



General Certificate of Education

Geography 6031 *Specification A*

GGA4

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.

GGA4

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:** 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 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) Response should show knowledge and understanding of the causes of sea level change - both eustatic and isostatic explanations are creditable. Eustatic causes being connected with glacial expansion before 16000 BP and contraction after 18000 BP glacial melt in post glacial period (1-4 detail and development, e.g by fullness of explanation, illustration, exemplification). Thermal expansion (1-2). Associated isostatic changes linked to depression/rebound of crust under ice or tilting as in more local case of southern/northern North Sea basin (1-4 depending on detail and development). Credit careful account of temporary sea level changes linked to storm surge. Thus full accounts of post-glacial history in terms of isostasy or eustatic change may be fully credited - however a mix of the two can be expected and would be equally creditable for 2+2 or 3 + 1. Tolerate iso/eustatic confusion as long as accurate, by subtracting 1 mark from total mark. (4 marks)

- (b) Response should show knowledge and understanding of features associated with falls in sea level, most likely relic cliff lines associated with retreat and subsequent dominance of sub-aerial degradation processes reducing slope angles etc. and perhaps linked with depositional features such as alluvial flats and fans etc or indeed another seaward active cliff line depending on time scales. Alternatively/additionally raised beaches perhaps associated with degraded relic cliff line and other erosion features such as notches above existing wave cut platforms; presence of naturally cemented beach material such as shingle. (Each element 1-3 marks). Thus, an outline of at least two is necessary for full marks. Geological rather than geomorphological explanations, e.g. presence of limestone as evidence for changing sea levels 1 mark. (4 marks)
- (c) Response should show detailed knowledge and understanding of likely consequence of a rise in sea level. An increase in sea level by 5 metres within 100 years is at the extreme end of the spectrum of predictions and would be pretty momentous and thus a variety of responses might be expected and can be credited. Physical and human consequences might be legitimately distinguished. Physical consequences might be the re-configuration of coastlines, flooding of low-lying areas, loss of coastal land, renewal and/or redistribution and/or changes in nature and intensity of erosion and deposition processes, allow and credit some detail on how this may affect particular settings. Additionally or alternatively, the responses might focus on the human consequences, dislocation and disruption to settlements, economic activity, transport and so on. Both physical and human consequences may creditably prompt some outline of human intervention and management responses to sea level rise. Despite the momentous nature of such a rise in sea level comment should be measured - it might include the rate of change, an overview of impacts, the relationships between the consequences, qualifying remarks about human responses to try and manage the consequences adopting different strategies. Relevant exemplification, which contributes to illustration of points made should be credited.

Level 1 - Generic Descriptor (1-3)

Simple statements about physical and/or human dislocation, or more detailed statements lacking circumspection or measure.

Level 2 - Generic Descriptor (4-5)

More detailed statements about physical and/or human dislocation with some sense of circumspection. Sense of comment.

Level 3 - Generic Descriptor (6-7)

Detailed statements about physical and/or human dislocation with a clear sense of comment, e.g. reference to balance of effects, their inter-connections, their manageability, their inevitability, etc. (7 marks)

2. (a) Response should show knowledge and understanding of the nature of flow and slide mass movements; flows as being slope failure of material, which disintegrates or becomes deranged so that material within the moving mass is moving at different rates. Whereas slides involve block movement of material along a single slide or slope plane, typically with different levels of water content within the moving mass. Different slope angles typically associated with these processes. (1-4 depending on detail and development). Rotational slumping as a form of slide is creditable. Language that emphasises distinction (1). Restatements of Figure 2 content – max 2. (4 marks)
- (b) Response should show knowledge and understanding of water and its effect of increasing the weight of a mass and increasing the shear stresses and the likelihood of slope failure and movement (1-3 depending on detail and development). Incidence and speed needed for full marks. Water as a lubricant and its impact on the fluidity/viscosity making certain movements faster and possibly more sudden, dangerous (1-3 depending on detail and development). Presence of water facilitating freeze thaw weathering, therefore contributes to material of rock fall. Credit qualifying comment e.g. on the role of water in solifluction on lower angle slopes in peri-glacial conditions responsible for rather slower movement. Development might include exemplification (1-2). (4 marks)
- (c) Response should show knowledge and understanding of mass movement process as transferring materials within slope systems. Material prepared by weathering subject to the influence of gravity and moving downslope and forming inputs into river channel systems in humid climatic conditions. Content focused on the impact to one or two mass movement processes is creditable where the processes are clearly related to landscape outcomes e.g. scree slopes, tors and so on and detail on relevant mass movement processes related to specific landforms could access Level 3 marks. However equally creditable are broader statements which place mass movement in the wider context of slope systems as processes which, with other slope processes such as weathering and erosion, lead to the development of the landscape, general surface lowering, slope decline/slope retreat or whatever model of development the candidate has in mind as long as it is appropriate. Relevant exemplification, which contributes to illustration of points made should be credited.

