

GCE AS

Geography

Summer 2009

Mark Schemes

Issued: October 2009

MARK SCHEMES (2009)

Foreword

Introduction

Mark Schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of 16- and 18-year-old students in schools and colleges. The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes therefore are regarded as a part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

The Council hopes that the mark schemes will be viewed and used in a constructive way as a further support to the teaching and learning processes.

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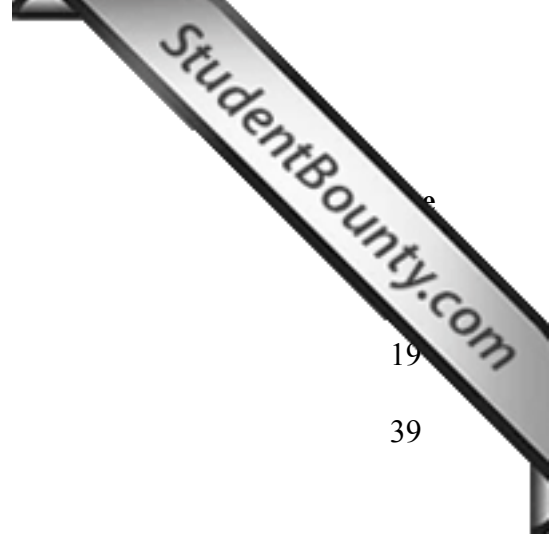
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ADVANCED
General Certificate of Education
2009

Geography

Assessment Unit A2 1

assessing

Module 4: Physical Processes and Human Interactions

[A2G11]

WEDNESDAY 13 MAY, AFTERNOON

MARK SCHEME

Introductory Remarks

Note that the assessment objectives (AOs) for this specification are more extensive than those of the previous syllabus. There are now four AOs, and the style of questions and the requirements of the mark scheme have had to be modified somewhat to take account of them, particularly AO2 and AO3 with the need for “critical understanding”. It is worth reproducing the AOs here:

- AO1 Show knowledge of the specified content;
- AO2 Show critical understanding of the specified content;
- AO3 Apply knowledge and critical understanding to unfamiliar contexts;
- AO4 Select and use a variety of skills and techniques, including communicative skills, appropriate to geographical studies.

General Instructions for Markers

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all markers are following exactly the same instructions and making the same judgements so far as this is possible. Markers must apply the mark scheme in a consistent manner and to the standard agreed at the standardising meeting.

It is important to recognise that in some cases there may be other correct responses that are equally acceptable to those included in this mark scheme. There may be instances where certain judgements have to be left to the experience of the examiner, for example, where there is no absolute, correct answer.

Markers are advised that there is no correlation between length and quality of response. Candidates may provide a very concise answer that fully addresses the requirements of the question and is therefore worthy of full or almost full marks. Alternatively, a candidate may provide a very long answer which also addresses the requirements of the question and is equally worthy of full or almost full marks. It is important, therefore, not to be influenced by the length of the candidate’s response but rather by the extent to which the requirements of the mark scheme have been met.

Some candidates may present answers in writing that are difficult to read. Markers should take the time to establish what points are being expressed before deciding on a mark allocation. However, candidates should present answers which are legible and markers should not spend a disproportionate amount of time trying to decipher writing that is illegible.

Levels of Response

For questions with an allocation of six or more marks three levels of response will be provided to help guide the marking process. General descriptions of the criteria governing levels of response mark schemes are set out on the next page. When deciding about the level of a response, a “best fit” approach should be taken. It will not be necessary for a response to meet the requirements of all the criteria within any given level for that level to be awarded. For example, a level 3 response does not require all of the possible knowledge and understanding which might be realistically expected from an AS or AL candidate to be present in the answer.

Having decided what the level is, it is then important that a mark from within the range for that level, which accurately reflects the value of the candidate’s answer, is awarded.

