



ASSESSMENT and  
QUALIFICATIONS  
ALLIANCE

# Mark scheme January 2003

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## GCE

### Geography A

### Unit GGA3

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## Unit 3: Geographical Skills

### General guidance

#### Quality of Written Communication

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:** Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed 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 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 style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter;
- demonstrate relevance and coherence with appropriate use of specialist vocabulary;
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

**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 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.

NB: 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**

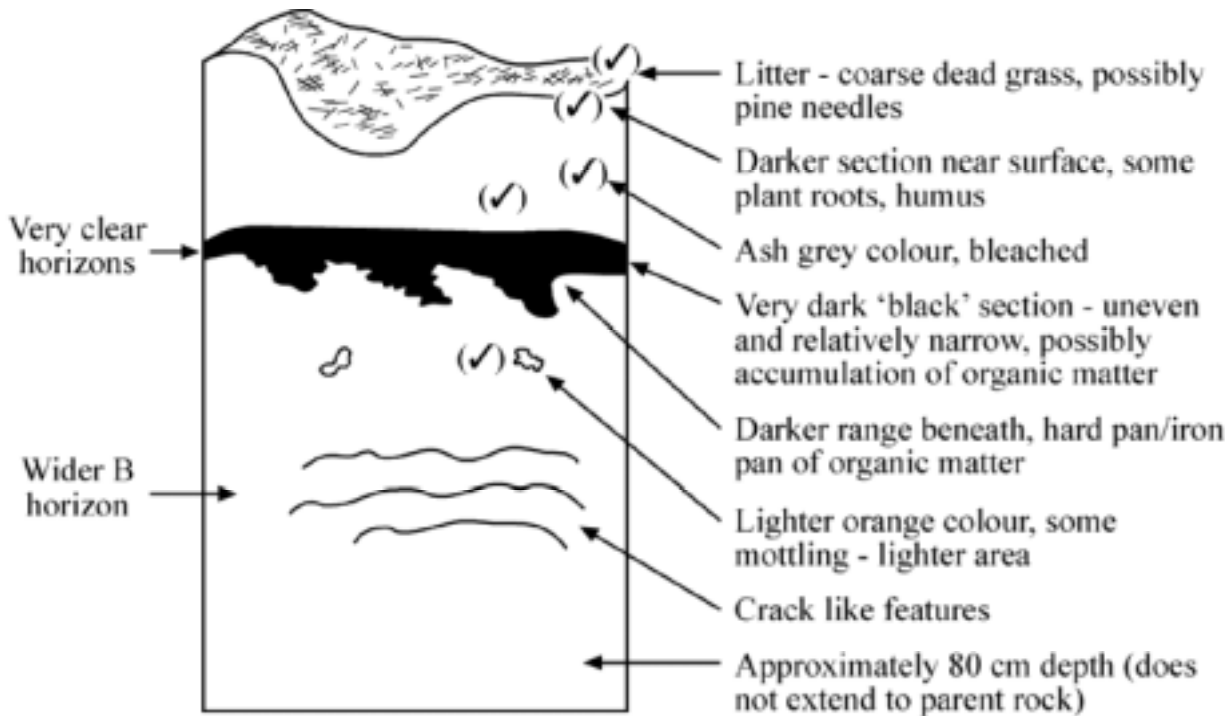
- Where an answer is marked using a levels of response scheme the examiner should annotate the script with 'L1', 'L2' or 'L3' at the point where that level is thought to have been reached. The consequent mark should appear in the right hand column. Where an answer fails to achieve Level 1, zero marks 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 advice**

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.

## Question 1

(a) (i)



8 × 1 for labels relating to characteristics visible from photograph.

If all 6 marks not gained for labels, allow up to 3 × 1 for sketch itself – for accurate identification of different zones in appropriate proportions identified by (✓) on sketch profile above – 5 possible marks.

(8 marks)

- (ii) Climate is relatively cold -  $-23^{\circ}\text{C}$  to  $+16^{\circ}\text{C}$  approx.; only above freezing for 6 months of the year.  
Impact of this is to discourage biota with consequence of limited mixing and therefore well defined horizons.

