OCR
Oxford Cambridge and RSA

GCE

Geography

Unit **F764:** Geographical Skills

Advanced GCE

Mark Scheme for June 2016

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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).
	Highlighting an issue eg irrelevant paragraph. Use in conjunction with another stamp eg IRRL or ^
SEEN	Point has been seen and noted.

Examiners **must** include annotations on each response in Section A questions.

In Section B, each page of writing **must** have some annotation.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
1	**(a)**		**Fig. 1 shows a matrix used by students to help choose a suitable sampling strategy for an investigation into vegetation cover changes with distance inland from high tide.** **What would be the most appropriate sampling strategy for their investigation? Justify your choice.** The survey is one of changing plant cover (which could include overall % cover, species type, height of plants) with distance so the unit may be linear or area and the type systematic (although stratified could be justified in terms of sub regions). Justification should link to ease, practicality and logic of the strategy so: Systematic = samples at regular intervals at increasing distance from the hwm. Linear unit – a transect from the hwm in a straight line. Area – using a quadrat to sample the degree of cover	5	L2 should recognise that they need to comment on both type and unit of sampling and link justification to the type of investigation. Max L1 if only one aspect considered however well justified. Both aspects stated but only one justified – max top L1.	**Level 2 (4–5 marks)** Candidates identify an appropriate strategy (both aspects) with clear reference to Fig. 1. Good justification, of both aspects, of why that strategy is suitable. **Level 1 (0–3 marks)** Candidates offer a partial or inappropriate strategy with limited, if any, reference made to Fig. 1. Justification is limited or inaccurate

Question			Answer/Indicative Content	Marks	Guidance	
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	(b)		**Evaluate factors influencing the choice of techniques used to present data collected in an investigation.** Factors could include: • the nature of the investigation • the type of data e.g. areal • availability of ICT • the level of skill needed to use it/them • visual impact on viewer – e.g. colour • time available • level of detail and accuracy • suitability for follow up statistical tests e.g. scatter graphs Evaluation should look at their relative importance in the selection process. There is no requirement to exemplify with a specific investigation but this could help illustrate a factor and may influence where in the Level it is. 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 the technique and clear attempt at **evaluation.** Answers with no evaluation can reach top of L2 if more than one factor developed. Answers that are largely descriptive of the techniques are unlikely to reach L1 max. One factor well evaluated can not get out of L1.	**Level 3 (8–10 marks)** Candidates offer a detailed range of factors and evaluate them with clear linkage to an investigation. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (5–7 marks)** Candidates offer at least two of the factors. 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. Answer has little structure and has some errors in grammar and spelling. Little use of geographical terminology.