General Descriptions for Marking Criteria

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

Unit A: Managing Fluvial and Coastal Environments

- 1 (a) (i) An appropriate explanation is required. Explanations may include reference to the resort nature of the town with a consequent economic reliance upon tourism, the destructive nature of the waves and storm frequency. A maximum of [2] will be awarded for a brief statement without explanation or for an explanation with limited reference to the resources. [4]

- (ii) Both description of coastal protection methods (raised promenade, curved seawall, rock armour) and justification are required.

Level 3 ([7]–[8])

A full description is given inclusive of at least two of the mentioned coastal protection methods. A strong and valid justification of their choice is given. Depth/details are present.

Level 2 ([4]–[6])

Some description of at least two of the mentioned coastal protection methods is given. The justification is valid but may be lacking in development of ideas. Depth/details are restricted.

Level 1 ([1]–[3])

Either the description or the justification may be omitted or lack relevance or validity. Only one of the mentioned coastal protection methods may be referred to. Depth and detail may be limited. [8]

- (b) Reference to places accompanied by description are expected.

Level 3 ([7]–[8])

Valid reference to more than one place is made. A detailed description of the ways in which river and valley zones are subject to a range of demands is given. Depth/details are present.

Level 2 ([4]–[6])

Valid reference to more than one place is made. A description of the ways in which river and valley zones are subject to demands is given, although the range of ideas may be restricted and/or lacking in development. Depth/details may be restricted.

Level 1 ([1]–[3])

Reference may be made to one place only. The description may lack relevance or validity, or be of narrow range only. Either the river or its valley zone may be neglected. Depth and detail may be limited. The answer may be cursory. [8]

syn (c) (i) This is a case study question and, therefore, reference must be made to a named small scale river management study. Both elements of the question are synoptic and, as such, require reference to human and physical interplay of the study.

Level 3 ([5])

The answer refers to a relevant case study example and provides a high level of appropriate case study details in the description of the engineering solutions used along the river. Synopticity is fully addressed.

Level 2 ([3]–[4])

The answer refers to a relevant case study example. Some relevant and valid engineering solutions are described although detail may be restricted or the answer may be incomplete or lacking in precise terminology. Synopticity is addressed.

Level 1 ([1]–[2])

The answer may omit case study detail, or provides limited depth and detail relevant to the engineering solutions used along the river. An inappropriate case study may have been used. Synopticity may be restricted.

[5]

(ii) Level 3 ([8]–[10])

The answer refers to a relevant case study example. The success of a range of relevant and valid remedial strategies is evaluated strongly (either discreetly or generically) in terms of both the human and physical environments. Thus, synopticity is fully addressed.

Level 2 ([4]–[7])

The answer refers to a relevant case study example. Although the success of a range of relevant and valid remedial strategies is evaluated (either discreetly or generically) in terms of both the human and physical environments, the evaluation may be unbalanced, underdeveloped, lacking in detail, incomplete or lacking in precise terminology. Synopticity is addressed.

Level 1 ([1]–[3])

An inappropriate case study may have been used. The answer may omit case study detail, or provide limited depth and detail in the evaluation of the engineering solutions. The response may be cursory. Synopticity may be restricted.

[10]

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- 2 (a) (i) A description of both the physical factors (such as river confluence above town, narrow steep valley, heavy rainfall) and human factors (such as narrow bridge, settlement in valley) which contributed to the flood events at Boscastle is required.

Level 3 ([5]–[6])

A full description of the physical and human factors which contributed to the 2004 floods is given. Terminology is precise.

Level 2 ([3]–[4])

Some description of the physical and human factors which contributed to the 2004 floods is given. The answer may be unbalanced or lacking in precise terminology.

Level 1 ([1]–[2])

The description of the physical and human factors which contributed to the 2004 floods may be cursory or inappropriate. Either human or physical factors may have been neglected. There may be poor use of terminology. [6]

- (ii) The resources indicate that an overflow culvert has been constructed, the river channel has been deepened and widened and the level of the car park has been raised. The way in which one of these has helped to reduce the flood threat should be explained. The culvert and changes to the river channel will increase velocity of flow and, therefore, discharge. The raised car park level will prevent the floodwaters from attaining access. A maximum of [2] will be awarded for an underdeveloped statement. [4]
- (iii) A valid strategy should be identified [1] (such as levée construction or overflow channel) and an explanation of its operation given, maximum [3]. [4]

- (b) Reference to places accompanied by description is expected.

