



## General Certificate of Education

# Geography 6031 *Specification A*

*GGA7*

## Mark Scheme

### *2005 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.

## **GGA7**

### **General Guidance for A Level Geography Assistant Examiners**

#### **Quality of Written Language**

As required by QCA, the marking scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communications but where questions are “Levels” marked, written communication will be assessed as one of the criteria within each level.

- Level 1:** Language is basic, descriptions and explanations are over simplified and lack clarity.
- Level 2:** Accurate and appropriate use of language; descriptions and explanations are expressed with clarity throughout.
- Level 3:** Accurate and appropriate use of language; descriptions and explanations are expressed with clarity throughout.

#### **Levels marking – General Criteria**

The following general criteria relate to knowledge, understanding and their critical application and the quality of written communication as outlined in the AQA Geography A subject specification. They are designed to assist examiners in determining into which band the quality of response should be placed, and should be used when assessing the level of response an answer has achieved. It is anticipated that candidates’ performances under the various dimensions will be broadly inter-related and the general guidelines for each level are as follows:

- Level 1:** An answer at this level is likely to:
- display a basic understanding of the topic;
  - make one of two points without support of appropriate exemplification or application of principle;
  - demonstrate a simplistic style of writing perhaps lacking close relation to the term of the question and unlikely to communicate complexity of subject matter;
  - lack of organisation, relevance and specialist vocabulary;
  - demonstrate deficiencies in legibility, spelling, grammar and punctuation, which detract from the clarity of meaning.
- Level 2:** An answer at this level is likely to:
- display a clear understanding of the topic;
  - make one or two points with support of appropriate exemplification and/or application of principle;
  - demonstrate a clear style of writing which clearly addresses the terms of the question;
  - demonstrate a degree of organisation and use of specialist vocabulary;
  - demonstrate sufficient legibility, and quality of spelling, grammar and punctuation to communicate meaning clearly.

**Level 3:** An answer at this level is likely to:

- display a detailed understanding of the topic;
- make several points with support of appropriate exemplification and/or application of principle;
- demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question and reflecting awareness of the complexity of subject matter and/or incompleteness/tentativeness of explanation;
- demonstrate a clear sense of purpose so that the responses are seen to closely relate to the requirements of the question with confident use of specialist vocabulary;
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation, which contribute to complete clarity of meaning.

N.B. A perfect answer is not usually required for full marks. Clearly it will be possible for an individual candidate to demonstrate variable performance between the levels. In such cases the principle of best-fit should be applied. Experience suggests that the use of exemplars within this mark scheme and the discussion which takes place during the Standardisation Meeting normally provides sufficient guidance on the use of levels in marking.

### Annotation of Scripts

- Where an answer is marked using a levels of response scheme the examiner should annotate the script with a 'L1', 'L2' or L3 at the point where that level is thought to have been reached. The consequent mark should appear in the right-hand column. Where an answer fails to achieve Level 1, zero marks should be given.
- Where answers do not require levels of response marking, each script should be annotated to show that one tick equals one mark. It is helpful if the tick can be positioned in the part of the answer, which is thought to be credit-worthy.

### General

It is important to recognise that many of the answers shown within this marking scheme are only exemplars. Where possible, the range of accepted responses is indicated, but because many questions are open-ended in their nature, alternative answers may be equally credit-worthy. The degree of acceptability is clarified through the Standardisation Meeting and subsequently by telephone with the Team Leader as necessary.

1. (a) For **Figure P2a** - any valid hypothesis relating to:

Overall shape of profile;  
Specific features of profile and their likely location;  
Steepness of profile;  
Likely change in size of material.

For **Figure P2b** - any valid hypothesis relating to change between winter and summer with reference to:

Overall shape of profile;  
Specific features of profile and their likely location;  
Steepness of profile;  
Likely change in size of material.

Justification should seek to relate hypothesis to specific objectives and realise that hypotheses are expectations based on theory which will

need to be tested in the context of the specific study area. Candidates' own experience of conducting a fieldwork enquiry should be clear in this context.

**Level 1**

- States one or two simple hypothesis/es.
- Clearly descriptive from Figures P2a/P2b
- Asks question' states aim.

*(1 mark)*

**Level 2**

- States one or two clear, specific, testable hypotheses.
- Relates hypotheses to objectives and aware of theory/model providing basis for hypothesis.
- Implicit reference to own fieldwork via sequence/purposeful nature of response.

*(2 - 3 marks)*

**Level 3**

- States one clear, specific, testable hypothesis based on each of Figures P2a and P2b.
- Clearly relates hypotheses to objectives and aware of theory/model providing starting point ..... a base against which to compare reality.
- Explicit reference to own fieldwork via clear reference to formulation of hypotheses based on models in the coastal context.

