



## **General Certificate of Education**

# **Geography 6036**

## *Specification B*

**GGB6      Unit 6**

# **Mark Scheme**

*2007 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

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## GENERAL GUIDANCE FOR GCE GEOGRAPHY ASSISTANT EXAMINERS

### General Instructions to Examiners on Marking

It is important that every Examiner marks the scripts to the same standard as the rest of the panel. All Examiners must operate the Marking Scheme in a similar and consistent manner, and hence, they must all participate in the application of that scheme at the Standardisation Meeting. In particular they should take careful note of all decisions taken or changes made at the meeting. Examiners are allocated to a Team Leader for the period of examining, and any difficulties that arise should be discussed with that person.

### The Marking Scheme

The Marking Scheme consists of two sections for each question or sub-question – the Notes for Answers and the Mark Scheme itself.

#### Notes for Answers (NFA)

These indicate the possible content for the various sections of the question paper. In some cases (for example short answer questions) the NFA may indicate the only response that is acceptable, but in many cases they indicate either a range of suitable responses, or an exemplar of the type of response required. Therefore, in most cases the NFA do **not** provide model answers, and should not be regarded as such. More NFA may be added at the standardisation meeting if it is felt by the Principal Examiner that details of appropriate ways of answering the question have been omitted.

#### The Mark Scheme

This is provided in italics and provides the instructions to Examiners as to how they are to assess the work of candidates. The number of marks allocated within the mark scheme to a question should correspond to the number of marks for that question on the question paper.

There are two ways in which the Mark Scheme operates:

- (a) it indicates how the marks to short answer questions are to be allocated – usually to a maximum of 4 marks.
- (b) it indicates how Examiners should move through the Levels in a level response mark scheme – usually to all questions of 5 marks or more. Each Level has a levels descriptor, with clear statements of the “triggers” to move candidates from one level to another. Each Level contains a range of marks as shown on the Mark Scheme.

A number of features have been used to distinguish between Levels, for example:

- a number of characteristics, reasons, attitudes etc.
- the degree of specification, for example the use of specific case studies, or accurate detail
- responses to more than one command word, for example, describe and suggest reasons
- the degree of linkage between two aspects of the question
- the depth of understanding of a concept.

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## The Marking Process

A sample of an Examiner's marked scripts will be marked again by a Senior Examiner according to the procedures set out by the Board. Also the scripts may be re-examined at the Awards Meeting and the subsequent Grade Review. Therefore, it is most important that Examiners mark clearly according to the procedures set out below.

- All marking should be done in red.
- The right-hand margin should be used for marks only.
- The overall mark for a question must be ringed at the end of the answer.
- The total mark for the question must be transferred to the front of the script.
- The left-hand margin is where an indication of the level achieved is written. Comments and codes (see below) may also be written on the left.
- Indications of the levels achieved may also occur in the body of the answer if this is easier for the Examiner to apply (e.g. in the marking of diagrams).
- Ticks should be used for short answer responses and Level I responses only, with one tick representing one mark (to the maximum allowed in a Levels scheme).
- Levels II, III and IV should be indicated with a Roman II, III or IV on the script, and this symbol should be used each time this Level is achieved. Examiners may wish to bracket an area of text where this level of response has been achieved.
- Once a candidate has reached Level II, additional Level I credit should be indicated using a + symbol. If these points are of sufficient quality **one additional mark** can be awarded (assuming no further Level II points are made).
- Examiners may indicate strong Level II or III material by writing "Level II (or III) – good" in the left hand margin of the script. The Examiner should ensure that this is reflected in the **awarding of an appropriate number of marks** at the end of the answer.
- Level III is to be used only for questions of 9 marks or more, and Level IV is to be used only for questions of 25 marks in total.