Level 3 ([5]–[6])

Valid reference to more than one place is made. A detailed description of the ways in which coastal zones are subject to a range of demands is given. Depth/details are present.

Level 2 ([3]–[4])

Valid reference to more than one place is made. A description of the ways in which coastal zones are subject to demands is given, although the range of ideas may be restricted and/or lacking in development. Depth/details may be restricted.

Level 1 ([1]–[2])

Reference may be made to one place only. The description may lack relevance or validity, or be of narrow range only. Depth and detail may be limited. The answer may be cursory. [6]

syn (c) Case study material is a fundamental requirement of responses to this question. The statement should be discussed in a synoptic context for a case study of the appropriate scale.

Level 3 ([11]–[15])

A discussion of the statement is provided within the context of a relevant study. Both physical and human elements are addressed with relevant detail.

Level 2 ([6]–[10])

There is at least implicit reference to the statement within the context of a relevant study, but it may be underdeveloped in terms of depth and detail. Both physical and human elements are present, but one may be more fully developed than the other.

Level 1 ([1]–[5])

A poor study, perhaps of an inappropriate scale, is used. Inaccurate or irrelevant detail may be given. The discussion may be restricted, or reference to the statement omitted. The synoptic element may not be addressed. [15]

35

Unit A Total

35

Unit B: The Nature and Vulnerability of Tropical Ecosystems

- 3 (a) The annotated diagram and text should explain accurately several characteristics of an oxisol. Characteristics might include soil depth, horizon profile, colour, acidity levels, fertility and chemistry. Explanation would require a comment on the role of climate, vegetation and/or time as well as soil processes such as decomposition and leaching.

Level 3 ([7]–[9])

An accurate and annotated oxisol diagram is drawn and at least two of the identified characteristics are explained with reference to relevant conditions and processes.

Level 2 ([4]–[6])

While both a relevant diagram and explanation of the characteristics are provided, the response is limited in depth, range, accuracy or annotation.

Level 1 ([1]–[3])

A response that does not provide a relevant diagram or only deals with description of characteristics would be confined to this level. An inaccurate diagram or explanation would also be confined to Level 1. [9]

- (b) (i) The resource is an aid to this question and some use of the material must be made. On the other hand the question implies that explanation for sustainability beyond the resource is required. Aspects would include the protection of the soil by tree roots and branches, the incorporation of organic material into the soil by the burning of the cleared vegetation and the abandonment of the land until soil fertility is restored.

Level 3 ([5]–[6])

A response that makes sound use of the resource and gives relevant additional explanation for the sustainability of slash and burn in tropical forest ecosystems.

Level 2 ([3]–[4])

Both use of the resource and additional comment is made, but the range, depth and relevance of the explanation may be limited.

Level 1 ([1]–[2])

No use is made of the resource or, alternatively the response provides only material drawn from the resource. Resource use or explanation may be irrelevant or invalid. [6]

- (ii) The response is required to describe the ways in which traditional slash and burn techniques may become unsustainable for both the society and for the environment. Responses should involve the need to re-use land too frequently before soil fertility can be restored. This is the outcome of increased pressure from either increased population growth or the reduction in the available forest as a consequence of other land use demands. If either social or environmental sustainability is neglected a maximum of [3] would be awarded. [5]

syn (c) Two distinct elements are required: firstly, a description of the problems of deforestation on a large scale (no case study material is required) and secondly, an explanation of sustainable management for a relevant small-scale case study.

Level 3 ([11]–[15])

The problems of large scale deforestation are described and an appropriate small scale case study is provided with detail on the nature of its management for sustainability. Synopticity is fully addressed.

Level 2 ([6]–[10])

The answer makes reference to large scale deforestation problems and has a relevant case study but the range or link to sustainability is not fully developed or depth and detail is restricted. Synopticity is addressed.

