

New
Specification



Rewarding Learning

ADVANCED
General Certificate of Education
2017

Geography
Assessment Unit AS 3

assessing

Fieldwork Skills and Techniques in Geography

[SGG31]

WEDNESDAY 31 MAY, MORNING

MARK
SCHEME

General Marking Instructions

Introduction

The main purpose of the mark scheme is to ensure that examinations are marked accurately, consistently and fairly. The mark scheme provides examiners with an indication of the nature and range of candidates' responses likely to be worthy of credit. It also sets out the criteria which they should apply in allocating marks to candidates' responses.

Assessment objectives

Below are the assessment objectives for GCE Geography.

Candidates should be able to:

- AO1:** Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change at a variety of scales.
- AO2:** Apply knowledge and understanding in different contexts to analyse, interpret and evaluate key concepts, information and issues.
- AO3:** Use a variety of relevant methods, and techniques to:
- investigate geographical questions and issues;
 - analyse, interpret and evaluate data and resources; and
 - construct arguments and draw conclusions.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 17- or 18-year-old which is the age at which the majority of candidates sit their GCE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 17- or 18-year-old GCE candidate.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Marking calculations

In marking answers involving calculations, examiners should apply the 'own figure rule' so that candidates are not penalised more than once for a computational error. To avoid a candidate being penalised, marks can be awarded where correct conclusions or inferences are made from their incorrect calculations.

Types of mark schemes

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response

In deciding which level of response to award, examiners should look for the 'best fit' bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement.

The following guidance is provided to assist examiners.

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Quality of written communication

Quality of written communication is taken into account in assessing candidates' responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is basic.

Level 2: Quality of written communication is good.

Level 3: Quality of written communication is excellent.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1 (Basic): The candidate makes only a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 (Good): The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning clear.

Level 3 (Excellent): The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is widespread and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a sufficiently high standard to make meaning clear.

General Descriptions for Marking Criteria

Knowledge and Understanding	Skills	Quality of Written Communication	Level
The candidate will show a wide-ranging and accurate knowledge and a clear understanding of the concepts/ideas relevant to the question. All or most of the knowledge and understanding that can be expected is given.	The candidate will display a high level of ability through insightful analysis and interpretation of the resource material with little or no gaps, errors or misapprehensions. All that is significant is extracted from the resource material.	Excellent quality of written communication. The candidate will express complex subject matter using an appropriate form and style of writing. Material included in the answers will be relevant and clearly organised. It will involve the use of specialist vocabulary and be written legibly and with few, if any, errors in spelling, punctuation and grammar.	3
The candidate will display an accurate to good knowledge and understanding of many of the relevant concepts/ideas. Much of the body of knowledge that can be expected is given.	The candidate will display evidence of the ability to analyse and interpret the resource material but gaps, errors or misapprehensions may be in evidence.	Good quality of written communication. The candidate will express ideas using an appropriate form and style of writing. Material included will be relevant and organised but arguments may stray from the main point. Some specialist terms will be used and there may be occasional errors in spelling, punctuation and grammar. Legibility is satisfactory.	2
The candidate will display some accurate knowledge and understanding but alongside errors and significant gaps. The relevance of the information to the question may be tenuous.	The candidate will be able to show only limited ability to analyse and interpret the resource material and gaps, errors or misapprehensions may be clearly evidenced.	Basic quality of written communication. The candidate will have a form and style of writing which is not fluent. Only relatively simple ideas can be dealt with competently. Material included may have dubious relevance. There will be noticeable errors in spelling, punctuation and grammar. Writing may be illegible in places.	1

- 1 (a) Candidates need to display an awareness of health and safety when planning and conducting fieldwork. There are two things to do here. With reference to one specific hazard associated with their fieldwork investigation, candidates must discuss:
- how the hazard/risk was identified, perhaps through the completion of a risk assessment or a pre-site visit; and
 - a precise and detailed contingency (not to be confused with minimisation strategy) that was made in the event of an accident in the field.

Identification of Risk [2]

Award [2] for the identification of a specific hazard which is discussed with precision and in the context of the candidate's own fieldwork.

Award [1] for a less detailed response which may relate to a more general hazard with more tenuous links to fieldwork.

Contingency Planning [2]

Award [2] for a contingency which is discussed with precision and in the context of the candidate's own fieldwork.

Award [1] for a less focused response. The contingency may appear less plausible or may only have tenuous links with the fieldwork. Alternatively, the candidate may deal with a minimisation strategy.

(2 × [2]) [4]

- (b) (i) Mark breakdown is as follows:

- Title [1]: must be specific and accurate.
- Conventions [2]: for labelling of axes (variables and units):
 - inclusion of key (if appropriate);
 - for correct identification of dependent and independent variables; and
 - for scaling of graph to encompass all values or inappropriate scaling.
- Accuracy [3]: for accurate plotting of data selected from table.
- Method [1]: for selection of an appropriate graphical representation method (e.g. a line graph will require a continuous variable).

Annotate as follows:

T = [1]

C = [2]

A = [3]

M = [1]

[7]

- (ii) As requested in the question, the method described must relate to data presented in the completed graph.

Award [0] for an answer not worthy of credit.

If the selected variable has two components and only one is addressed, maximum Level 2.

Level 3 ([4]–[5])

The candidate provides a detailed and accurate methodology with explicit references to actual equipment, if relevant, and techniques employed in the field. Quality of written communication is excellent.