## Other Mechanics of Marking

- Underline all errors and contradictions.
- Cross out irrelevant sections using a line from top-left to bottom right. (However, be careful to check that there is no valid material, however brief, in the mass of irrelevance).
- Indicate repeated material with "rep".
- Other useful marking codes can be used, for example, "va" for vague, "NQ" or "Not Qu." for failure to answer the question, "Irrel" for irrelevant material, and "SIF" for self-penalising material.
- Put a wavy line in the left-hand margin to indicate weak dubious material.
- If the rubric is contravened, mark all answers but count only the best mark towards the candidate's total mark for the script. Put the mark for the question on the front of the script in the usual way, but also write "RAM Rubric" on the front of the script.
- Large areas of text must not be left blank – use the wavy line or write "seen" alongside the text. All pages must have an indication that they have been read, especially supplementary sheets.
- Unless indicated otherwise always mark text before marking maps and diagrams – do not give double credit for the same point made in the text and a diagram.

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**Quality of Language Descriptors**

The following descriptors concerning the quality of language must be applied to **all** questions in which candidates are required to produce extended writing. To attain full marks available at a level of response, the appropriate Quality of Language descriptor must be achieved. Use the same quality of language levels as are used in the geographical element of the mark scheme under consideration.

**Three-level descriptors**

- |                |   |
|----------------|---|
| <b>LEVEL 1</b> | <ul style="list-style-type: none"> <li>• Style of writing is suitable for only simple subject matter.</li> <li>• Expression of only simple ideas, using a limited range of specialist terms.</li> <li>• Reasonable accuracy in the use of English.</li> </ul>   |
| <b>LEVEL 2</b> | <ul style="list-style-type: none"> <li>• Manner of dealing with subject matter is acceptable, but could be improved.</li> <li>• Reasonable clarity and fluency of expression of ideas, using a good range of specialist terms, when appropriate.</li> <li>• Considerable accuracy in the use of English.</li> </ul> |
| <b>LEVEL 3</b> | <ul style="list-style-type: none"> <li>• Style of writing is appropriate to subject matter.</li> <li>• Organises relevant information and ideas clearly and coherently, using a wide range of specialist vocabulary, when appropriate.</li> <li>• Accurate in the use of English.</li> </ul>                        |

**Two-level descriptors**

- |                |   |
|----------------|---|
| <b>LEVEL 1</b> | <ul style="list-style-type: none"> <li>• Manner of dealing with subject matter is acceptable, but could be improved.</li> <li>• Reasonable clarity and fluency of expression of ideas, using a good range of specialist terms, when appropriate.</li> <li>• Considerable accuracy in the use of English.</li> </ul> |
| <b>LEVEL 2</b> | <ul style="list-style-type: none"> <li>• Style of writing is appropriate to subject matter.</li> <li>• Organises relevant information and ideas clearly and coherently, using a wide range of specialist vocabulary, when appropriate.</li> <li>• Accurate in the use of English.</li> </ul>                        |

**Question 1 (a)**

**Notes for answers**

The answer should establish the main aim and purpose of the investigation. This could be to test out textbook or classroom theory in the real world; or it could be to study an environment, e.g. to investigate the changes in characteristics along the course of a drainage channel. The hypothesis should be clearly stated in the correct form; the research question should show clearly what is to be studied and tested. Each should develop out of the aim of the study.

*Main aim is stated. Questions may be posed but these are not clearly stated as a hypothesis or a research questions.* 1 mark

*A hypothesis or research question is clearly stated. If only null - keep to 2 marks.* 1 mark

*The hypothesis or research question is very clear and clearly linked to and arising from the aims.* 3<sup>rd</sup> mark

**Question 1 (b)**

**Notes for answers**

Any method of data collection, which can be linked to the hypothesis or research question, is acceptable. The answer should show how the method was used: 'a handbook on how to use that method'.

Diagrams are very suitable ways of showing how the technique should be used.

Reasons for the suitability of the technique should include references to accuracy of collection, method and reliability of sampling, the reliability of the method and how consistency was ensured, the suitability of the data for analysing and testing the hypothesis, etc.

**Mark scheme**

**Level 1**      Basic identification of a technique. (1-4 marks)  
                   Simple description of the technique.  
                   Any reference to ensuring a fair representation is basic.  
                   Strengths and weaknesses are not clearly understood.