Level 1 ([1]–[5])

One of the critical elements of the question is absent i.e. the problems of large scale deforestation or a relevant case study for sustainable management. Synopticity may be neglected. The answer may be cursory in nature. [15]

35

- 4 (a) (i) Several adaptations of the Baobab are identified in the text:
- the fleshy trunk has the ability to store water to aid survival during the long drought;
 - the trunk also provides protection from fires during this season;
 - leaves for photosynthesis are retained only during the short wet season and shed; and
 - the leaves are small, finger shaped to reduce water loss from pores.
- The response should show understanding of the seasonal nature of the semi-arid tropical climate: hot summers with a small quantity of rainfall from sporadic storms and a long warm and dry winter.
At least two adaptations need to be explained accurately for [4]. [4]

- (ii) Two distinct plant adaptations are required **either** for the semi-arid tropics ecosystem (different to those in text) **or** for the tropical forest ecosystem. Relevant examples would include:
- Semi-arid tropics** – deep tap root systems, widespread shallow rooting patterns or thorns replacing leaves.
- Tropical forest ecosystems** – tall, branchless trunks and high crowns, buttress roots, drip tips on leaves, long seed dormancy or one of the many symbiotic or parasitic relationships.
- Identification and description (2 × [2]) [4]

- (b) (i) Salinisation is the process of deposition of soluble salts within a soil profile or on its surface. Do not expect a technical definition, rather an understanding of the process that changes a soil's chemistry to become increasingly alkaline through the deposition of chemical salts as water evaporates. Irrigation potentially initiates or accelerates salinisation in a number of ways:
- water used for irrigation may have a high salt content;
 - adding water to soil may increase capillary action and evaporation rates leaving behind more salts;
 - irrigation water may wash surface salts down into the soil profile and the plant root zone;
 - irrigation may raise the water table towards the surface thereby increasing evaporation and deposition.

Level 3 ([5]–[6])

The response shows a clear knowledge of the salinisation process and provides a sound and detailed explanation of the role of irrigation in initiating or accelerating the process in soils.

Level 2 ([3]–[4])

Some knowledge of both salinisation and irrigation is demonstrated but the definition of the process or the impact of irrigation is not accurate and/or depth and detail may be limited.

Level 1 ([1]–[2])

Little understanding of salinisation or the role of irrigation in the process is noted. The response may be a cursory one. [6]

- (ii) At least two clear solutions are given and the operation of each suggestion should be described. No case study material is required but some may put their suggestions in context.

Level 3 ([5]–[6])

Valid suggested solutions are described accurately with appropriate terminology used. Depth and detail are good.

Level 2 ([3]–[4])

Responses are confined to this level if only one valid solution is described or if several suggestions are stated but lack description. Depth and detail may be restricted.

Level 1 ([1]–[2])

The range or description of suggested solutions is severely restricted or invalid. [6]

- syn* (c) Case study information should be more than just an initial naming of an appropriate developing country. The response should also describe both modern and traditional irrigation methods though it may not be balanced between both. Synopticity should be addressed by discussion of the physical and human impacts of irrigation on resource (soil and water) development.

Level 3 ([11]–[15])

Both the key commands (‘with reference to ...’ and ‘discuss how’) are addressed and a description of both traditional and modern methods is given. Within this level marking will be determined by the level of detail provided and the linking of irrigation to resource development. Synopticity is addressed fully.

Level 2 ([6]–[10])

One of the question’s key elements is not addressed though the other aspects are developed to a sound standard. Alternatively all aspects are covered but depth and detail is restricted throughout. Synopticity is addressed.

Level 1 ([1]–[5])

At this level responses have neglected more than one element of the question, perhaps an inappropriate case study and/or no synoptic discussion. Alternatively the response may be cursory. [15]

35

Unit B Total

35

Unit C: Pollution and its Management

- 5 (a) Candidates should outline two reasons concerning conflict of attitudes in this context. For example, political, cultural, economic or ethical differences.