Level 1 - Generic Descriptor (1-3)

Simple outline of one or more processes, and before and after position in one or more landforms.

Level 2 - Generic Descriptor (4-5)

More detailed outline of one or more processes and before and after position in one or more landforms – more convincing explanation of cause and effect, e.g. in relation to tors, scree slopes, etc. Alternatively, outline of mass movement coupled with wider view of landscape development.

Level 3 - Generic Descriptor (6-7)

Detailed outline of processes with sense of overview of role in the denudation process and/or slope development and/or convincing identification of role of mass movement in relation to particular landscape features. (7 marks)

Total for this question: 15 marks

3. (a) Response should indicate an ability to understand plan and section forms in diagram and so describe drumlins as being ovoid, small hills/mounds, asymmetry in long plan form/section (1) with a pronounced long axis A-B compared with a maximum width axis C-D (1), the long axis related to its sectional form A-B comprised of a blunted, steeper stoss end and a longer gently tapered lee end (1-2). Accurate description of drumlins shown in figure 3 with reference to dimensions (height = 50-60m, length = 750m, width 220m, elongate ratio 2 ½-3 (1). Examiners should reward the use of appropriate descriptive terminology relating to drumlins. Plan/section only max 3. (4 marks)
- (b) Response may indicate a knowledge and understanding of the origin of drumlins being the depositional features associated with glacial melt and retreat and deposition of glacial load in warming climatic conditions. Lowland areas are the areas most likely to have received previous glacial deposition (lodgement till). Glacial re-advance over previous deposits may re-form these deposits into streamlined drumlins, conditions which are typically experienced first in lowland areas. Responses may be further developed by demonstrating a knowledge and understanding of the processes of drumlin formation relating its till/boulder clay composition comprising material eroded by ice and deposited by glacial ice of reduced competence related to reductions in the volume of ice and/or changes in velocity of ice movement in lowland areas. Solid rock cores can initiate formation (1-4 depending on detail and development). Exemplification/illustration which clearly illustrates the points being made e.g. by referring drumlins to source areas and direction of ice movement rather than just mention of, say, Edale for example would certainly be creditable. (4 marks)
- (c) Response should show knowledge and understanding of the nature of physical environments associated with glaciation and their impact on human activity. In this sense both formerly glaciated areas such as upland environments in Great Britain and elsewhere in Europe, e.g. the Alps beneath the permanent snow line, are legitimate as well as contemporary peri-glacial environments in northern Eurasia and North America. However, given the wording of the question Antarctica would not be relevant. Thus, a wide range of varied responses can be expected and credited. Upland environments might be associated with constraints on agriculture and movement and related accessibility, hence associated with limited economic development and population densities; on the other hand they also present landscapes and opportunities for winter and summer tourism and also some production processes such as energy production (HEP) and certain specialised types of farming e.g. extensive sheep farming. Evaluative comment i.e. role of other factors is creditable, but response clearly needs to focus on physical environment as constraint. With regard to peri-glacial environments occupied for resources development reasons, treatment of thermokarst and adaptations to it will be creditable. Careful statements about the availability of resources such as energy and minerals might be creditable if placed in specific contexts and linked to technical ability to overcome constraints. Coverage of one area only, e.g. Lake District is acceptable for Level 3.

Relevant exemplification which contributes to illustration of points made should be credited - see above on legitimate contexts.

Level 1 - Generic Descriptor (1-3)

Simple statements about physical environments constraining and/or offering opportunities for human activities.

Level 2 - Generic Descriptor (4-5)

Fuller statements with some variety; perhaps awareness of both constraints, possibilities of adaptation and management, opportunities for economic activities.

Level 3 - Generic Descriptor (6-7)

Clear understanding of impact, both negative and positive with some details and sense of comment, e.g. on how far limited, on how technically capable the population, on changes with economic development and so on.

