GCE

Geography

Advanced GCE

Unit **F764:** Geographical Skills

Mark Scheme for June 2011

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of pupils of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, OCR Nationals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support which keep pace with the changing needs of today's society.

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.

Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

Section A					
Question			**Expected Answer**	**Mark**	**Rationale/Additional Guidance**
1	**(a)**		**Study Fig. 1, a photograph of an area in which an A Level geographical investigation is to be undertaken.**		
		(i)	**State and explain, using evidence from the photograph, the possible risks to the people carrying out an investigation in this area.** Whole range of physical risks: falling in the river, dead branches falling, slipping on slopes but also there are risks of access (fencing + scrub) remoteness. 'Explain' means why it is a risk or back it up with evidence from the photograph and prove it is a relevant hazard to people carrying out the investigation. **Level 2:** Candidates suggest either two risks in detail of carrying out an investigation in the area or more than two but with little detail. Clear reference made to photograph and explanation offered. **(4-5 marks)** **Level 1:** Candidates suggest two limited or one detailed risk(s) of carrying out an investigation in this area. Limited, if any, reference made to photograph. No or little explanation. **(0-3 marks)**	**[5]**	It is not easy to refer to evidence in the photograph so credit those that attempt this eg 'in the foreground'. 'Possible' risks – no credit for unlikely ones eg 'terrorists' etc do not credit risks not evident to the photo eg thunderstorms. As the question refers to 'risk to the people', risks of collecting inaccurate data should not be credited. Risks well referenced to the photograph. No reference to photograph. All generic risks.

Question			Expected Answer	Mark	Rationale/Additional Guidance
		(ii)	**Describe and explain how the risks identified could be managed.** Clearly this depends to some extent on the nature of the risks identified in (i). Answers may be quite general ie the idea of a risk assessment or very specific eg don't stand under a dead tree. Many may be obvious eg always have a mobile phone with you but these should be tied into a particular risk or set of risks. There may be a focus on balancing the likelihood of it happening with the severity if it did. There are some risks so unlikely that it's not worth the effort to plan for them. **Level 3:** Candidates offer a detailed description and explanation, covering a wide range of aspects, with valid strategies well linked to identified risks. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **(8-10 marks)** **Level 2:** Candidates offer an unbalanced description/explanation – probably the latter less detailed, covering a range of aspects, with valid strategies linked to identified risks. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. **(5-7 marks)** **Level 1:** Candidates offer a limited, if any, description/explanation, covering few of the aspects, poorly linked to identified risks. Answer has little structure and has some errors in grammar and spelling. Limited use of geographical terminology. **(0-4 marks)** If either description or explanation clearly missing then max Level 1.	**[10]**	Be hard on generic solutions e.g. 'tell them not to' – unlikely to get into Level 3 or extreme safety e.g. hard hats. May well combine describe and explain. Depth or range of aspects acceptable. This may be very relevant depending on the choice of risks in a (i). Do credit doing a risk assessment. Clear cause/effect. Generic description of risk assessment process.

Question			Expected Answer	Mark	Rationale/Additional Guidance
	(b)		**Evaluate the effectiveness of proportional symbols to show data on a map.** Proportional symbols are used to show values where there are some large values amidst smaller ones. Their area or volume is made proportional to the value. They could be two dimensions eg circles or three eg spheres They are very effective at showing data but can be used to give misleading images, are time consuming as they require calculations, difficult to draw and locate. Producing a scale is especially difficult. **Level 2:** Clear focus on the use of proportional symbols with a detailed evaluation. Probable use of examples to illustrate points. **(4-5 marks)** **Level 1:** Limited, if any, attempt at evaluation of the use of proportional symbols, with simplistic descriptive statements. Limited depth and little, if any, use of examples. **(0-3 marks)**	**[5]**	There is no requirement to use examples so can gain max without any. If **clearly** don't know what 'proportional symbols are' then Level 1 max. Clear evaluation of effectiveness – both negative and positive. Very generic answer that could apply to any symbols not just proportional ones.
			Total	**[20]**	