There is a precipitation throughout the year – with summer peak – however relatively low temperatures mean relatively low evaporation rates and impact of this is that leaching is dominant process with consequence of eluviation in upper horizon (ash grey) and illuviation in lower parts of organic matter, sesquioxides of iron and aluminium.

The climate is partly responsible for the coniferous forest climate climax vegetation – this gives needles as leaf litter which are acidic creating mor humus and consequently discouraging earthworms and clearly defined horizons.

Pine needles decay only slowly (as they are thick and waxy to reduce the impact of the harsh conditions) and therefore the humus layer is relatively thin.

<b>Level 1</b>	<b>Describes the climate</b> shown on Figure 2. Will refer to both temperature and precipitation and may quote evidence.	<b>1-3 marks</b>
<b>Level 2</b>	<b>Begins to link</b> the climatic characteristics to the impact on the soil and to explain these may be unbalanced, with reference to just one element – or may perceive the link between climate and vegetation and its subsequent impact.	<b>4-6 marks</b>
<b>Level 3</b>	<b>Clearly links</b> climatic characteristics to the impact on the soil. Valid explanations included. Shows an awareness of how the impact <u>relates specifically to the characteristics of the profile on Figure 1.</u>	<b>7-8 marks</b>  <b>(8 marks)</b>

- (b) (i) Intrazonal  
Azonal  
Azonal  
Intrazonal

4 × 1 mark for classification.

**(4 marks)**

- (ii) Rendzina is intrazonal as its characteristics result from the dominance of a local factor (1)...here the rock type is paramount in determining characteristics (1). Scree is azonal as it is an immature/young soil (1) which has not had time to develop fully (1) and the main constituent therefore is recently weathered rock (1). This is also true of volcanic soil where new rock resulted from eruption (1). Peat is intrazonal as its development is limited by another local factor which in this case is poor drainage (1) preventing appropriate breakdown of materials (1) due to anaerobic conditions (1).

**(6 marks)**

- (c) (i) 2 × (1+1) for current plotting information for sites G and K.  
Maximum 3 if site not identified.

**(4 marks)**

- (ii) Description (✓d)

No clearcut relationship (1).  
Near top of slope, depth reduces rapidly with distance (1).  
Rate of decline slows between C and I (1).  
G could be seen as an anomaly (1).  
Depth begins to increase after 800m (1).

Maximum 6 for description

Explanation (✓e)

Thinnest soils occur on steepest slopes (C-I) (1) as movement of material will occur here (1). This is translocation zone (1).

Soil depth greatest at top (1). This is shedding / input zone (1).

Soil depth increases near bottom as this receives material transported downslope (1) and section relatively flat so no further movement likely (1). This is receiving zone (1).

Maximum 6 for explanation.

**(8 marks)**

- (d) (i) Soil erosion – removal of soil (1) by wind/water (1). (✓s)  
Natural process made worse by human activity (1) + 1 for illustration.  
Desertification – land becomes desert (1) due to change in climate (1) or influence of people. (1). (✓d)  
Link – removal of soil takes away medium in which plants grow.  
Subsequently land cannot support vegetation where previously it has (1).  
New desert area is created (1). (✓L) **(5 marks)**
- (ii) Description (✓d)  
  
Large areas of severe desertification in North Africa (1) / Asia (1).  
Moderate desertification clear in eastern Australia (1).  
More northerly parts of Asia (1) and Central North America.  
  
Minimum 2, maximum 4 for descriptive points relating to areas of either severe or moderate desertification.  
  
Comment (✓c)  
  
Area of desertification are adjacent to existing desert areas (1). +1 for further elaboration e.g. belt in North Africa, south of Sahara, most extensive areas in North Africa and Central Asia (1) with smaller, less continuous areas elsewhere (1).  
Minimum 2 marks needed for descriptive comment **(6 marks)**
- (iii) Physical cause is noted – (p)  
  
Evidence that climate has become drier  
  
Jean Marie comments on contrasting length of time rain falls and fact that rain occurs in mountains but doesn't reach his own area.  
  
Increase in temperatures resulting from global warming and therefore evaporation rates, reducing precipitation effectiveness.  
  