Level 3 ([7]–[8])

The candidate outlines at least two valid reasons in a coherent and reasoned manner and with some detail. Conflict is noted strongly.

Level 2 ([4]–[6])

The candidate outlines at least two valid reasons in a coherent and reasoned manner, but depth and detail are restricted. There is some reference to conflict.

Level 1 ([1]–[3])

The candidate may outline one valid reason only, or reasons offered may lack validity. Detail may be poor. Conflict may be neglected. [8]

- (b) (i) The candidate should include material from the resource, as well as additional material to formulate a response.

Level 3 ([7]–[9])

A full and relevant discussion is offered, which utilises material from the resource as well as additional material. Depth/details are present.

Level 2 ([4]–[6])

A relevant discussion is offered, but depth and details may be restricted. Although the candidate utilises material from the resource as well as additional material, there may be imbalance in favour of the resource.

Level 1 ([1]–[3])

A cursory discussion may be offered. Either the resource or additional material may be omitted. Depth/details are restricted. [9]

- (ii) Candidates may select any reasonable option, although isolines or choropleth mapping are the most likely. [1] Reasons may include ease of construction, visual effectiveness, ease of interpretation etc. [2] [3]

syn (c) This is a synoptic question, requiring recognition of the interplay between the physical and human environments in an appropriate case study context.

Level 3 ([11]–[15])

An appropriate case study is identified. The sources of the river’s pollution are identified. A wide range of relevant strategies is outlined and a strong evaluation of their success is presented (either generically or discreetly). Appropriate case study details are present throughout. The interplay between human and physical environments is fully addressed.

Level 2 ([6]–[10])

An appropriate case study is identified. Some sources of the river’s pollution are identified. A range of relevant strategies is outlined and some evaluation of their success is presented (either generically or discreetly). Some appropriate case study details are present throughout. The interplay between human and physical environments is addressed.

Level 1 ([1]–[5])

The case study context may be of an inappropriate scale. One or other of the key elements of the question may be neglected, or each element handled in a cursory fashion. Case study details are restricted. Synopticity may be neglected.

[15]

35

- 6 (a) (i) Candidates should use evidence from the resource to explain the difficulties in defining pollution. Ideas may include, for example: the varying sources, pathways and sinks of pollutants; differential scales; reference to rare hazards.

Level 3 ([5]–[6])

The candidate provides strong, valid and detailed comment regarding difficulties in classification of pollutants. Comments are supported with a high level of information from the resource.

Level 2 ([3]–[4])

The candidate provides some comment regarding difficulties in classification of pollutants, but depth and detail are restricted. Comments are supported with some information from the resource.

Level 1 ([1]–[2])

The candidate provides limited valid comment regarding difficulties in classification of pollutants. The answer may be cursory only. Limited information from the resource is used to support comments made. [6]

- (ii) A brief but valid statement would attain a maximum [2]. More detailed explanation of the link would attain maximum [4]. [4]

- (iii) A valid but under-developed statement would attain a maximum [2]. More detailed reasoning of the link would attain maximum [4]. Answers may include movements in the air or in water courses, reference to ocean currents etc. [4]

- (b) A continuous pollution hazard should be identified and a description of its environmental impact/s given.

Level 3 ([5]–[6])

A valid hazard is clearly identified. Strong description of impacts is given and well-supported with detail.

Level 2 ([3]–[4])

A valid hazard is identified. Some description of impacts is given, although in an under-developed fashion. Depth and detail may be restricted.

Level 1 ([1]–[2])

Either identification of the hazard is omitted, or the hazard identified is not continuous. The description may be of restricted quality and/or depth. The answer may be cursory in nature. [6]

syn (c) Candidates should discuss the activities responsible for radioactive contamination of a regional scale case study, and its impacts on both the physical and human environments.

Level 3 ([11]–[15])

Each of the requirements (description of activities, physical impacts, human impacts) is strongly addressed with appropriate details and at an appropriate scale. Terminology is precise. Synopticity is fully addressed.