*(4 marks)*

- (b) Length of beach clearly visible in bay  
 so would seem possible to consider changes with distance (1)  
 relatively large amount of beach exposed (1)  
 so facilitating measurements for beach profiles (1).

On this particular day, sea calm (1)  
 so safe environment for data collection (1)  
 so access for fieldwork easy (1)  
 Road access to beach (1).  
 Either 2 x 1 per undeveloped point, or 1+ (1+1) for a developed point.  
 Starting point must relate to feature observable on Figure P3,  
 Photograph 1.

(2 marks)

2. (a) Likely to refer to beach profiling identifying slope angles rather than height, using tape measure, ranging poles and clinometer (and possibly compass).

Need to make clear how profiling would be carried out, e.g.:

- general idea of angle not height (1)
- using compass to maintain direction (1)
- insert 1<sup>st</sup> ranging pole at water's edge (1)
- and 2<sup>nd</sup> ranging pole at change in slope/specific equi-distant points as go inland (1)
- measure distance between the ranging poles with a tape (1)
- point clinometer from one specific point on ranging pole to same section on other - record angle (1)
- repeat in opposite direction - so backsight/foresight recorded (1)
- repeat process up the beach until profile complete. (1)

Advantages likely to relate to:

Ease of obtaining equipment/relative cost of equipment / no need to know height of a fixed reference point so can be done anywhere, quicker/easier to set up/use equipment.

Disadvantages like to relate to:

Need to convert angles into profile; possible use of trigonometry to calculate cross sectional area; accuracy likely to be less.

Maximum 5 marks for description ✓

Maximum 5 marks for advantages ✓a or disadvantages ✓d

Must refer to both advantages and disadvantages or maximum 7 marks.

Developed points on advantages/disadvantages worth 1+1 whilst undeveloped points are 1 mark.

Up to 4 for reference to own fieldwork.

(8 marks)

- (b) Any valid alternative; up to 4 for sampling / determining the size.

Expect reference to systematic or random sample (1) plus exemplification (up to 3); ✓s  
measuring long (or alternative axis specified) with pebbleometer - up to 3 marks. ✓b

Allow (1) for container of predetermined size.  
Only credit sampling type if term clearly understood.

(5 marks)

- (c)

Expect wind direction / wind speed (1) as this useful in identifying direction of longshore drift (1), e.g. if mainly from north / north east longshore drift will be southerly (1) and therefore explaining relative size of material (1) or in determining nature of waves (1) and importance of constructive versus destructive waves (1) in formation of beach profile, e.g. storm beach with destructive waves (1) tide (1) weather (1) storms (1) old photographs (1).

(3 marks)

3. (a) (i) Max 3 possible for sketch ✓sk  
1 for 3 clear 'steps'  
1 for showing relative steepness of top 2  
1 for reduced gradient to water's edge.  
Max 3 for labels if drawn as a sketch.

1 for noting each of points above as correctly arrowed, written observation, or may attempt to suggest possible storm beach; high tide berm.

May refer to size/type of material - shingle; various sizes of 'gravel type' appearance; some variation throughout but no overall clear change apparent.

At least 1 mark for label must relate to beach material but max 2.

- (a) (ii) Objective 1 - profiles become shorter/steeper southwards.

Photographic evidence would appear to generally support this - profile to south - photograph 4 seems shorter than points 2 and 3, thus fitting expectation of objective. Photograph 3 seems similar to photograph 2 so that may not be continuous change.

The extent to which the profiles are stepped seems to increase southwards as the changes in gradient are more marked and the presence of possible berms is more apparent.

Objective 2 - beach material gets larger as more southwards.

From the photographs only, the beach material appears to be larger at both ends, but smaller in the middle. Although difficult to judge, it would appear also that there is a wider range in size of material at each end than in the middle - with relatively large material visible in the foreground of both photographs 2 and 4. Thus, there is no real evidence for this objective according to the photographs.

**Level 1**

- Describes photograph.
- Perhaps considers each one in turn and describes profiles. (1 - 3 marks)

**Level 2**

- Begins to relate description to objectives.
- Will present some evidence - perhaps generalised from Figure P3.
- May be imbalance to objective 1 (or 2)
- Evaluation begins to be present - perhaps implicit. (4 - 6 marks)

**Level 3**

- Clearly relates description to objectives.
- Will present evidence - which is specific from Figure P3.
- Will be balance between objectives 1 and 2.
- Evaluation will be clear, explicit and reflect evidence presented. (7 - 8 marks)

- (b) (i) 4 x 1 for each pair of 4 remaining coordinates.  
Max 3 if co ordinates not joined. (4 marks)

- (ii) Description (d) - profiles clearly become shorter southwards - with site 6 being only slightly more than half length of site 1. This is true also of the penultimate site, whilst sites 2, 3 and 4 are of intermediate length - in the 80's.