(7 marks)

Total for this question: 15 marks

Mark Scheme for Synoptic Essays**Preamble**

Examiners should bear in mind that these questions are synoptic in nature and offer candidates the opportunity to demonstrate knowledge and understanding:

1. across a range of geographical subject matter;
2. of connections between the different aspects of geography in the specification;
3. of the importance, where relevant, of human perspectives on themes and issues.

Candidates are advised of this both in the Assessment Unit Rubric and in the Note to Candidate which precedes the essay questions in Section B. Synoptic elements might therefore feature in answers matching all the criteria bands but can be expected to feature more prominently in higher mark bands. It will be seen that explicit synoptic content is a necessary feature of the two band ranges 19-24 and 25-30.

Additionally, essay writing is an important vehicle for the demonstration of communication skills – at level 3 these refer to writing in a manner appropriate to purpose and complex subject matter; organising relevant information clearly and coherently using specialist vocabulary as appropriate and ensuring clarity of meaning through legible text, accurate spelling, punctuation and grammar. (Key Skills – Communication Level 3 C3.3 [QCA]; Para. 13 AS/A Level Geography Specification Outlines [QCA].

Synoptic content and communication aspects should be kept in mind when assessing the unit and are incorporated into the criteria bands set out below which refer to knowledge, understanding and skills. Indicate synoptic content using the letter ‘s’ in the margin as appropriate.

CRITERIA BANDS

Examiners will use the criteria below to evaluate the work, placing the candidate’s performance in the appropriate band and attributing the mark from the left-hand column appropriate to the question concerned. They should seek the best fit from the band descriptor – work adjudged to be in a particular band might not contain all the features attributed to that band.

25 – 30

A very good answer. Consistently relevant to the theme and to the demands of the question. Evaluates explicitly where required. Displays a very confident range of knowledge and understanding by using the appropriate terminology, critically referring to concepts and theory where necessary and establishing relationships between different physical and/or human factors and processes. Synoptic elements are a prominent feature and are fully integrated into the answer and used to purposeful effect in respect of the question's requirements. Demonstrates, where relevant, either implicitly or explicitly awareness of human perspectives upon geographical themes and issues. Argues coherently and in an organised, logical and balanced fashion. Support is consistent, accurate and detailed. A well developed essay style. Detailed and sophisticated communication skills with fluent and cogent writing style.

19 – 24

A good answer, which remains relevant to the theme and demands of the question. Evaluation may now only be implicit. Displays a confident range of knowledge and understanding, but with a few omissions at the lower end, e.g. some terminology missing or some pertinent relationships left unexplored. Synoptic elements should be a feature of the answer and seen to be meeting the questions requirements. Some possibly rather uncritical reference to theory; some reference to awareness of human perspectives and decisions taking on geographical issues and problems. Argues well, but organisation may be suspect in places. Support is invariably there, but may not always be detailed. A competent essay style. Effective communication skills with accurate spelling, punctuation and grammar.

13 – 18

A satisfactory answer ranging down to the mediocre, which always attempts, but not always succeeds to be relevant. Lacking in evaluation. Displays a reasonable grasp of knowledge, but understanding is suspect in places. Relevant theory and concepts might be mentioned but with basic uncritical application. The interconnections and relationships between different physical and/or human processes are briefly mentioned but understanding of their significance is limited. There is some synoptic content which is relevant to the question. Argument and analysis are partial and become less significant in relation to mere description. Increasingly unbalanced as an answer, and the logic and organisation are clearly deficient. Support is not detailed here, occasionally inaccurate and barely consistent. The bare bones of an essay format. Appropriate communication skills so that meaning is almost invariably clear with adequate language skills. Possibly some spelling/punctuation/grammar errors.

7 – 12

A very mediocre answer which is only occasionally relevant to both the theme and the demands of the question. Decidedly deficient in knowledge and understanding with only simplistic notion of relevant theory and concepts. Little if any relevance to inter-relationships between physical and/or human processes and factors or subject matter from other elements in the specification. Increasing irrelevance in a predominantly descriptive context. Clearly lacks an ability to organise material and may drift into another answer. Support is scanty and usually suspect. A weak, barely perceptible, essay format. Basic communication skills – many spelling errors and/or oddities of grammar and punctuation.

1 – 6

A very weak answer which shows little attempt to follow the theme and the demands of the question. A very low level of knowledge and understanding, with even the simplest of concepts avoided. Very inaccurate and may completely miss the point. No idea of how to organise material with haphazard format, evidence of guesswork and little or no support. No attempt at an essay format. Little or no language and communication skills. Many errors in spelling, punctuation and grammar.