Level 2 ([2]–[3])

An accurate but less detailed response. The methodology may be relatively sound with some minor gaps in the procedure described. Quality of written communication is good.

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Level 1 ([1])

A simplistic, inaccurate or incomplete methodology. Answers which only describe a relevant sampling method will be limited to this level. Quality of written communication may be basic. [5]

(iii) Description

Trend [1]; Values [1]

Explanation

Level 2 [3]–[4] for an explanation which incorporates thorough geographical reasoning, relevant theoretical concepts and specialist terminology. Quality of written communication is excellent.

Level 1 [1]–[2] for a less detailed explanation. The answer may make limited reference to relevant geographical theory or use of specialist terminology. Quality of written communication may be basic. [6]

- (c) Answers will vary depending on the fieldwork undertaken and the factors selected. Candidates are required to critically review their primary data collection in relation to the factor selected and explain how it may have influenced, positively or negatively, the data collected and the conclusions reached. Hypothetical: maximum [2]

Reliability of Data Collected [3]

Award up to [3] for a critical evaluation of the chosen factor's influence, either positive or negative, on the reliability of data collected in the field. There should be clear and convincing references to the candidate's own fieldwork investigation.

Award [1]–[2] for a less detailed response. The evaluation may be restricted and/or may lack explicit references to the candidate's own fieldwork investigation.

Nature of Geographical Conclusions [1]

Award [1] for a clear and compelling link to the reliability of the geographical conclusion reached as a result of the influence of the chosen factor.

Maximum [2] for a response based exclusively on hypothetical scenarios. ([3] + [1] × 2) [8]

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- 2 (a) (i) Award up to [4] for the calculation.
Award up to [2] for comment on statistical significance.

Calculation [4]

$$r_s = 1 - \frac{6 \times 1223.5}{16^3 - 16} \quad [2]$$

$$1 - \frac{7341}{4080} \quad [1]$$

$$1 - 1.799 = -0.799 \quad [1] \quad \text{allow } -0.8$$

Comment on Statistical Significance [2]

The relationship between female enrolment in education and Total Fertility Rate is negative [1], statistically significant [1] at the 99% level [1]. Accept 99.9% [6]

- (ii) Any two from three if comment relates to their own wrong answer, accept. As the rate of female enrolment in education increases, the Total Fertility Rate of the country decreases. Uneducated females are more likely to marry young and have children at a younger age. Consequently, their reproductive window is longer and they have more children on average. Educated females, by contrast, are more likely to prioritise their careers, delay marriage and have fewer children on average. Any statistical reasons should not be credited.

Award [3]–[4] for a detailed answer which provides at least two detailed geographical reasons.

Award [1]–[2] for a less detailed answer which provides only one detailed reason or two basic reasons. [4]

- (b) (i) The mode is 8% [1]. In this data set the mode is an extreme value and, therefore, provides a poor representation of the centre of the data set. For example, it provides a poor representation of those countries where a large proportion of the urban population live in informal settlements (e.g. Bolivia, 43.5%) [2]. Maximum [1] for a purely theoretical explanation. [3]

- (ii) [3] for an appropriate key, i.e. at least four categories [1] with shading graded from dark (highest values) to light (lowest values) [1]. All values incorporated correctly with no overlapping values [1]

[4] for 13 correctly shaded countries.

[3] for 9–12 correctly shaded countries.

[2] for 5–8 correctly shaded countries.

[1] for 1–4 correctly shaded countries. [7]

- (iii) Possible limitations include:

- Oversimplification may have occurred. Choropleth maps present an area as having a uniform value range and therefore fail to present possible intra-regional variations.
- Choropleth maps often provide striking contrasts at regional boundary zones, which can be unrealistic. [2]

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- (c) (i) Candidates must use the satellite images provided to help them describe the changes in sea surface temperature associated with the 1997 El Niño in the Equatorial Pacific Ocean. In December 1996 the highest sea surface temperatures of 30 °C and over were recorded in the Western and Central equatorial Pacific Ocean. By December 1997 temperatures in the Eastern equatorial Pacific Ocean had increased from approximately 20 °C to 28 °C. In December 1997, temperatures in the Western Pacific Ocean were close to the monthly average whereas temperatures in the Eastern Pacific Ocean were over 4 °C higher than the monthly average.

Award [3]–[4] for an answer which thoroughly describes the changes in sea surface temperature associated with El Niño. Candidates should make full use of Resource 2E and Resource 2F and use data from the resources to support the description. Maximum [3] if Resource 2F is omitted.

Award [1]–[2] for a less detailed answer. Descriptions may be basic and may make no use of figures from Resource 2E or Resource 2F. Maximum [2] if Resource 2E is omitted [4]

- (ii) Candidates must state and explain two uses of satellite imagery in geographical studies. Award [1] for identification of their use and [1] for explanation, twice.

Examples include, but are not limited to, the following:

- Satellite images are used in urban planning [1] to assist with land use classification and to monitor rates of urban sprawl [1].
- Satellite images allow for the assessment of natural disasters and their impacts [1], such as the monitoring of volcanic emissions or the impact of tsunamis on coastlines [1].
- Satellite images are used in river management [1]. They are used to monitor changes in the river's course (e.g. meanders) and to monitor river flooding and its impacts [1].

This is not a definitive list. Mark each suggestion on its individual credibility.

(2 × [2])

[4]

30

Total

60

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