OCR
Oxford Cambridge and RSA

GCE

Geography

Unit **F764:** Geographical Skills

Advanced GCE

Mark Scheme for June 2014

1.   Annotations used in the detailed Mark Scheme

Annotation	Meaning of annotation
BP	Blank Page – this annotation **must** be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
∧	Omission mark. Further development needed, missing point or link between points.
L1	Level one.
L2	Level two.
L3	Level three.
?	Unclear, inaccurate, dubious validity.
IRRL	Irrelevant, a significant amount of material that does not answer the question
NE	No example(s) used or provided.
R	Rubric Error (place at start of Question not being counted).
(squiggle)	Highlighting an issue eg irrelevant paragraph. Use in conjunction with another stamp eg IRRL or ∧
EVAL	For use to identify areas of evaluation or justification
Highlighter	Use if attention is needed to that point – negative, positive or key
SEEN	Point has been seen and noted.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
1	(a)		**Study Fig. 1, a flow chart drawn by an A Level student to show the results from an investigation into commuting from Chelmsford.** **Comment on the effectiveness of Fig. 1 in showing patterns of commuting from Chelmsford.** Candidates may see this as focusing on flow charts as a method of showing commuting flows and/or in showing the pattern of commuting from Chelmsford. Candidates should recognise that this method has some plus points: • shows relative size of movement • shows direction • easy to read But equally: • it is over simplified • doesn't indicate routes or distance • not easy to read values • why are Southend and Basildon combined? • no orientation or scale • no date/time	5	At least one positive and one negative comment for top of level 2. Generic answer on flow charts unlikely to get into L2.	**Level 2 (4–5 marks)** Candidates comment in detail on both positive and negative features of the effectiveness of the method. Clear reference to Fig. 1. **Level 1 (0–3 marks)** Candidates offer a limited or unbalanced evaluation of the effectiveness. Limited, if any, reference made to Fig. 1.

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(b)	**Evaluate the factors influencing the selection of equipment to be used in an investigation.** Factors could include: • the nature of the investigation/data • the location • their availability • the level of skill needed to use it/them • cost • time available • safety issues • level of accuracy • robustness or size • reliability • used it before Evaluation should look at their relative importance in the selection process. There is no requirement to exemplify but this could help illustrate a factor. This is a general question so is not based on their own fieldwork although many may refer to it.	10	Either a wide range of factors or two or three points in depth. L3 distinguished from L2 on clarity of linkage to the selection of equipment and clear attempt at some evaluation (i.e. which factor(s) is the most important is a key L3 indicator). If no clear reference to an investigation then max 8. Can get to top L2 with appropriate selection factors but no evaluation. Answers that are largely descriptive and/or evaluative of the equipment are unlikely to reach L1 max.	**Level 3 (8–10 marks)** Candidates offer a detailed range of factors and evaluate them with clear linkage to an investigation. Clear cause-effect between factor and choice of equipment. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (5–7 marks)** Candidates offer some of the factors and evaluate them with linkage to an investigation. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. . **Level 1 (0–4 marks)** Candidates offer few factors with no evaluation and little linkage to an investigation. Answer has little structure and has some errors in grammar and spelling. Little use of geographical terminology.

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	(c)		**Why is it often advisable to repeat the collection of data at different times of the year?** Answers could be very practical or philosophical. Repeating ensures accuracy, reliability and that it is representative – it increases the sample size. It ensures seasonal changes are identified e.g. plant types, tourism. Collection conditions may change e.g. weather, river flow.	5	A single well developed reason can gain a max. L2 answer is likely to be exemplified. An undeveloped single idea e.g. seasonal differences unlikely to get into L2. Linkage to times of the year weak or non-existent.	**Level 2 (4–5 marks)** Candidates give a clear and detailed explanation of why collection of data should be repeated at different times of the year. **Level 1 (0–3 marks)** Candidates give a limited or vague explanation of why collection of data should be repeated at different times of the year.