The overall gradient appears to be steeper southwards and a similar pattern emerges in intermediate locations as above.

The possible presence of high tide berms seems more marked in northern area - at site 1 - mid 80's, site 2 - approx. 60m. Here also, the presence of a storm beach seems likely with the highest point of the beach not coinciding with the part further back ..... unlike at sites 5 and 6.

Explanation (e) - with regard to length of profile this is likely to relate to dominant direction of movement of material. It would appear at the time profiles taken that dominant longshore drift direction was north as more material here. This would suggest greater input from cliffs in this area. Steepness of profile may relate to size of beach material with larger shingle - possibly in south therefore. Contributing to steeper beach profile - with pebbles (4mm) resulting in 17° beach angle and cobbles (32mm) in 24° angle. Destructive waves may be stronger in southern area, increasing steepness during winter.

**Level 1**

- Describes how profiles change southwards.
- Some reference to length and / or steepness.
- Offers some, perhaps generalised, evidence of points made. *(1 - 3 marks)*

**Level 2**

- Clearly describes changes in profiles southwards or offers general explanation.
- Reference made to length and / or steepness and / or overall shape (at least 2 out of 3).
- Offers some evidence of changes from Figure 2.
- Begins to explain the changes - perhaps generally.
- May be imbalance between description and explanation. *(4 - 6 marks)*

**Level 3**

- Purposeful description of changes in profiles with reference to objective 1. Refers to length / steepness / shape, but probably not equally.
- Offers evidence of changes from Figure 2.
- Seeks to explain changes with specific reference to study area.
- A more balanced account. *(7 - 8 marks)*

- (c) (i) 3 x 1 for each line added. 1 mark for shading according to the key / done in the same sequence as others. *(4 marks)*

- (ii) Figure 3 shows a clear increase in the category 'coarser than -3' southwards, although there is not a consistent change between intermediate sites, e.g. a reduction (slight of 2%) for larger material (coarser than -3) between sites 4 and 5; there is no material coarser than -4 present at either sites 2 or 4, but some of this size is present at the other four sites. Similarly, only site 3 has material of 0 or 1 which is the middle site and so this would be unexpected according to the expectation of increasing size southwards. (Candidates may argue similarly by looking at the reduced importance of 'coarser than -2' category southwards.)

Figure P7a in addition suggests that the mean increases progressively - except for site 2 and the standard deviation throughout indicates material is well sorted which seems to confirm to a great extent (although not perfectly) that the size of beach material increases southwards.



**Level 1**

Describes changes in beach material along the coast.

Some reference to evidence.

May focus on start / end and disregard intermediate sites. Will use Figure 3.

(1 - 2 marks)

**Level 2**

Clearly describes changes in beach material; making reference to evidence and notes that changes are not always progressive.

Will refer to Figure P7a or offer some evaluation.

(3 -4 marks)

**Level 3**

- Purposeful description of changes; Evidence used to make points.
- An awareness of exceptions to general link.
- Will refer to Figure P7a and will be explicitly evaluative - evaluation will reflect response to question.

(5 -6 marks)

- (iii) Need to calculate  $U_x$   
 Add remaining 3 ranks - 8, 10, 12 ✓(1)  
 Determine total - 46 ✓(1)

Then work out formula

$$u_x = \frac{n(n+1)}{2} - \sum_{i=1}^k \frac{i(i+1)}{2} = 36 + \frac{42}{2} - 46 = 11$$

(5 marks)

- (iv) The value of U of 11 clearly exceeds the critical value of 3 or 7 (-1); this means the null hypothesis must be accepted / alternative (expected) hypothesis must be rejected (1) and, therefore, there is no significant difference in beach material size (1) - that in May is not larger than that in September (1).

(3 marks)

**(d) Short-term changes**

Figure 5 reveals some differences, but these are not consistent. At site 1, the backshore area has shown some build up whilst area near the water's edge shows signs of reduction and a possible berm is apparent between 90 - 100m (reduced by February). The other two profiles show less significant changes with one becoming more built up and longer site 4 - whilst site 6 shows less change but the gradient shallower near the sea in winter - not really expected for winter profile.

Can refer to overall shape, height, length, individual features.

Must be temporal not spatial change.

