

**Geography**

Advanced GCE

Unit **F764**: Geographical Skills

**Mark Scheme for January 2011**

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Section A				
Question		Expected Answer	Mark	Rationale/Additional Guidance
1	(a)	<b>Study Fig. 1, a photograph which shows an area in which an A level geographical investigation is to be undertaken.</b>		
	(i)	<p><b>State and justify, using evidence from the photograph, an appropriate geographical question for investigation in this area.</b></p> <p>Most geographical investigations can be carried out in the area shown such as:            Physical: beach transect, drift survey, vegetation, woodland, micro-climate, footpath erosion etc            Human: tourism, place of origin, land use, pollution, environmental quality etc</p> <p>Candidates should word it as an appropriate specific question to be investigated, not just an investigation type eg Beach survey.</p> <p>Max L1 if no justification. Justification should look at why that location (using directions or features on the photograph) or area is suitable or appropriate for the testing of that hypothesis.</p> <p><b>Level 2:</b> Candidates clearly outline an appropriate question and offer a detailed justification of why the area is suitable for testing that hypothesis eg size, nature of the area, access, contrast. Clear reference made to photograph.  <b>(4-5 marks)</b></p> <p><b>Level 1:</b> Candidates outline an appropriate investigation but only offer a limited justification of why the area is suitable for investigating that question eg because it has a beach. Little, if any, reference made to photograph.  <b>(0-3 marks)</b></p>	[5]	<p>There is no credit for suggesting and explaining likely findings.</p> <p>‘Appropriate’ means ‘doable’ in such a location in the sort of time and resources A level investigations have.</p> <p>An appropriate A level standard for Level 2.</p> <p>Pure description remains in Level 1.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(ii)	<p><b>Describe and justify how you would collect the primary data needed for this investigation.</b></p> <p>There is a link between (i) and (ii) so the data collection strategy should be appropriate to the answer in (i) (if not then max L1).</p> <p>Answers may look at a number of aspects such as collection planning issues, sampling strategies, survey methods, equipment use.</p> <p>Justification should cover why these aspects are needed to ensure an effective, accurate and rigorous investigation. There may be some repetition of material used as a justification in (i).</p> <p><b>Level 3:</b> Candidates clearly describe two or more aspects of data collection strategies in depth or a wide variety in less depth. Clear justification for using this/these strategy(ies) well linked to the hypothesis outlined in (i). Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. <b>(8-10 marks)</b></p> <p><b>Level 2:</b> Candidates describe at least two aspects of data collection strategies in depth or a wide variety in less depth. Some justification for using this/these strategy(ies) with an attempt to link to the hypothesis outlined in (i). Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. <b>(5-7 marks)</b></p>	<b>[10]</b>	<p>Take care to look for primary data collection however implicit.</p> <p>Needs clear and appropriate justification to reach Level 3.</p> <p>Level 3 – detailed what and why</p> <p>Unbalanced describe/justify – probably limited justification.</p> <p>Level 2 – what and why</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<p><b>Level 1:</b> Candidates describe limited aspects of data collection strategies with limited, if any, justification for using this/these strategy(ies) with little, if any, link to the broad area of investigation outlined in (i). Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology.</p> <p style="text-align: right;"><b>(0-4 marks)</b></p>		<p>Merely quoting evidence from a(i) is a Level 1 type response. No justification. Level 1 – what or why</p> <p>If either description or justification clearly missing then max Level 1.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(b)	<p><b>Assess the value of visiting the site of an investigation before data collection.</b></p> <ul style="list-style-type: none"> <li>• To test the suitability of equipment, questionnaires etc enabling their fine tuning to what is needed</li> <li>• To identify potential hazards, problems, bottlenecks etc</li> <li>• To pre-test the data collection strategy eg type of sampling</li> <li>• To see if it can be done in that time and at that location</li> <li>• To increase the reliability</li> </ul> <p>The value might include saving time/effort, increasing reliability/accuracy of data collection, avoiding accidents, identifying the unexpected snags/limitations.</p> <p><b>Level 2:</b> Clear focus on at least two reasons for visiting the site with detailed assessment of their value. Probable use of examples to illustrate points. <b>(4-5 marks)</b></p> <p><b>Level 1:</b> Limited, if any, attempt at evaluation of the reasons for visiting the site with simplistic statements. Limited depth and little use of examples. <b>(0-3 marks)</b></p>	[5]	<p>Allow negative assessment of value. eg no value as too expensive or takes too long.</p> <p>L2 – (What and) Why</p> <p>No assessment of <b>value</b> – Focus is on description, probably generic pilot survey. L1 – What</p>
	<b>Total</b>	<b>[20]</b>	