Question			Answer/Indicative Content	Marks	Guidance	
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2	(a)		**Study Fig. 2, a photograph of an area where an A Level geographical investigation is to be undertaken.**			
		(i)	**State and justify, using evidence from the photograph, an appropriate geographical question or hypothesis for investigation in this area.** Most geographical investigations can be carried out in the area shown such as: Physical: beach transect, drift survey, vegetation, woodland, cliff erosion, micro-climate, footpath erosion. Human: tourism, place of origin of visitors, land use, pollution, environmental quality. Candidates should word it as an appropriate specific question to be investigated, not just an investigation type e.g. beach survey. 'Appropriate' means 'doable' in such a location in the sort of time & resources A level investigations have. 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.	5	Max L1 if no justification. Generic justification e.g. 'measurable' is acceptable but more a L1 response. No requirement for hypothesis to be stated in statistical terms.	**Level 2 (4–5 marks)** Candidates clearly outline an appropriate question and offer a detailed justification of why the area is suitable for testing that hypothesis e.g. size, nature of the area, access, contrast. **Clear reference made to Fig. 2.** **Level 1 (0–3 marks)** Candidates outline an appropriate investigation but only offer a limited justification of why the area is suitable for investigating that question e.g. because it has a beach. Little, if any, reference made to Fig. 2.

Question			Answer/Indicative Content	Marks	Guidance	
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		(ii)	**Describe and justify how you would collect the primary data needed for this investigation.** 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). Most will describe the methods but answers may describe a number of aspects such as collection planning issues, sampling strategies, survey methods, equipment use. Justification should cover why these aspects and/or methods are needed to ensure an effective, accurate and rigorous investigation.	10	Needs clear and appropriate justification to reach Level 3. Can get to top L2 with appropriate detailed description but no justification.	**Level 3 (8–10 marks)** Candidates clearly describe data collection strategy in depth or a wide variety in less depth. Clear justification for using this/these strategy(s) well linked to the hypothesis outlined in (i). Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (5–7 marks)** Candidates describe data collection strategies or a variety in less depth. Some justification for using this/these strategy(s) 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. **Level 1 (0–4 marks)** Candidates describe limited aspects of data collection strategies with limited, if any, justification for using this/these strategy(s) 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.

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						If either description or justification clearly missing then max Level 1.
					Primary data does not require defining but do not credit clearly secondary data.	
	(b)		**Evaluate the use of Spearman's Rank Correlation Coefficient to test the relationship between two sets of data.** Candidates may approach this in two different ways: - the pros and cons of this method of analysis - the reasons why one would test for correlations Pros include: - easy to calculate - avoids real values (extremes) by using ranks - gives significance/strength of answer - gives direction of relationship Cons include: - easy to slip up in calculation - avoids real values - problem if a lot of tied ranks - doesn't explain correlation - needs a minimum number of values - not accurate as Product moment No credit for simply stating the formulae and its application.	5	At least one positive and one negative comment. Evaluation may be supported with example(s) at L2.	**Level 2 (4–5 marks)** Candidates evaluate the use of Spearman's with both positives and negatives. **Level 1 (0–3 marks)** Candidates offer limited or one sided evaluation. Much will be vague or largely descriptive of the method.

Question			Answer/Indicative Content	Marks	Guidance	
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3	(a)		**Study Fig. 3, pictograms showing differences in vegetation cover in two areas.**			
		(i)	**Outline what Fig. 3 indicates about the vegetation cover of the two areas.** This is an invitation to interpret what the pictograms are showing about the differences within each area such as: • Area A has over 50% trees and shrubs and grass are equal at 13% each. • Area B has few conifers and is over 50% deciduous and shrubs. And between the two areas such as: • Area A is more wooded, has more conifers and grass but both have the same cover of deciduous. Some credit can be given to appropriate explanation of the nature of the two areas.	5	Clear reference to the Fig. in terms of reading and comparing value but list of figures max 3. Some overview is required at L2. A description and/or commentary on the technique is likely to be max top of L1.	**Level 2 (4–5 marks)** Candidates give detailed comments on the differences between and within each area. Clear reference to Fig. 3. **Level 1 (0–3 marks)** Candidates give vague or limited comments on the pictogram in showing the data. Limited reference to Fig. 3.

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		(ii)	**Evaluate <u>two</u> alternative ways of showing such data.** This is looking at ways such percentage data could be shown: • bar charts – divided or other • pie charts • other more accurate proportional symbols • locating on a base map using pie , bars etc • other – but they would need to be backed up with clear relevance for such % data Evaluation may consider both positive e.g. visual impact and negative e.g. difficulty of measuring the exact % or evaluate in a comparative way. Located methods such as dot maps, kite diagrams are inappropriate.	10	Credit attempts to show drawings of techniques – it counts as description. Needs to be clearly linked to 'such' data (i.e. %) to get into L3. L3 probably distinguished from L2 on range and depth of evaluation. Purely a description of presentation method is probably a L1 response. Think 6/4 max split of marks. [NB. If more than two ways then only credit first two]	**Level 3 (8–10 marks)** Candidates clearly evaluate in detail two alternative ways. There is clear linkage to percentage data such as that in Fig. 3. **Level 2 (5–7 marks)** Candidates offer some evaluation of two alternative ways – although they are likely to be unbalanced at this level. There should be some linkage to percentage data such as that in Fig. 3. **Level 1 (0–4 marks)** Much may be descriptive with little, if any, evaluation. Much will be superficial with little, if any, linkage to percentage data such as that in Fig. 3.