### **Long-term changes**

These, perhaps as expected, reveal more marked contrasts, but there is no real consistency between the sites. At site 4 the August 1972 profile is clearly the longest (supported by CSA). This is also partly true of site 6 - even further south - second longest, whilst the 1982 profile extended furthest at site 1 to the north and the 1972 was the shortest.

Site 4 shows most change in profile shape over the period with the 2002 profile being much shorter - given the relative length of sites 1 and 6.

Overall, material has been added at site 1, whilst there has been a clear loss at site 4 and minimal total change at site 6.

Comment may relate to an evaluation of changes between sites in short and / or long-term;

An evaluation of extent of change in long-term versus short-term;

Reference to expected summer / winter contrasts;

Suggestions as to why there are contrasts, e.g. longshore drift direction; offshore - onshore movement of material;

Dominance of destructive versus constructive waves.

#### **Level 1**

- Describes changes in short-term and long-term.
- May be an emphasis on one time scale.
- Will refer to evidence; may be detailed description site by site. *(1 - 4 marks)*

#### **Level 2**

- Begins to select information and to give an overview supported by evidence.
- Clarity will vary.
- Some reference to both time scales - will begin to comment. *(5 - 8 marks)*

#### **Level 3**

- Purposeful, targeted précis of both short and long-term changes.
- Will select specific valid evidence in support.
- Will offer a range of valid comments relating to different aspects of the changes. *(9 - 12 marks)*

4.

**Level 1**

- Simple statements made with reference to objectives or overall aim.
- May focus more on some aspects than others, e.g. characteristics of component rather than reasoning and be imbalanced.
- May jump about and be poorly structured.
- No reference to own fieldwork experiences.
- Lacks awareness of limitations or may refer to limitations and possible improvements only and neglect to summarise findings.

*(1 - 3 marks)***Level 2**

- Some developments of statements.
- Refers to all objectives (perhaps in varying detail) and in appropriate order or clear reference to aim/title.
- May make intermittent reference to evidence or refer in generalised way.
- Will show some awareness of reliability of findings and limitations and will show their own experience of conducting an enquiry by drawing on own experience.
- If good on either summary or limitations but no reference to other element, max 5.
- Max 7 if no fieldwork.

*(4 - 7 marks)***Level 3**

- As Level 2, but will refer precisely and specifically to data collected as evidence.
- Will be clearly aware of limitations and improvements.
- Will realise extent to which aims/objectives have been realised. Will be critically evaluative of enquiry.
- May suggest meaningful extensions of study.
- Will clearly be applying own experiences of fieldwork and enquiry.

*(8 - 10 marks)*

5. (a) Simple, valid general, open hypothesis, e.g. the shape of beach material will vary along the coast. (1)

Clear, specific, targeted, directional hypothesis, e.g. the beach material will become more rounded northwards. (2)

*(2 marks)*

- (b) Expect Cailleux or Powers for roundness: painting pebbles for longshore drift. Description can refer to selection of material - how / why / where?

Actual process - what / how?

Time scale may be important for longshore drift.

Minimum of 4 for data collection; maximum 5. ✓d

E.g. at 5m intervals along profile (1)

- select first pebble right forefinger touches (1)
- to try to make sample as representative as possible (1)
- compare pebble shape to Powers roundness chart (1)
- + 2 for elaboration on this.

Decide on which category material best fits (1).

Immediate record of shape (1).

Awareness of risks to safety, such as possible water hazard - drowning.

Swash zone - strong currents; slipping on unstable material; material falling from cliffs; perhaps road dangers if near road (as at top of Slapton beach).

Maximum (2) for risks minimum (1) ✓r

Minimise risks - by ending measurements at water's edge.

If longshore drift - ensuring conditions are appropriate - not too rough.

(7 marks)

Working in groups; move carefully with equipment. ✓m

Max 2 for minimising risk minimum (1).

(c) Any valid, clear question which could be asked in its presented form to residents.

Topic on each question must clearly be different.

E.g. could try to evaluate resident's perception of risk factor. Do you think the damage caused to the A379 in January 2001 was:

- a) a once in a lifetime event?
- b) a rare event but something which could happen again?
- c) something which is likely to occur again?
- d) something which will definitely happen again - in the next 20 / 30 years?

Or views:

- on nature of coastal protection;
- on whether road should be maintained;
- on alternative inland route found;
- of need to protect to maintain economy of area.

1+1 per valid question.

1 mark question will be simple or likely to receive yes / no type answer.

2<sup>nd</sup> mark for question which is more complex perhaps closed, variety of options or inviting an opinion.

(4 marks)