Question		Expected Answer	Mark	Rationale/Additional Guidance
2	(a)	<p><b>Study Fig. 2, a sketch map used to show the location of a geographical investigation conducted in an inner city area.</b></p>		
		<p><b>Comment on the effectiveness of this sketch map in locating the investigation.</b></p> <p>This is an example of a poor sketch map:</p> <ul style="list-style-type: none"> <li>• No direction or scale</li> <li>• No key</li> <li>• No title</li> <li>• Unclear where the investigation is taking place</li> <li>• Few locational reference points</li> </ul> <p>So it is ineffective</p> <p>Some may suggest some positives such as clarity, ease of construction or may comment on it depending on the possible context of the investigation.</p> <p><b>Level 2:</b> Candidates clearly and accurately comment on its relative effectiveness as a locational map. Clear reference made to Fig. 2. <b>(4-5 marks)</b></p> <p><b>Level 1:</b> Candidates give a limited or inaccurate interpretation of the sketch map with little, if any, linkage to Fig. 2. <b>(0-3 marks)</b></p>	[5]	<p>Clear linkage to Fig. 2 and on its role in locating an investigation.</p> <p>No reference to locational notion – ignores fundamental flaws – scale and direction.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(b)	<p><b>Maps and photographs can both be used to show location. Compare and contrast their use in geographical investigations.</b></p> <p>Maps show a plan view so indicate scale/direction, show what persists eg road types, shows names, size, what lies behind things but tend to be dated. Maps can be of different scales, allow overlaying (eg GIS).</p> <p>Photographs (which could be oblique or aerial etc) capture an instant of time so are more current, show what is actually there at that time, show other data eg colours, names, vegetation.</p> <p>Candidates may focus more on types of use. Uses could include:</p> <ul style="list-style-type: none"> <li>• showing location, characteristics</li> <li>• presenting data</li> <li>• illustrating points</li> </ul> <p><b>Level 3:</b> Candidates clearly outline appropriate advantages of maps and photos and offer a detailed comparison of their use in geographical investigations. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. <b>(8-10 marks)</b></p> <p><b>Level 2:</b> Candidates outline appropriate advantages of maps and photos and offer a limited comparison of their use in geographical investigations. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. <b>(5-7 marks)</b></p>	<b>[10]</b>	<p>'Maps' can include maps other than OS maps.</p> <p>Higher level candidates may indicate that maps vary in scale and that there are different types of photographs.</p> <p>Clear comparison of (and link to) usage.</p> <p>May be unbalanced and two 'lists' of pros and cons given. Limited coverage of use.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<p><b>Level 1:</b> Candidates outline limited advantages of maps and photos and offer a very limited, if any, comparison of their use in geographical investigations. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology.</p> <p style="text-align: right;"><b>(0-4 marks)</b></p>		<p>Description of types of map and photos rather than related to their use in investigations.</p> <p>If either maps or photographs are clearly missing then max L1.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(c)	<p><b>Evaluate the effectiveness of flow charts for showing volumes of movement.</b></p> <p>The stress is on evaluating its effectiveness at showing volumes of movement. Evaluation could include appearance, ability to subdivide to show sub groups, ease of drawing, visual impact, ease of understanding, ability to do statistical analysis.</p> <p>Some may look at whether it follows the actual route or not and some of the problems such as routes joining.</p> <p><b>Level 2:</b> Candidates give a range of detailed points to evaluate the relative effectiveness of flow charts for representing volumes of movement supported by example(s). <b>(4-5 marks)</b></p> <p><b>Level 1:</b> Candidates give a limited or superficial descriptive outline of flow charts supported by limited, if any, evaluation of its relative effectiveness. <b>(0-3 marks)</b></p>	<b>[5]</b>	<p>Accept 'trip lines' but max L1.</p> <p>Examples could be of an investigation or what a flow chart looks like. Clear evaluation of effectiveness in showing movements. L2 - What and effectiveness</p> <p>No evaluation. Little linkage to movement. L1 - What</p>
	<b>Total</b>	<b>[20]</b>	