4. Understanding natural systems is the key to successful management of coasts. To what extent do you agree with this view?

This question is intended to enable candidates to engage in broad human and physical geographical themes represented elsewhere in the specification (and quite possibly and creditably from outside the specification as well) from a *Coast processes and problems* specialisation. It should enable the introduction and elaboration of such human and physical geographical themes and allow for the human environment relationship to be explored. The response can be exemplified and illustrated at a variety of scales and contexts and the assigned task enables a discussion of values and policy aspects to be incorporated. See generic scheme for criteria band - examiners are reminded that clear synoptic content is required for credit of 19 and over. However, it is difficult to imagine an answer of reasonable quality without some synoptic content.

Appropriate content might include: systems approach is essential to effective response to this question with an understanding of concepts- energy, material inputs, outputs, components and flows, balance, equilibrium. Interconnectedness and linkages applied in a coastal context. The likely emphasis on complexity and inter-relationship between different coastal stretches and between the coastal system and other environmental systems, the ideas of coastal cells may well be usefully considered. However, examiners should tolerate to some extent a lack of detailed knowledge k/u of systems where candidates nevertheless demonstrate awareness that coastal processes behave in varied and unpredictable ways.

Management should be discussed in terms of aims and methods, a considerable diversity can be expected in a range of settings. A detailed case study of one coast could support a good answer. More likely a range of coasts and approaches will generate higher credit as offering more scope for discussion. There should be some consideration of success and the criteria for measuring it and this could be in terms of effectiveness, economy, sustainability or a mix of all 3.

Accurate and apt application of systems principles and their illustration and exemplification should be credited. There may be an emphasis on lack of success but equally successful schemes might be considered. Examples of both will obviously contribute to a discussion. The relationship of success or failure to the application of systems thinking should be a clear element.

Discussion will be enhanced by consideration of factors other than systems understanding - perhaps noting that understanding is linked with development and/or understanding is of little value unless there is the technological capacity, resources and willingness to intervene and manage coasts and this is associated with income levels, levels of development and value systems and other regional/local circumstances including arguably the characteristics and “manageability” of any particular coast. Possible changes in sea level related to the changing water cycle because of global warming with its implications for future management is also relevant.

Case study material/exemplars might come from anywhere. In offering valid comparisons and contrasts which inform a response and give it substance and credibility the potential of making broad and specific comparisons between LEDCs and MEDCs. Contrasting examples rooted in differing environments/settings are extremely likely to produce synopticity, etc.

A descriptive case study or series of examples with no explicit relationship to the question but from which an answer may be inferred, is unlikely to achieve more than 15 marks. Such a response with concluding paragraph, which refers clearly and explicitly to the terms of the question, may achieve 18 marks.

The question clearly requires a discussion approach and in response candidate should come to a view - any conclusion is creditable as long as it is reasonable and related to the preceding contents and discussion.

5. Geomorphological hazards have the greatest impact on the poorest members of the world's population. Discuss the validity of this statement.

This question is intended to enable candidates to engage in broad human and physical geographical themes represented elsewhere in the specification and quite possibly and creditably from outside the specification as well from a *Geomorphological processes and hazards* specialisation. It should enable the introduction and elaboration of such human and physical geographical themes and allow for the human environment relationship to be explored. The response can be exemplified and illustrated at a variety of scales and contexts and the assigned task enables a discussion of values and policy aspects to be incorporated.

See generic scheme for criteria band - examiners are reminded that clear synoptic content is required for credit of 19 and over. However it is difficult to imagine an answer of reasonable quality without some synoptic content.

Appropriate content might include a review off geomorphological processes /events as hazards - vulcanicity, seismicity, mass movement can be expected but also credit review of other processes as hazards posed by other geomorphological processes such as river flooding, intense river erosion and so on.

The concept of hazard might be creditably reviewed and the extent to which the processes identified above represent hazards, their impact on human economies and societies and the possibilities for adjustment, management. The distribution of these hazards may well support a relevant discussion which focuses on patterns of concentration e.g. linearity of seismicity, vulcanicity, great river floodplains chronically exposed to risk and so affecting those who live in particular places. Further comment may connect these to income/economic development levels - careful statements would need to be made bearing in mind for example the seismic risks in the western United States, central and southern Italy and Japan.