Human causes are more apparent – (h)  
  
People clearing more and more land for both fuel and farming as a result of increases in population making existing farmland inadequate.  
Shifting cultivators were able to rest the land properly, allowing it to regain its fertility over ten or twenty years. Now again population pressure prevents this as there is not enough land. And leads to soil becoming exhausted. More livestock led to overgrazing.  
  
Some causes at the interface of physical and human environment – (p/h)  
  
Soil erosion is precursor to desertification. This is partly result of farming practices etc. which expose the soil to wind and rain and partly the result of soil being washed away by heavy rain, or blown away by winds. Sheet wash and gully erosion remove soil cover meaning nothing could grow.

<b>Level 1</b>	Will consider <b>causes for desertification</b> and <b>begin to explain them</b> . Will refer to Figure 7 and offer some information/evidence from there. May be <b>heavily reliant</b> on Figure 7. May be completely imbalanced.	<b>1-4 marks</b>
<b>Level 2</b>	Will <b>begin to target explanation</b> to purpose by considering clearly physical and human causes although probably <b>very imbalanced</b> towards human causes. <b>A clear awareness</b> that both factors contribute although <b>evaluation</b> of relative importance may be <b>generalised or implicit</b> .	<b>5-7 marks</b>
<b>Level 3</b>	<b>Clearly relates explanation</b> of both physical and human causes to question by purposefully considering a variety of causes. May perceive that <b>some causes</b> such as soil erosion are a <b>mixture of both physical and human causes</b> . There will be greater balance and <b>an explicit attempt to evaluate</b> .	<b>8-10 marks (10 marks)</b>

- (e) (i) Any small scale aim is valid ... 1 mark  
E.g. can the CBD of ... be subdivided (1)

objectives are related to but subdivisions of overall aim designed to make study more manageable and sequential... therefore

any objective clearly linked to aim ... 1 mark to determine whether land uses changes from centre of CBD to edge (1).

Mention of valid theory or concept... elaborated 1+1 = 2 marks.

E.g. Horwood Boyce core frame model (1) which suggests a two fold division between centre and edge (1) which in turn may be further split (1) e.g. transport terminals, car sales and services, public services in frame (1).

**(4 marks)**

- (ii) Must identify primary data item which relates to aim in (e)(i). No mark for identification.

Up to 4 × 1 for outlining method.

E.g. Land use collected by writing down function of each building (1) along transects from edge to middle (1) for ground floor only (1).

1 × 1 for identifying risk – e.g. traffic, members of the public.

2 × 1 for identifying how risk overcome –

E.g. Cross busy roads only at recognised crossing points (1) have an awareness of one-way/two way working (1) so that traffic does not come unexpected directions (1) work in pairs (1) to reduce risk of abuse...safety in numbers (1)

1 mark minimum for how primary data item collected and 1 mark minimum for how risk could be minimised.

**(6 marks)**

## Question 2

- (a) (i)  $2 \times 1 + 1$  for correctly plotting information for east Chesterton and Trumpington. Maximum 3 if wards not identified. (4 marks)

- (ii) Description (✓d)  
Is a relationship/positive relationship generally as % migrants increase, also an increase in % population increase (1). Credit should be given for marking on Figure 9 an appropriate line of best fit (1).  
Relationship is not perfect (1) and there are clear anomalies (1) such as Trumpington (1) with decrease in population but 10.5% migrants (movers) (1) and Abbey (1) with a relatively high population increase but low % of migrants 2.2% (1).  
Maximum 6 for description.

## Explanation (✓e)

In migration is one component of population growth (1) therefore would be expected that areas with high numbers will have a high population increase (1) and those with low numbers will have a low population increase (1) e.g. – such as Newnham, Kings Hedges respectively.

However, migration only one component... natural increase also important (1) and this may explain situation in wards such as Abbey (1). In some areas e.g. Trumpington, population is decreasing despite relatively high migration levels, this may be due to net migration losses (1) or natural decrease (1).

Position in Cambridge may offer some explanation (1) wards with 2 highest rates of increase and 2 highest rates of people moving in are to the west (1), areas experiencing decline overall and low numbers of in-migrants are on northern edges (1). This may relate to nature of land use zones (1).

Maximum 6 for explanation.