Level 2 ([6]–[10])

Each of the requirements (description of activities, physical impacts, human impacts) is addressed with some details although perhaps in an unbalanced fashion. The scale of the case study is appropriate. The answer may be lacking in precise terminology. Synopticity is addressed.

Level 1 ([1]–[5])

The answer omits one or more of the key components (description of activities, physical impacts, human impacts), or provides limited depth and/or relevant detail. A case study of an inappropriate scale may be used. Synopticity may be restricted.

[15]

35

Unit C Total

35

Unit D: Natural Hazards and Human Activity

- 7 (a) A cross-section diagram of both a constructive (sea-floor spreading) and a destructive (subduction) margin is anticipated though some may use a vertical view that would require a fully written account. Both processes should be described using appropriate terminology and with links to the diagram.

Level 3 ([7]–[9])

A relevant, accurate diagram or diagrams which note both seafloor spreading and subduction is presented which is integrated into an explanatory account of the link between the processes of seafloor spreading and subduction. Precise terminology is given.

Level 2 ([4]–[6])

A diagram or diagrams and related text are both provided but the explanation is limited in depth or detail. Perhaps the answer neglects the linking of the processes described to plate tectonic theory.

Level 1 ([1]–[3])

An explanation, of any quality, without a diagram is confined to this level. Alternatively, a poor diagram with an explanation lacking detail and appropriate terminology would be similarly restricted. [9]

- (b) (i) Primary earthquake effects are direct and immediate whereas secondary effects are less direct and often subsequent to the initial impact. [2]
In the resource the deaths and injuries caused by collapsing buildings are examples of primary effects while the risk to survivors of blocked roads, a lack of shelter, untreated injuries, hunger, disease and hypothermia are secondary. Examples of each should be quoted from the resource. [3] [5]
- (ii) Several comments reflect on the lack of effective management. In advance of the event the use of unreinforced concrete block masonry suggests inappropriate construction techniques in an earthquake prone region. The Pakistan president admits that the government was too slow in its response due to communication problems. It was weeks before 120 000 survivors were reached and many died of injuries that were treatable.

Level 3 ([5]–[6])

Full use is made of the resource material with several relevant points made and linked to inadequate management.

Level 2 ([3]–[4])

At least two relevant points are made from the resource, though these may be stated and not developed in relation to the question of management.

Level 1 ([1]–[2])

Little valid use is made of the resource material or the answer may lack understanding. [6]

syn (c) Two required elements are identified and each should be addressed with relevant detail from an appropriate case study with synopticity. Only negative impacts are required and these should be of a social and economic nature. If social or economic impacts are neglected entirely, maximum Level 2.

Level 3 ([11]–[15])

Both the negative impacts of a monsoon climate, social and economic, and the attempts to reduce these are addressed in the context of an appropriate case study with detail in a synoptic fashion.

Level 2 ([6]–[10])

While both aspects required by the question are addressed they are inadequately developed, lacking case study detail.

Level 1 ([1]–[5])

Responses at this level are flawed by their lack of one of the two required elements or selection of an inappropriate case study. The answer may be cursory. [15]

35

8 (a) The candidate is required to produce a diagram or map which helps to explain the development of the summer wet monsoon and its associated weather. The explanation should involve upper level atmospheric flows but only for the summer monsoon. No case study or reference to location is required.

Level 3 ([9]–[12])

An accurate and well presented diagram or map is accompanied by text that clarifies the development process and the related weather.

Level 2 ([5]–[8])

A diagram/map is provided but it, or the explanation of monsoon development and weather are inadequate in depth and detail.

Level 1 ([1]–[4])

If no diagram or map is presented then answers are confined to this level. Alternatively a diagram or map without relevant explanation may be confined to this level. The answer may be cursory or invalid. [12]

(b) (i) The response should identify the two changes involved firstly, increasing air pollution due to fossil fuel consumption and secondly forest clearance in South Asia [2]. Then these should be linked to an increase in the earth's albedo (brightness) so reducing surface temperatures. This reduction in temperature, it is suggested, will reduce the pressure gradient and consequently the inward flow of moist air that brings the summer rain. Candidates should clearly show the links through the three stages of the process for full marks [3]. [5]

(ii) The resource comments that the majority of India's population (approx. 700 000) depends on harvests fed by monsoon rain. No resource details, maximum [2]. [3]

syn (c) Candidates have a choice of addressing a case study of volcanic **or** earthquake activity; in either case the methods used in prediction should be accurately described and the success of their use evaluated. Case study detail is required and should be detailed and accurate.