**Level 2**      The answer describes the method clearly. (5-7 marks)  
                   The method is clearly linked to the aim of the investigation.  
                   There is a clear understanding of the correct application of the technique to ensure its fitness.  
                   The answer should show a clear awareness of the strengths of the technique used.  
                   Where possible, it should also show awareness of the limitations of the technique and how they can be overcome or guarded against.  
                   If both strengths and weaknesses are explained well, the answer will be at the top of the level.

**Question 1 (c)**

**Notes for answers**

The answer must be based on fieldwork that has been carried out by the candidate. It might refer to both primary and secondary data. Ideally, it should be written in the first person. It should be internally consistent and, ideally, should show a sense of place.

A good answer requires some appreciation of the geographical significance of the results and how the results relate to general geographical theories. There should be some attempt to evaluate the results.

The results should be considered in the context of the aim and/or of the specific environment being considered.

There should be some consideration of the way in which the study has confirmed, reinforced, or perhaps even contradicted, previous understanding.

There are likely to be some anomalies worthy of mention and discussion.

**Mark scheme**

- |                |   |              |
|----------------|---|--------------|
| <b>Level 1</b> | <p>a 'text-book' answer with little reference to the personal study. The answer is presented in general terms with no direct reference to the candidate's own results.</p> <p>Any attempts to relate findings to understanding are written in the most general terms.</p>   | (1-4 marks)  |
| <b>Level 2</b> | <p>The answer establishes some clear connection between the results and the candidate's understanding of the environment and/or theory being studied.</p> <p>The answer reaches a clear and valid conclusion, which is related to the aim and/or hypothesis, and is supported by data.</p> <p>The candidate moves on from consideration of the hypothesis to try to explain why anomalies may not have fitted the hypothesis.</p> | (5-8 marks)  |
| <b>Level 3</b> | <p>The answer is thorough and well developed.</p> <p>There is a clear sense of place and the candidate makes detailed reference to the actual data collected and to the conclusions that can be drawn from that data.</p> <p>The answer shows genuine geographical understanding of the whole fieldwork process.</p>  | (9-10 marks) |

**Question 2 (a) (i)**

**Notes for answers**

Country	% of children with malaria who were receiving drug treatment	Rank 1	GNP per Capita US \$	Rank 2	Difference (R1-R2)	d <sup>2</sup>
Central African Republic	69	1	1100	5.5	-4.5	<b>20.25</b>
Cameroon	68	2	1900	3	-1	<b>1</b>
Angola	63	3	2100	2	1	<b>1</b>
Benin	61	4	1200	4	0	<b>0</b>
Tanzania	54	5	700	<b>10</b>	<b>-5</b>	<b>25</b>
Zambia	51	6	900	<b>8</b>	<b>-2</b>	<b>4</b>
Equatorial Guinea	50	7	2700	1	6	<b>36</b>
Congo	46	8	800	<b>9</b>	<b>-1</b>	<b>1</b>
Nigeria	36	9	1000	<b>7</b>	<b>-2</b>	<b>4</b>
Burundi	33	10	600	<b>12</b>	<b>-2</b>	<b>4</b>
Malawi	29	11	600	<b>12</b>	<b>-1</b>	<b>1</b>
Kenya	28	12	1100	5.5	6.5	<b>42.25</b>
Somalia	18	13	600	<b>12</b>	<b>1</b>	<b>1</b>
						<b>140.5</b>

Award 7 marks if all the inserted figures are correct.

Lose 1 mark for each incorrect figure.

Do not penalise cumulative error across a line or down a column, e.g. Nigeria = 6, Zambia=7, etc.

In column 5 (R2) note that 3 × wrong figure for “12” = 3 penalties.

In column 7 (d<sup>2</sup>) note that all 7 negatives squared to negatives = 3 penalties.

**Question 2 (a) (ii)**

0.614=0.61

Award 3 marks for a correct answer.

0.6 with no working = 2 marks.