(8 marks)

- (iii) Contrasts in:  
**Situation** –  
Newnham is located on Western edge of Cambridge whilst Romsey is found to the east midway between town centre and edge.  
**Age** –  
Newnham appears newer (by location) also via street pattern – mainly cul de sacs – e.g. 4358 versus older area of Romsey with more regular and at times grid iron pattern – top part of 4657. More variation in street pattern is Romsey with cul de sacs and crescents also above 58 but more uniform in Newnham.  
**Density** –  
Romsey higher density – much smaller amounts of space whilst large gaps in Newnham.  
**Open space** –  
Varies in quantity – much more in Newnham on city edge and possibly Greenfield sites – e.g. much of 4258 whilst in Romsey – adjacent to railway line.  
**Environment** –  
Romsey near airport, areas of water – perhaps reservoirs and railway line creating probably a less pleasant environment than more open edge of city location of Newnham (although motorway – M11 does go through western edge).

**Housing –**

Likely to be smaller, terraced and semi/detached in Romsey whilst likely to be larger in Newnham.

**Other functions –**

Very little evidence in Romsey – only a hospital identified whilst many colleges present in Newnham.

All of above potentially make Newnham more attractive to in-migrants generally... especially those who are relatively wealthy, perhaps looking for professional jobs... whilst Romsey will attract different in-migrants – perhaps less wealthy, first time buyers.

<b>Level 1</b>	<b>Describes</b> some of the <b>characteristics</b> of the two wards in a mechanical, generalised way. Evidence likely to be <b>randomly ordered</b> without classification.	<b>1-4 marks</b>
<b>Level 2</b>	<b>Begins to note contrasts</b> in the characteristics of the two wards. <b>Offers some map evidence</b> – features place names/4 figure grid references. <b>Will tentatively relate contrasts to attractiveness</b> of wards for in-migrants. <b>Implicit evaluation.</b>	<b>5-7 marks</b>
<b>Level 3</b>	<b>Clearly identifies contrasts</b> in a variety of characteristics. <b>Specific map evidence</b> used, perhaps 6 figure grid references, mention of contrasting road pattern, surrounding features, functions. <b>Will relate contrasts to attractiveness for in-migrants</b> – and perhaps different groups in different areas. <b>Will evaluate.</b>	<b>8-10 marks</b>  <b>(10 marks)</b>

- (iv) Labels likely to refer to following regarding evidence of growth-  
 Large modern housing estates on outskirts.  
 Street pattern consists of cul-de-sacs and crescents.  
 School on edge of Histon possibly built in response to expanding population  
 Development of leisure facilities – e.g. golf course, country park in response to expanding population.

Reasons locations attractive to urban-rural migrants –

Accessible – ring round A14T passes just south.

Access into town centre via A1307, B1049, A1309, on outskirts so land 4... housing relatively cheap, on outskirts so more spacious, low density building; within close proximity to a number of recreation facilities – gold course country park; opportunities for work on edge of city – Science Park nearby.

Labels valid if arrowed/written on feature; evidence must be present on map.

8 × 1 appropriate labels. Allow 1+1 if elaborated.

Maximum 4 for labels relating to evidence of recent growth or reasons locations are attractive to rural-urban migrants.