Question			Answer/Indicative Content	Marks	Guidance	
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	(c)		**Why is it important to identify anomalies in the data collected for an investigation?** Answers could be very practical or philosophical. Anomalies are bits of data that do not fit the overall pattern. They are important as they: • may suggest that there are other factors at work • suggest some areas/items do not fit the overall pattern • may indicate errors in data collection and/or its measurement • affect accuracy and reliability of the data • may prevent statistical analysis being accurate • may reduce validity of results	5	Linkage to data collected in an investigation weak or non-existent. Simply taking out an anomaly must be justified to be creditworthy.	**Level 2 (4–5 marks)** Candidates give a clear and detailed explanation of why anomalies need to be identified in sets of data. **Level 1 (0–3 marks)** Candidates give a limited or vague explanation of why anomalies need to be identified in sets of data.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
2	**(a)**		**Fig. 2 shows a photograph of an area in which students plan to carry out a tourism survey.**			
		(i)	**Using the photograph, suggest the risks that the students should take into consideration when planning their investigation.** There are several obvious risks in this photo: • The very sharp bends in the road with limited pavement • The bushes in the foreground near a large open area away from settlement could hide someone • Danger at high tide • Steep relief • Danger of traffic as little parking There are more generic risks that can be identified such as: • Weather extremes • Traffic • Legal restrictions on access • Risks to accurate data collection • Inter personal issues • Getting lost • Risks to reliability of data	5	A range could be 2 or 3 risks in depth linked to investigations or more at a more superficial depth. Candidates may be thin on why they are risks at L1 or offer generic list of risks.	**Level 2 (4–5 marks)** Candidates clearly identify a range of relevant risks in this area which goes beyond the generic. Clear reference made to photograph A. **Level 1 (0–3 marks)** Candidates outline a limited range of risks in this area which probably does not go beyond the generic. Little, if any, reference made to photograph A.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
		(ii)	**How would you ensure the effectiveness of risk reduction strategies for this tourism survey?** There are a number of common risk reduction strategies used in investigations such as: • Pilot surveys • Using secondary data e.g. maps to identify hazards • Risk assessment that considers severity and likelihood of a risk Others may take individual risk reduction strategies such as: • Working in groups • Taking mobile phones • Having a first aider with you • Wearing sensible footwear and clothes – Hi Vis vests The key instruction is to ensure effectiveness so some appreciation of this is expected at the highest level.	10	For the highest level at least two different risk reduction strategies need explaining in detail. Clear link to 'tourism survey'. Top L3 can be expected to consider 'ensure'. . Some reference to tourism survey required	**Level 3 (8–10 marks)** Candidates explain in detail the effectiveness of risk reduction strategies with a clear reference to tourism survey. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (5–7 marks)** Candidates offer some explanation of the effectiveness of risk reduction strategies probably in an unbalanced way and some reference to tourism survey. 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 risk reduction strategies with limited, if any, explanation of their effectiveness. Little or no reference to tourism survey. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
	(b)		**Give two reasons why it is important to base an investigation on a geographical concept or model.** There are a number of reasons why investigations should be based on a model, concept or geographical theory: • It provides the explanatory framework • It provides a tested way of looking at the topic • It provides a norm or average against which your findings can be compared • It provides a context/focus – helps shape questions and hypotheses • Helps select data needed • It creates questions/hypothesis	5	Exemplification may indicate top L2 answers. One well developed reason can reach top L1. **Reminder: if more than two then first two reasons should be marked (indicate extra reasons using IRRL)**	**Level 2 (4–5 marks)** Two appropriate reasons developed in detail **Level 1 (0–3 marks)** Candidates offer limited or unbalanced reasons with little detail.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
3	**(a)**		**Fig. 3 shows bi-polar scales used in an environmental quality survey by a group of students.** **Assess the effectiveness of using this bi-polar scale to measure environmental quality.** This is an attempt to make a qualitative survey produce quantifiable results but it has a number of limitations: • There is no middle value which forces a + or – decision (this could be an advantage or disadvantage) • No division for unsure/can't tell • Difficult to define or measure criteria e.g. quiet v noise • How do individuals ensure that they agree e.g. on what is quiet • Numbers have no intrinsic value • Scale seems reversed for Noise • Limited range of points and elements. There are clear strengths: • It is visual • It is simple, quick, easy	5	An unbalanced evaluation can still get into L2 but there should be both sides (limitations and strengths) of its effectiveness for max. A description of the technique is likely to be max top of L1.	**Level 2 (4–5 marks)** Candidates give detailed evaluation of the effectiveness of such a technique in measuring environmental quality. Clear reference to Fig. 2. **Level 1 (0–3 marks)** Candidates give vague or limited comments on the effectiveness of such a technique in measuring environmental quality. Limited reference to Fig. 2.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	Levels of response
	(b)		**Why is the use of questionnaires rarely effective in collecting reliable primary data?** This may refer to postal questionnaires but most will see it as referring to face to face questionnaires. There are many limitations to the effectiveness of questionnaires: • Ensuring there is a full cross section of the population • Often biased • Time it takes • Question design • When and where to ask your questionnaire • Minimum number needed • Respondents give you the answer they think you want	10	L3 probably distinguished from L2 on the relationship of effectiveness to reliability. Purely a description of questionnaire design or layout probably a L1 response. Answers that only focus on why questionnaires are effective are not answering the question so at best can achieve top L1	**Level 3 (8–10 marks)** Candidates clearly explain in detail the effectiveness of questionnaires in collecting data from the general public. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (5–7 marks)** Candidates offer some explanation of the effectiveness of questionnaires in collecting data from the general public although they are likely to be unbalanced at this level. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. **Level 1 (0–4 marks)** Much may be descriptive with little, if any, explanation of the effectiveness. Much will be superficial. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	**Levels of response**
	(c)		**Evaluate the use of the Mann-Whitney U test in the analysis of data.** This is used to test if two sets of data are significantly different. It compares the medians. It uses ranks of two sets of data. Advantages: • it can compare two unequal sets of data • It is used on unpaired data • It also uses a table of significance to indicate whether there is a significant difference But it is a complex formula and calculation and then needs a table of significance. It can only be applied to two sets of data. Data is assumed to be non-parametric, ordinal and is limited in sample size.	5	Evaluation should acknowledge both pros and cons but these may be unbalanced. Max L1 if only consider pros or cons but not both.	**Level 2 (4–5 marks)** Candidates evaluate in detail the use of the Mann-Whitney test. Clear understanding of its use is demonstrated. **Level 1 (0–3 marks)** Candidates give a limited or superficial evaluation. Answers are largely descriptive. If clearly not Mann-Whitney then no credit.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	Levels of response
4			**'Primary data is always more useful in an investigation than secondary data.' Evaluate this statement for your investigation.** This requires an evaluation of the relative importance of the two types of data in **their** investigation. It is possible (but unlikely) that one type was not used but this would need justification. (secondary also includes maps, formula, geographical models, experts etc) **Primary:** • Real on that day/time • You own it and know how it was collected • Relevant to that location and task • Up to date • cheap But: • Often not accurate as simple equipment/method used • Once-off data • Lack of sufficient labour **Secondary:** • Accurate and reliable • Gives norms or average • Useful source for background or context • Supportive e.g. maps • Can't get it any other way e.g. census	20	L3 distinguished from L2 on depth of evaluation and reference to its comparative **usefulness** in their investigation. Some elements of comparison of the two types of data. Largely descriptive of the two types of data – lacks comparison. Only one type of data considered.	**Level 3 (16–20 marks)** Candidates evaluate in detail the extent to which primary data was more useful in their investigation than secondary data. 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 primary data was more useful in their investigation than secondary data. 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 primary data was more useful in their investigation. Answer has little structure and has some errors in grammar and spelling. Little use of geographical terminology. If no titled investigation stated then max level 1. Purely generic reference to investigation throughout indicates a L1 answer.