Award 1 mark for correct substitution in the equation  $1 - \frac{6(140.5)}{2197 - 13}$  or  $1 - \frac{6(140.5)}{13^3 - 13}$

Award 2<sup>nd</sup> mark for arriving at  $1 - \frac{843}{2184}$

Award 3<sup>rd</sup> for the correct answer. See above.

If incorrect Ed2 from (i) used in (ii) can gain 2 marks for good working but not full 3 marks.



**Question 2 (a) (iii)**

The Rs of 0.61 is not significant at the 99% level of confidence. It is clearly significant at the 95% level of confidence. So the null hypothesis can be rejected and the positive hypothesis can be accepted. There does appear to be a positive link between the two variables. We cannot assume that one variable causes the change in another. We can be sure that they both rise together and that it is unlikely that this relationship is a chance relationship.

**Mark scheme**

**Level 1** At least one basic point is made, but the answer is not developed and ideas are not clearly explained e.g. 2 figures plotted on graph = 1 mark. (1-4 marks)  
 A figure of 0.01 or 0.05 is mentioned, but its significance is not well understood; or 95% and 99% are mentioned but not fully understood.  
 If the null hypothesis is mentioned its significance is not fully explained.  
 A conclusion is drawn, but the strength and significance of the conclusion is not well understood.

**Level 2** The answer reaches L2 if: (5-8 marks)

- Significance is worked out and explained = 2
- The strength and direction of the relationship is explained (L2 for both)
- A conclusion, with reference to the hypothesis, is drawn clearly
- The meaning of the conclusion is explained.

As more of the elements in the list are covered the answer moves up through the level.

Max 4 marks for discussion of trends as shown in the table.

**Question 2 (b) (i)**

**Notes for answers**

A scatter graph is the obvious choice. Others (e.g. bars or bar and line) may be made, and can be given credit, but they are more difficult to justify and are unlikely to lead to Level 2 answers. Semi-log or logarithmic graph paper could be used and might possibly move to Level 2.

Scatter graphs:

- Show relationships between two sets of variables clearly
- Point out anomalies
- Can be used with a best fit line
- Can show a lot of data, in an unadulterated form, etc.
- Best fit line can be predictive in some cases.

<b>Level 1</b>	A graph is selected, and some relevant point is made about why it is suitable. However, points are likely to concentrate on ease of drawing and interpreting, rather than on proper statistical justification of the technique itself.	(1-3 marks)
<b>Level 2</b>	The technique is justified clearly and clearly related to <b>this</b> set of data. As more of the points listed above are given, the answer moves up through the level.	(4-6 marks)

**Question 2 (b) (ii)**

The map would need to show countries of Africa, and indicate the % of sufferers who are receiving drug treatment. It could use:

- Proportional symbols – bars or circles
- Density shading
- Other.

The country with the biggest % drug treatment has 69% and the smallest has 18%. Answers need to consider whether these differences would show up clearly on the type of map used. This should influence choice of symbol type.

Choropleth shading would lose the unadulterated detail in the data, but might show groupings and trends well. There are no obvious breaks in the rank order of countries, so choice of boundary would be arbitrary and might hide important detail.

Not Lorenz curve, dispersion diagrams, nearest neighbour, kite, triangular graph, etc. Isoline might get to Level 1.

**Mark scheme**

**Level 1** A choice is made but the explanation is just basic. It emphasises the ease of carrying out the technique rather than presenting a proper geographical justification. It lacks detail. (1-3 marks)

Justifications are poorly developed and may well be circular or randomly structured, with no real logic.

“Suggesting a technique” can include some development of how the technique is used. For a relevant technique, this can raise the answer through Level 1. “Good visual impression” on its own is just Level 1.

**Level 2** The reasons for the choice are clear. (4-6 marks)  
Clear reasons, based on the strengths of the technique rather than the weakness of the candidate are given.  
The answer may well deal with alternative possible choices of map, and discuss their relative strengths and weaknesses, before justifying the decision.

The technique is clearly related to **this** set of data. “Good visual impression” linked to use of different shadings or different sized symbols can raise to Level 2.