Question			Expected Answer	Mark	Rationale/Additional Guidance
2	(a)		**Study Fig. 2, a land use map showing the sampling points planned for a geographical investigation.**		
		(i)	**State and justify a geographical hypothesis which would be appropriate for investigation in this area.** Most physical geographical investigations can be carried out in the area shown such as: Vegetation transect, river catchment survey, micro-climate, footpath erosion etc. Human investigations are less likely but could include land use patterns, pollution surveys. Candidates should word it as an appropriate hypothesis to be tested not just an investigation type eg Rivers. Max Level 1 if no justification. Justification should look at why that location (using the Fig.) or area is suitable or appropriate for the testing of that hypothesis. Equally justification may look at why it is worth investigating linking this to a model or range of equipment available. **Level 2:** Candidates clearly outline an appropriate hypothesis 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 Fig. 2. **(4-5 marks)** **Level 1:** Candidates offer a vague hypothesis with limited relationship to the area shown. Justification is limited or is absent. **(0-3 marks)**	**[5]**	There is no need for the hypothesis to be stated in statistical terms. Accept a question for investigation, but it must be appropriate for the area shown in Fig. 2 ie not urban. Accept answers where the candidates do not refer to the use of the sample points shown. Justification linked to Fig. 2. – it may be implicit. Simple title offered – not really hypothesis or question.

Question			Expected Answer	Mark	Rationale/Additional Guidance
		(ii)	**Comment on the advantages and disadvantages of using the sampling strategy shown in Fig. 2.** This is an example of point sampling. It is quick and simple to do. There are 17 sample points of which only 5 sample anything other than farmland. It is not purely systematic. A stratified sample would have given a fairer sampling of such varied land use. Answers could include some reference to the sample unit (points), method (e.g. systematic) and scale. Candidates may refer to sample size, proportion of points in the various land uses. Advantages of sampling can include: Easy Quick Coverage Unbiased – not influenced by data Disadvantages: Interval may miss something Can't use it for statistical inference (non-parametric) **Level 3:** Candidates clearly and accurately comment on a balance of advantages and disadvantages of both the method and unit used. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **(8-10 marks)**	**[10]**	Credit if candidates argue that it is pragmatic as dots are not totally systematic or suggest they may be an attempt at stratified. Accept accounts of point sampling. Some attempt made to comment e.g. mentioning pragmatic aspects such as the difficulty of measuring within the marsh. Clear reference made to Fig.2 would demonstrate strong Level 3; especially the number of points relative to the land uses.

Question			Expected Answer	Mark	Rationale/Additional Guidance
			Level 2: Candidates give a sound commentary on advantages and disadvantages, which may not be balanced, of the method with some reference to Fig. 2. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. **(5-7 marks)** **Level 1:** Candidates give simplistic descriptive statements, often as a one-sided or inaccurate interpretation of the advantages and disadvantages of the sampling strategy with little, if any, linkage to Fig. 2. Sample method type is inaccurate. Answer has little structure and has some errors in grammar and spelling. Limited use of geographical terminology. **(0-4 marks)**		List of advantages/disadvantages of the identified sampling strategy. Largely descriptive of the sampling strategy.

Question	Expected Answer	Mark	Rationale/Additional Guidance
(b)	**State and explain <u>two</u> factors which could influence the effectiveness of using questionnaires in a geographical investigation.** This is a generic question about questionnaires and is more about their use than the pros and cons of their layout etc. The latter is L1. Higher level responses may suggest why questionnaires are suitable for gathering certain types of information but their effectiveness may vary with: • Sampling strategy • Is it written (eg postal) or verbal • Conditions in which it is asked eg weather • Its length • Target audience • Its timing. But also candidates may question whether opinions are objective. Often respondents give the answers they think the questioner wants. Another approach is to look at the conditions in which it was asked eg who was asked. **Level 2:** Two factors are clearly stated and explained. Candidates give two or more detailed points well explained for each factor to evaluate the relative effectiveness of using questionnaires as a tool for investigations. **(4-5 marks)** **Level 1:** Up to two factors are stated. Candidates give simplistic descriptive statements often with a superficial outline of one or more points. Limited, if any, explanation of the relative effectiveness of using questionnaires as a tool for investigations. **(0-3 marks)**	**[5]**	If more than two - credit the best two. Well grounded in its effectiveness. Vague and largely descriptive.
	Total	**[20]**	