Question		Expected Answer	Mark	Rationale/Additional Guidance
3	(a)	<b>Study Fig. 3, scatter graphs of sediment samples from two transects of the same beach.</b>		
	(i)	<p><b>Outline what the graphs in Fig. 3 indicate about the data.</b></p> <p>The two scatter graphs suggest sample A increases in size up the beach and sample B decreases in size (positive v negative relationships). Higher level responses will go beyond this basic statement by looking at the spread of values, anomalies or even questioning the validity of the best fit lines especially sample B. Some may say they tell you very little due to sample size or that they are fairly similar.</p> <p><b>Level 2:</b> Candidates suggest appropriate and detailed characteristics well supported with clear reference to Fig 3. <b>(4-5 marks)</b></p> <p><b>Level 1:</b> Candidates suggest vague or inaccurate pieces of information with little, if any, reference to Fig 3. <b>(0-3 marks)</b></p>	[5]	<p>Candidates could achieve full marks if they do two separate accounts. There is no requirement to compare.</p> <p>Credit overall comment e.g. they conflict suggesting faulty data collection.</p> <p>Answer well linked to what graphs show. L2 has reference to graphs</p> <p>Simple response eg positive v negative. No real use of data.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(ii)	<p><b>Describe and justify the use of <u>one</u> statistical technique to investigate the difference between the two sets of data.</b></p> <p>There are a number of suitable statistical methods that can be described – chiefly Mann-Whitney or Chi squared but equally a comparison of means/modes, range or standard deviations could be used.</p> <p>Justification could be in terms of accuracy, ease of calculation, notions of degree of significance.</p> <p>Candidates are not required to regurgitate formula or to do a sample calculation. Each technique has a key stage eg ranking of data in Mann-Whitney.</p> <p><b>Level 3:</b> Candidates give a detailed description of an appropriate statistical method with a range of justification including clear reference to the nature of the samples shown. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. <b>(8-10 marks)</b></p> <p><b>Level 2:</b> Candidates give a limited description of an appropriate statistical method with some limited justification. Limited reference made to the nature of the samples shown. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. <b>(5-7 marks)</b></p>	<b>[10]</b>	<p>This is a (ii) so some reference to the sets of data in (i) is expected especially at the higher levels.</p> <p>Visual technique acceptable but unlikely to get beyond Level 2. Spearman's rank could be acceptable if they compared two results – one for each data set.</p> <p>Give limited credit for excessive 'how to do it' responses.</p> <p>L3 – What and why along with clear reference to the data set. Need clear 'justification' to reach Level 3.</p> <p>L2 – What and why the technique is used. Unbalanced between describe and justify. Limited justification.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<p><b>Level 1:</b> Candidates give a limited, inaccurate description of an appropriate statistical method with little justification. No reference made to the nature of the samples shown. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology.</p> <p style="text-align: right;"><b>(0-4 marks)</b></p>		<p>L1 - What the technique is. Largely descriptive.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
(b)	<p><b>Evaluate the usefulness of random sampling in a geographical investigation.</b></p> <p>Clear evidence is needed to demonstrate candidates do know the sampling approach but a description cannot get beyond L1.</p> <p>Random is more statistically useful for subsequent tests, so allows follow up analysis. But in theory sample selection can be duplicated or/and important subdivisions of the data missed. The need to ensure it is really random is crucial.</p> <p>There should be clear linkage to its role and usefulness in investigations especially data collection.</p> <p><b>Level 2:</b> Candidates give a clear, accurate and appropriate evaluation of the sampling method with a clear link to data collections in investigations. <b>(4-5 marks)</b></p> <p><b>Level 1:</b> Candidates give a limited evaluation with limited relevance to data collection in investigations. <b>(0-3 marks)</b></p>	[5]	<p>If clearly not 'random' there may be still some credit on the usefulness of sampling but max L1. Evaluation can be negative.</p> <p>This is a generic question but credit those basing it in a specific geographical investigation.</p> <p>L2 - Evaluation covers positive and negative aspects, but may not be balanced.</p> <p>L1 - No or weak evaluation. Largely descriptive of method.</p>
	<b>Total</b>	<b>[20]</b>	