Variations in capacity to adapt to manage processes and impacts on a global continental scale may well be noted and be very creditable. Here the MEDC/LEDC will be important but as always look for measured, qualified statements with support.

Most candidates are equating 'p m o w p' with LEDCs compared to MEDCs and this should be tolerated. However, better responses will feature differential impacts within population. Where the response is based only on L/MEDC contrasts the maximum mark is 24. For top band more explicit reference to 'p m o w p' within societies/countries is needed. Possibly housing will figure most prominently. Also likely is the vulnerability of informal settlements to processes such as landslides/slips, also flood plain settlements, etc., with examples drawn perhaps from Brazil or Hong Kong.

Thus, there are several elements, which might contribute to a full response - knowledge and understanding of process as hazards and the vulnerability of different populations, and regions to them; the capacity and willingness to manage them or deal with their effects and both these elements should be evident in a full response. Responses that essentially review hazards with a concluding section on their impacts *vis a vis* poorest members of the population, might achieve 18 marks. 25-30 band should be reserved for those where there is a clear debate about impacts supported by secure and detailed knowledge and understanding of more than one process as hazard.

Case study material / exemplars might come from anywhere. In offering valid comparisons and contrasts which inform a response and give it substance and credibility the potential of making broad and specific comparisons between LEDCs and MEDCs. Contrasting examples are extremely likely to produce synopticity, etc.

The question clearly requires a discussion approach and the response should come to a view - any conclusion is creditable as long as it is reasonable and related to the preceding contents and discussion.

6. As time passes, the development of cold environments will have to become more sustainable. To what extent do you agree with this view?

This question is intended to enable candidates to engage in broad human and physical geographical themes represented elsewhere in the specification and quite possibly and creditably from outside the specification as well as from a *Cold Environments and Human Activity* specialisation. It should enable the introduction and elaboration of such human and physical geographical themes and allow for the human environment relationship to be explored. The response can be exemplified and illustrated at a variety of scales and contexts, and the assigned task enables a discussion of values and policy aspects to be incorporated.

See generic scheme for criteria band - examiners are reminded that clear synoptic content is required for credit of 19 and over. However, it is difficult to imagine an answer of reasonable quality without some synoptic content.

Appropriate content might include: the characteristics (ecological, geomorphological, climatic and human) and distribution of cold environments. Any of those identified in the specification should be credited including environments such as Snowdonia and the Lake District in Great Britain, and indeed others.

The concept of sustainability should be reviewed supported by a reasonable definition - perhaps in this case we might expect a definition directed towards these particular environments as vulnerable and fragile but the definition may certainly extend out to include more general global aspects.

A review of development perhaps distinguishing between indigenous and more recent developments may well be creditable. The account should not be overly historical but may make valid distinctions between the more distant and more recent past and present in respect of the activities of indigenous populations as well as adventitious populations and pressures for development from the outside world. These accounts should be accurate and up-to-date, at least two cold environments should be referred to. Responses are likely to emphasise the difficulties and tensions with local environmental factors and geomorphological problems, ecological impacts and possibly human impacts on indigenous economies and societies should be critically reviewed in a measured fashion.

Comment should be measured, and is central to the discussion approach demanded by the question. Feasibility of becoming more sustainable may also be queried and would certainly contribute to a discussion – such an argument might well be rooted in a broad and synoptic critique of modern approaches to development and exploitative view of the environment.

A broader view of sustainability in cold environments as part of a wider global situation relating to sustained population and economic growth with its impact on resource depletion/development and environmental quality is also valid and certainly would contribute to synopticity, but by itself would lack sufficient cold environment focus to get more than 12 marks.

A single cold environment case study with a discussion element could gain a maximum of 24 marks as more than one cold environment is indicated by the question and would be necessary for a full response and full credit.

A descriptive case study of the development of one or more cold environments with no explicit relationship to the question but from which an answer may be inferred is unlikely to achieve more than 15 marks. Such a response with concluding paragraph which refers clearly and explicitly to the terms of the question may achieve 18 marks.

Case study material/ exemplars might come from anywhere. In offering valid comparisons and contrasts as for example between communities within them, between different types of cold environment they will support and inform a response and give it substance and credibility and certainly contribute to synopticity, etc.

The question clearly requires a discussion approach and the “to what extent” element should be addressed in the conclusion by coming to a measured and reasonable conclusion clearly related to the preceding discussion.