more than once (2).

No credit for answers which do not relate to accuracy of data collected, eg:

- fact that count only lasted five minutes
- time of day not known
- day of the week
- weather conditions.

AO3 = 2 marks

2



04	9	9 Level Marks Description	4		
			Description		
		2 (Clear)	3–4	AO3 Demonstrates clear application of knowledge and understanding of dispersion graphs in describing and interpreting the spread of pebble sizes.	
				AO4 Clear reference made to the data shown on the dispersion graph.	
		1 (Basic)	1–2	AO3 Demonstrates limited application of knowledge and understanding of dispersion graphs in describing and interpreting the spread of pebble sizes.	
				AO4 Basic use of data shown on dispersion graph.	
			0	No relevant content.	
		frequrangmeadegr	e of pebb sure of ce ee of clus ency – m	entral tendency – mean, median, mode stering around one of the measures of central ean, median, mode.	
05	1			vide a developed reason why the location(s) used raphy fieldwork enquiry was/were selected.	2
			or stating	an advantage with second mark for developed	
		undertaken,	but could essibility – (1) ty conside oo deep (endent upon the type of investigation being d include some of the following: - within walking distance (1), level ground (1), no erations – away from unstable cliffs (1), water level (1), water flow not fast (1)	

Second mark for developed point, eg

• range of survey points available (1).

• range of survey points available with enough variation within locality to show changes over distance (2).

Allow one mark for single reason but cannot access second mark without having a developed point.

AO3 = 2 marks

O5 Candidates need to identify the data collection method but this is not credited as it involves no justification.

3

Justifications:

- linking method to concept/theory beach sediment size linked to longshore drift
- explanation of sampling strategy clearly linked to quality/reliability of data collected
- explanation as to why questions/criteria used on questionnaires/environmental quality surveys were appropriate.

One detailed justification can earn maximum marks. One developed point along with one brief point can also earn maximum marks. Three brief statements are also creditworthy as long as they have an element of justification.

AO3 = 3 marks

05 3

6 Marks **Description** Level 5-6 AO3 Demonstrates a developed and (Detailed) balanced appreciation of the effectiveness of the components making up the named presentation technique(s). AO3 Provides a substantiated overall assessment of the effectiveness of named presentation technique(s). 2 3-4 AO3 Specific components of named (Clear) presentation technique(s) are evaluated with clear statements addressing effectiveness. AO3 Evaluation of named presentation technique(s) in terms of effectiveness is made using clear statements. 1-2 AO3 Evaluative comments relating to (Basic) specific components of presentation technique(s) are limited and vague. AO3 Evaluation of presentation technique(s) in terms of effectiveness is generic or incomplete. Example(s) of technique(s) may not be provided. 0 No relevant content.

Indicative content

The command word is 'Assess' so candidates must provide an informed judgement relating to the overall effectiveness of their presentation technique(s) by examining the constituent part of the technique(s) involved. Evaluative comments leading to the overall judgements are credited at Levels 1 and 2. Actual content will depend on the human geography fieldwork investigation undertaken and the technique(s) used. Answers may refer to:

- type(s) of presentation technique(s) used
- data presented
- variables involved and how represented, such as units and values on axes, scales employed, categories used (land-use mapping, environmental quality surveys), sectors of graphs such as pie charts, proportionality applied to data so that it could be presented on a map to show variation and distribution
- features within the presentation technique(s) will be discussed in terms of effectiveness in displaying results; sectors of bar graphs accurately showing proportion, data plots on scatter graphs clearly indicating trends in relationships between variables, clusters of colours on map indicating function of urban zones
- appropriateness may be linked to effectiveness, so that differences between continuous and discrete data and how such data should (or should not) be presented may be addressed
- overall judgements in relation to the features and the effectiveness of technique(s) used will be very clear and substantiated.

AO3 = 6 marks

9

05 4 [+3 Level Marks Description 7–9 3 AO3 Provides detailed evaluation of SPaG] (Detailed) results. AO3 Evaluates contribution made by results to the conclusion(s) reached in detail. AO3 Provides an informed judgement as to the extent to which the results contributed to reaching a reliable conclusion. 2 4–6 AO3 Provides a clear evaluation of (Clear) results. AO3 Provides a clear evaluation of the contribution made by results to the conclusion(s) reached. AO3 Makes a judgement as to the extent to which the results contributed to reaching a reliable conclusion. 1 1-3 AO3 Provides a basic evaluation of (Basic) results. AO3 Provides a basic evaluation of the contribution made by results to the conclusion(s) reached. AO3 Any judgement as to the extent to which the results contributed to reaching a reliable conclusion will be weak and generic. No relevant content.

Indicative content

- Answers should provide evaluations of the results, evaluate the contribution of these results on the conclusion(s), and then a judgement must be provided linking the results to the reliability of the conclusion(s).
- Results and conclusions will vary according to the investigation undertaken.
- Results may be evaluated in relation to accuracy, sample sizes, sampling strategies and variables that might have affected the fieldwork activities through which the results were collected. Results of river velocity methodology may have accuracy questioned as there may have been timing issues, any float used may not have had an unimpeded passage along the river

 surface, distance travelled may not have been measured accurately, not enough readings taken. Any of these factors would compromise the accuracy of the results obtained. The contribution of the results to the overall conclusion(s) will be evaluated. River velocity data was very helpful in allowing clear patterns of velocity over distance to be determined with changes in velocity being linked to gradient and other variables. A judgement linking the results to the reliability of the conclusion(s) will be made. The velocity results are not totally accurate as there were a range of factors compromising the data collection. The results were sufficient for conclusions to be reached, but these conclusions are not reliable as they are based on insecure results. 	
AO3 = 9 marks	
Spelling, punctuation and grammar (SPaG)	
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	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 	2
 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 	1
No marks awarded • The learner writes nothing	0
 The learner's response does not relate to the question 	
The learner's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning.	