**(8 marks)**

- (b) (i) Description – max 4 (✓d)  
 Wide variation of refugees globally (1)  
 clear concentrations in certain areas e.g. parts of central Africa, Western Asia – Iraq, Pakistan (+1 egs/elaboration). Extensive area of 250-499000 in South and East Asia (1). Large areas have less than 49000 (1) – most of South America/Australasia (1) but also large areas of Africa/Europe (1). 500,000 – 1 million in parts of Africa, and any other valid region (1), LEDW focussed.
- (✓c) Comment max 3 – huge variations reflect areas of unrest (1) / natural disaster (1) – i.e. source areas of refugees (1) e.g. East Africa (1) also potentially reflect willingness of countries to allow refugees (1). Most refugees clearly in East Africa and West Asia (1). Many likely to be from neighbouring countries (1). **(6 marks)**
- (ii) Responses will relate to destination/understanding of terms.
- Negative factor – something which encourages migrant to leave current residence (1) or is undesirable about location moving to (1) + e.g.(1).
- Intervening obstacle – something which may prevent migrant from reaching destination/leaving origin (1) – may be mountains, quotas in place etc. (1).
- Positive factor – something which is attractive to migrant – encouraging them to stay at origin or move to destination.  
 Minimum 1 on each; allow up to 3 if well done. Examples only valid with definition. **(3 marks)**
- (iii) Negative factor at origin - volcanic eruption (1)  
 or reference to one feature of it (1)  
 or alternative e.g. no clean water (1).  
 Intervening obstacle - searches being conducted (1)  
 need to cross international boundary (1)  
 may not be allowed entry (1)  
 Positive factor at destination - safety from eruption (1)  
 shelter provided in refugee camps (1)
- 1 mark for each element – 3 × 1  
 Must be from figure 13. **(3 marks)**
- (iv) Economic migration where people in search of jobs, increased wealth (1)  
 Leaving area of high under/unemployment, leaving areas relatively poor, agriculture based for more advanced economies (1) (✓e)
- Political migration, where people flee areas as a result of war (1) civil and international (1), removal of people persecuted, ethnic cleansing (1). (✓p)
- Link ... areas politically unstable can decline economically encouraging economic as well as refugee migration (1)  
 Famine may result due to resources not being allocated appropriately so people leave (1). (✓l)
- Minimum 1 on each element. **(5 marks)**

## (v) Social issues

Need to treat all people humanly irrespective of background, refugee status. Opposition locally to building of/opening of such secure units. Need to provide appropriate shelter for people awaiting decisions – if Longatle Red Cross humane element of vehicle checks – ensure people not smuggled in potentially dangerous conditions.

Scale of exodus of refugees – 500,000 fled Goma.. homes, relatives sometimes left behind and anguish which results )Boniface/s account).

Setting up of shelters for refugees in Gisenyl and provision of supplies.

Political issues – Whether refugees should be detained in secure units until outcome regarding entry known. Checks on vehicles boarding ferries for illegal immigrants... in breach of usual system... to break smuggling rings and exchange of money here.

Need for governments to take responsibility in face of disaster – global concern.

Economic issues – cost of building, operating detention centres. Funded by. Cost of - ‘policing’ ferries – searches. The disproportionate effect of disasters on the poor – least able to cope – (Antoine’s account).

International aid efforts – Britain pledged £2 million of emergency relief.

<b>Level 1</b>	<b>Describes issues</b> identified <b>heavy reliance</b> on Figure 13. May be <b>imbalanced</b> with limited appreciation of different categories.	<b>1-4 marks</b>
<b>Level 2</b>	<b>Begins to use information</b> in Figure 13 and considers a <b>variety of issues</b> with some understanding of the different categories. <b>Still may be imbalanced</b> , but two out of 3 categories given some consideration. Will <b>make tentative comment</b> ... there will be <b>some discussion</b> in the response.	<b>5-7 marks</b>
<b>Level 3</b>	<b>Clearly targets information</b> to question. Uses <b>information</b> in Figure 13 effectively and may <b>add other information</b> . <b>Some reference to all 3</b> categories with understanding of different categories. <b>Greater balance</b> . <b>Will be discursive</b> and will make <b>explicit comment</b> .	<b>8-10 marks</b>  <b>(10 marks)</b>

- (c) (i) Any small scale aim is valid. 1 mark E.g. is there evidence of succession along a transect in sand dunes at...?

Any objective clearly linked to aim.. 1 mark

E.g.. to determine whether percentage of vegetation cover changes with distance from high water mark.

Mention of valid theory or concept.. elaborated... 1 + 1 – 2 marks.

E.g. psammosere (1 mark).

Which predicts changes in account (1 mark), type of vegetation cover and vegetation diversity in land (1 mark) **(5 marks)**

- (ii) Must identify primary data item which relates to aim in c (I). No mark for identification. 2 × 1 for outlining method.

E.g. quadrat place (1 mark) every ten metres (1 mark) along a transect beginning at high water (1 mark) and proportion of cover determined by... counting squares (1 mark).

1 × 1 for identifying risk.

E.g. Use of compass (1 mark) to be aware of direction in area that looks all the same (1 mark); similarly detailed map )1 mark). Appropriate waterproof clothing (1 mark) and boots/footwear (1 mark).

1 mark minimum for how primary data collected an 1 mark for how risk could be minimised. **(4 marks)**