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	(b)		**Explain <u>two</u> ways of increasing the accuracy of data collected in an investigation.** Accuracy – the level at which data is exact and free from error. There are many ways – expect: • high quality equipment • use of secondary data • repeat measurements • same individual does measuring • use of pilots • use of GIS • more groups measuring same variables • use of experts e.g. teachers • improve questions in questionnaire Others may widen the evaluation to look at strategies e.g. type of sampling, planning and even choice of investigation.	5	Explanation of how these ways increase accuracy is expected at L2. The two ways do not have to be balanced but if clearly only one way then max top L1.	**Level 2 (4–5 marks)** Candidates explain in detail two ways in which accuracy can be increased. Clear understanding shown of the terms. **Level 1 (0–3 marks)** Candidates give a limited or superficial explanation of two ways in which accuracy and reliability can be increased with little, if any, linkage to investigations.

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In section B answers please do not credit what could have been done + answers should demonstrate some sense of the real investigation in a particular location to achieve at the highest level.						
4			**To what extent did the design and application of your sampling strategy produce representative results?** This requires an evaluation of the design and application of the sampling strategy used. As such it has two components: 1. The initial design (plan and selection): Higher level responses may consider each of the elements of sampling: • size of sample • unit of sampling e.g. linear • type e.g. systematic 2. and then how it worked during the investigation e.g. practical considerations such as accessibility, problems with equipment. Higher level answers may distinguish design from application but this is not required. Higher level responses will link to whether the data then collected was truly representative of the whole population.	20	Clear evaluation of the extent with explanation of why is expected at this level. Clear focus on representative of the area/data population. L3 distinguished from L2 on depth of evaluation and link to the notion of representative. Lower level responses will probably outline the advantages and disadvantages of their sampling methods rather than evaluate their design and application.	**Level 3 (16–20 marks)** Candidates evaluate in detail the extent to which the design and application of their sampling method produced representative results. Cause and effect are clear and realistic. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (10–15 marks)** Candidates evaluate the extent to which their sampling method produced useful results. 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. **Level 1 (0–9 marks)** Candidates offer limited, if any, evaluation of the extent to which their sampling method had an impact on their results. No real cause and effect and much is descriptive. Answer has little structure and has some errors in

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			Use of a pilot to refine the design stage can be seen as part of this process.			grammar and spelling. Little use of geographical terminology. If no titled investigation stated then max level 1.
5			**Assess the effectiveness of the strategies you used to minimise risks in your investigation.** Clearly this depends upon the nature of their investigation but risk can be seen in the broadest sense of both: Risks to the people doing the investigation and/or Risk of the investigation failing e.g. equipment failing and/or The risk to the local environment e.g. damaging rare plants and/or Producing anomalous results. Most candidates will focus on risk assessment as an overarching strategy with a clear recognition that this involves	20	Cause and effect are key – i.e. how and why did that particular strategy reduce or modify that particular risk to the people or the investigation. Higher level answers may consider risks to the accuracy or reliability of data collection. Detailed description with a balance of assessment. Strategies likely to be of 'share phone numbers' type, and evaluation of 'this worked well' type can get into L2. Description with some assessment/ evaluation. Largely descriptive with little or no assessment/ evaluation. Low level responses are likely to consider more extreme risks such as being mugged, drowning.	**Level 3 (16–20 marks)** Candidates evaluate in detail the effectiveness of the strategies they used in their named investigation to reduce risks. Cause and effect are clear and realistic. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (10–15 marks)** Candidates offer some evaluation of the effectiveness of the strategies they used in their named investigation to reduce risks. Some limited cause and effect. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. **Level 1 (0–9 marks)** Candidates offer no evaluation of the effectiveness of the strategies they used in their named investigation to reduce risks. No real cause and effect and much is descriptive of their data. Answer has little structure and has some errors in grammar and spelling.

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			severity and likelihood of a hazard or risk. Then individual strategies may be developed ranging from the generic: • working in a group • having a mobile phone • taking a first aid kit to more specific ones suited to the nature of that investigation.		This is not an answer requiring a list of equipment or methodology.	Little use of geographical terminology. If no titled investigation stated then max level 1.

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