Question			Expected Answer	Mark	Rationale/Additional Guidance
3	(a)		**Study Fig. 3, a triangular graph used to compare the employment structures of five towns.**		
		(i)	**Outline what the graph indicates about the employment structure of the five towns.** It shows 3 variables and clearly 4 towns are quite similar around 10% Primary, 30-40% Secondary and 50-60% Tertiary. Town five is clearly an anomaly having more secondary employment. There should be clear reference to the figure. An alternative approach is a generic one about showing three variables on the same figure. Again clear reference to the figure is expected **Level 2:** Candidates suggest appropriate and detailed pieces of information well supported with clear reference to Fig. 3. Anomaly clearly recognised as such. **(4-5 marks)** **Level 1:** Candidates suggest vague or inaccurate pieces of information with little, if any, reference to Fig. 3. No reference to anomaly. **(0-3 marks)**	**[5]**	There is no need to go into explaining the balance in employment. This is not a question about how you draw and plot values on it. No evidence quoted from Fig 3.

Question			Expected Answer	Mark	Rationale/Additional Guidance
		(ii)	**Describe and justify <u>two</u> alternative ways of presenting such data.**	[10]	
			There are a number of alternative approaches eg divided bars or rectangles, pie charts, tables. Description may largely be in the form of an example figure.		If more than two then credit the best two.
			The discrimination will come in the level of justification offered. They should say the pros (and cons) of their chosen methods eg visual impact, ease of drawing, ability to compare easily.		Better answers will contrast their ways with Fig. 3.
			Level 3: Candidates give a detailed description of two appropriate alternatives with a range of justification of each of their appropriateness including clear reference to plotting three variables. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **(8-10 marks)**		Clear focus on 3 variable plotting. Two ways described and justified.
			Level 2: Candidates give a description of two appropriate alternatives with some justification for selection and each of their appropriateness. Some reference made to plotting three variables. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. **(5-7 marks)**		Unbalanced describe/justify. One well done but the other limited (or not attempted) or two methods with basic description/justification.
			Level 1: Candidates give a limited, inaccurate description of one or two alternatives with little or no justification. No reference made to plotting three variables. Answer has little structure and has some errors in grammar and spelling. Limited use of geographical terminology. **(0-4 marks)**		Largely descriptive. Neither method is convincing.

Question			Expected Answer	Mark	Rationale/Additional Guidance
	(b)		**Evaluate the usefulness of <u>one</u> statistical measure of dispersion used to analyse data collected in a geographical investigation.** This could be a basic measure such as range, interquartile, or more technical such as standard deviation. Some techniques could not be used eg Mann-Whitney, Spearman's etc There should be clear linkage to its relative usefulness and the analysis of data ie taking the raw data further eg as preparation for other tests, aiding comparisons etc. **Level 2:** Candidates give a clear evaluation of an appropriate statistical measurement with a balance of pros and cons and with clear relevance to dispersion and the analysis of collected data. **(4-5 marks)** **Level 1:** Candidates give simplistic descriptive statements with limited evaluation. Answers lack balance and have limited relevance to dispersion or the analysis of collected data. **(0-3 marks)**	**[5]**	If inappropriate measure then no credit. Accept purely graphical measure but max Level 1 unless some appropriate statistical annotation. Evaluation may be negative, and say why it is difficult or inappropriate, or positive. Higher level responses will look at both aspects. There is no requirement to quote formula or show calculations. Clear understanding of dispersion and why we need to measure it. Largely descriptive.
			Total	**[20]**	