Question			Answer/Indicative Content	Marks	Guidance	
					Content	Levels of response
			But: • Can be unreliable • Out of date or location different • Don't know how it was collected • Difficult to find or costly • Over complex data Some may choose to do this stage by stage of the investigation.			

Question			Answer/Indicative Content	Marks	Guidance	
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5			**Assess the extent to which your investigation was successful and suggest how you would improve it.** Relative success should link back to the original question or hypotheses. In evaluation of success a discussion of strengths and limitations can be expected. Improvements can include: • Having a better question or hypothesis • Repeating the investigation at a different time or location • Using a better sampling strategy • Increasing sample size • Changing data collection method • Using better equipment • Finding new or further sources of data (secondary) • Organisational improvements • More careful analysis • Taking longer over measurements The key is that these improvements should demonstrate how they would improve their specific investigation.	20	Balanced between success and improvements. Detailed link of specific improvements to specific limitations in the success of the investigation. Unbalanced between success and improvements. Success may be implied. One element (success/improvement) is likely to be missing. Improvements at this level will probably be largely generic. Typical of this level would be a list of problems encountered or a description of the investigation.	**Level 3 (16–20 marks)** Candidates evaluate in detail the extent of the relative success of their investigation and suggest a range of appropriate ways of improving it. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **Level 2 (10–15 marks)** Candidates evaluate the extent of the success of their investigation and suggest some appropriate ways of improving it. 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 evaluation of the extent of the success of their investigation and suggest few ways of improving it. Answer has little structure and has some errors in grammar and spelling. Little use of geographical terminology. If no titled investigation stated then max level 1. Purely generic reference to investigation throughout indicates a L1 answer.

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