Section B			
Question	Expected Answer	Mark	Rationale/Additional Guidance
4	<p><b>Evaluate the relative contribution of primary and secondary data to your geographical investigation.</b></p> <p>All investigations should contain both primary and secondary data but the balance will vary and their usefulness will differ with the nature of the investigation and candidates should clearly say why that balance for theirs. Clear distinction between the types of data is needed.</p> <p>Primary is original, focused on what you are investigating, current but may be inaccurate and unreliable.</p> <p>Secondary is often more reliable and accurate (but not always – depends on source etc) but is often ‘average’ so lacks immediacy and may have a different focus. Be aware that the specification also includes formulae and textbooks as secondary data.</p> <p>They often have different uses – secondary can be used as a comparative.</p> <p>If no titled investigation stated then max Level 1. If little connection between their title and the evaluation (ie largely generic) then max low Level 2. Credit detailed evidence of an individual investigation.</p> <p><b>Level 3:</b> Candidates evaluate in detail the relative usefulness of the two types of data for their named investigation. Cause and effect are clear and realistic. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. <b>(16-20 marks)</b></p>	[20]	<p>The difference between primary and secondary data is set out in the specification but accept the more traditional definition of primary data.</p> <p>If no secondary (or primary) used then they must justify why not.</p> <p>No credit given for how data collection could be improved.</p> <p>Evaluation goes beyond the overall level of success of investigation into the <b>relative</b> contributions of both types of data. Level 3 requires both types to be evaluated well.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<p><b>Level 2:</b> Candidates evaluate the relative usefulness of the two types of data for their named investigation. Some cause and effect are attempted. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. <b>(10-15 marks)</b></p> <p><b>Level 1:</b> Candidates offer limited, if any, evaluation of the two types of data for their named investigation. No real cause and effect and much is descriptive. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. <b>(0-9 marks)</b></p>		<p>Max Level 2 if only one type of data is evaluated well. 'Usefulness' is evaluated in a limited way.</p> <p>Largely descriptive of the data and/or the investigation and methods.</p>
	<b>Total</b>	<b>[20]</b>	

Question	Expected Answer	Mark	Rationale/Additional Guidance
5	<p><b>Evaluate the success of your investigation and suggest how it could be improved.</b></p> <p>Clearly this will vary with the nature of their investigations.</p> <p>Evaluation could include its effectiveness at providing proof or evidence for the hypothesis or aim of their investigation or it may take the form of a list of its limitations such as:</p> <ul style="list-style-type: none"> <li>• Unreliable and inaccurate data collection eg faulty equipment</li> <li>• Poor conditions eg weather</li> <li>• Inaccurate data analysis</li> <li>• Group dynamics</li> <li>• Poor title/question</li> </ul> <p>Improvements might be wholesale eg adopt a new question or may be a series of ways of offsetting the limitations eg work in pairs. Either way they should be appropriate to the investigation.</p> <p>Reference to feedback loops is a high level response.</p>	[20]	<p>Evaluation is stage 6 of an investigation. Candidates should see it as not just evaluating the methodology. Answers can include the evaluation of any stage, for instance the title.</p> <p>Caution: an entirely negative evaluation is unlikely to get to Level 3.</p> <p>Clear cause and effect here.</p> <p>May integrate evaluation and improvement.</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<p>There is no requirement for the two aspects of the question to be balanced but if one clearly missing then max L1.</p> <p>If no titled investigation stated then max Level 1. If little connection between their title and the evaluation (ie largely generic) then max low Level 2. Credit detailed evidence of an individual investigation.</p> <p><b>Level 3:</b> Candidates describe and evaluate in detail the relative success of their investigation with appropriate and detailed ways of improving it. Tight and appropriate linkage to their investigation. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. <b>(16-20 marks)</b></p> <p><b>Level 2:</b> Candidates describe and evaluate in limited detail the relative success of their investigation with appropriate ways of improving it. Clear linkage to their investigation. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. <b>(10-15 marks)</b></p> <p><b>Level 1:</b> Candidates offer largely description with little, if any, evaluation of the success of their investigation with few or inappropriate ways of improving it. Limited, if any, linkage to their named investigation. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. <b>(0-9 marks)</b></p>		<p>Overall evaluation linked to title/ underlying concept being investigated AND two or more of the individual stages. Relative success is explained. Strong reference to their individual investigation.</p> <p>Unbalanced between evaluation and improvements. Overall evaluation linked to title/ underlying concept being investigated OR one or more of the individual stages. Evaluation is limited in depth and range of aspects and may only concentrate on methodology.</p> <p>Descriptive account of the investigation.</p>
	<b>Total</b>	<b>[20]</b>	
	<b>Paper Total</b>	<b>[60]</b>	

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