Section B					
Question			Expected Answer	Mark	Rationale/Additional Guidance
4			**Evaluate the strategies used in your geographical investigation to ensure accuracy and reliability of data collected.** Candidates may give an evaluation of the extent to which strategies and background preparations (such as hypotheses selection, planning – timing, location - data collection methodology) were made robust to ensure accuracy and reliability, as well as an evaluation of the appropriate fieldwork techniques and equipment used. Candidates could evaluate accuracy and reliability in one or more of the first three stages of an investigation. **Level 3:** Candidates evaluate in detail the extent to which the development of strategies for their named investigation are designed to maximise accuracy and reliability. Cause and effect are clear and realistic. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **(16-20 marks)**	**[20]**	'Strategies' is open to wide interpretation. Descriptions of what was done to carry out the investigation are unlikely to get beyond Level 1. No credit for improvements. If only negative evaluation present then maximum Level 2. No credit for referring to Stages 4 to 6. If little connection between their title and the evaluation (ie largely generic) then max low Level 2. Credit detailed evidence of an individual investigation. Top level candidates may point out, with reasons, that 100% accuracy/reliability is unlikely to be achievable. Evaluation well linked to ensuring accuracy and reliability of data collected. Goes beyond merely repeating data collection. The key discriminator within L3 is the ability to recognise that accuracy and reliability are different so may need different strategies.

Question			Expected Answer	Mark	Rationale/Additional Guidance
			Level 2: Candidates evaluate the extent to which the development of strategies for their named investigation are designed to maximise accuracy and reliability. 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. **(10-15 marks)**		Not well focused on data collected. Very much the 'we repeated the measurements' type answer.
			Level 1: Candidates offer largely description with limited, if any, evaluation of the development of strategies for their named investigation and how these strategies are designed to maximise accuracy and reliability. No real cause and effect and much is descriptive. Answer has little structure and has some errors in grammar and spelling. Limited use of geographical terminology. **(0-9 marks)**		Descriptive of the investigation. Likely to focus on planning and methodology with limited reference, if any, to both accuracy and reliability. Limited evaluation of strategies as such.
			If no titled investigation stated then max Level 1.		
			Total	**[20]**	

Question			Expected Answer	Mark	Rationale/Additional Guidance
5			**Describe and explain the outcomes of your data analysis.** Clearly this will vary with the nature of their investigations. It does require the candidates to be clear on the need to both describe (such as the reference to: patterns, anomalies, figures) and explain. Credit use of maps/diagrams to illustrate these. Explanation –may be based on the concept/model they were testing but then any anomalies have to be explained. Cause and effect need to be clearly articulated in explaining the findings eg pattern(s). Anomalies may be linked to problems/inaccuracies with equipment, measurement, recording etc or more fundamental factors such as locational or temporal factors. If little connection between their title and the evaluation (ie largely generic) then max low Level 2. Credit detailed evidence of an individual investigation. **Level 3:** Candidates describe and explain in detail a range of outcomes with clear reference to patterns (and anomalies identified) in their data analysis. Clear cause – effect. Tight and appropriate linkage to their investigation. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. **(16-20 marks)**	**[20]**	The focus is on the outcomes not the process. Many may blur results with conclusions. There is no requirement to have done a statistical analysis. There is no requirement to quote formula or show method of working. No credit for improvements or overt evaluation of the investigation. Clear description i.e, trends, data, statistical outcomes etc. Clear focus on explaining outcomes. At Level 3 expect more than eg 'the Burgess model explains the outcomes' type answer. Some development of 'why' is needed.

Question			Expected Answer	Mark	Rationale/Additional Guidance
			Level 2: Candidates describe and explain in limited detail a range of outcomes identified in their data analysis. Some cause – effect. Clear linkage to their investigation. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. **(10-15 marks)** **Level 1:** Candidates offer largely description with little, if any, explanation of the outcomes of their data analysis. Limited, if any, linkage to their investigation. Answer has little structure and has some errors in grammar and spelling. Limited use of geographical terminology. **(0-9 marks)** If no titled investigation stated then max Level 1.		Unbalanced describe/evaluate – limited link to outcomes. Possibly blurs results with conclusions. Credit could be given for a description of the data analysis. Largely descriptive of the investigation or a limited explanation.
			Total	**[20]**	
			Paper Total	**[60]**	

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

14 – 19 Qualifications (General)
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553