Level 3 ([11]–[15])

The answer refers to a relevant case study example with depth and detail. The success of a range of relevant and valid prediction methods is evaluated strongly (either discreetly or generically). Synopticity is fully addressed.

Level 2 ([6]–[10])

The answer refers to a relevant case study example. Although the success of a range of relevant and valid prediction methods is evaluated (either discreetly or generically), the response is unbalanced, lacking in detail, incomplete or lacking in precise terminology. Synopticity is addressed.

Level 1 ([1]–[5])

An inappropriate case study may have been used. The answer may omit case study detail, or provide limited depth/detail in the evaluation. The response may be cursory. Synopticity may be neglected.

[15]	35
Unit D Total	35
Total	70



Rewarding Learning

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General Certificate of Education
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Geography

Assessment Unit A2 2

assessing

**Module 5: Processes and Issues in
Human Geography**

[A2G21]

TUESDAY 19 MAY, AFTERNOON

**MARK
SCHEME**

Unit A: Impact of Population Change

- 1 (a) • Any two factors from the five listed:
- economic;
 - social;
 - political;
 - cultural;
 - environmental.
- If candidates do more than two, mark them all and award the best two.
 - If they do only one, mark out of [4].
 - Note that the discussion in each case has to include fertility **and** mortality. Do not necessarily reserve [2] for each in both cases, maybe there will be more to say on one rather than the other: environmental factors might bring a longer answer than fertility for example, but if either fertility or mortality is completely absent from a discussion, mark out of [2].
 - Beware of excessive overlap, e.g. between social and cultural.
 - There is no need for place reference, but if there is some, that's fine.
 - The answers can be generalised, but if detail is used, actual rates for example, that is welcome. 2 × [4] [8]
- (b) (i) Regarding Prince Edward Island the European migration saw the local First Nation, the Mi'kmaq, lose their land and be pushed to four reserves, including Lennox Island, and their numbers were much reduced. So there are size and distribution facts for them to spot regarding the aboriginals. With regard to Prince Edward Island as a whole, the population has grown a great deal and the island is now fully settled, as they can see from the resources. What their own material will add is to be seen.
- “To help you”, so if there is nothing else beyond the resource, maximum Level 2.
 - If there is no resource use, maximum Level 2.
 - It's in-migration; if the answer is out-migration, maximum Level 1.
 - It's population size and distribution. It's not half marks for each but an answer that does not deal with both issues or is very unbalanced cannot get into Level 3.

Level 3 ([7]–[8])

A balanced essay dealing with size and distribution and which also brings in the candidate's own material to add to the analysis of the resources. Language and terminology are good and the candidate displays command of the topic.

Level 2 ([4]–[6])

There must be some mention of size and distribution, but full balance is not required. There may be imbalance in use of resources and own material or one may be neglected entirely. There must be some depth and reasonable language use.

Level 1 ([1]–[3])

Answers here may have something omitted that cannot be compensated for by depth elsewhere. Full answers will lack detail or command. [8]

- (b) (ii) Positive? Well, the Mi'kmaq benefited from the presumably patronising support of the Aborigines Protection Society, who did buy the land for their use. The photographs show that their culture has survived, so that is a sort of positive, things could have been worse; they could have lost that, too. Also on social matters/services they have a nice school on the island now, so somebody, the government, is/has invested heavily and for such a tiny population. (As an aside, aboriginal children used to be shipped off to residential schools where there was much abuse; at the pow-wow in the resource we all had to “give honour” as the phrase has it to “survivors” of the residential schools. So this nice new school building on the reserve has a deep meaning; don't expect our candidates to realise this, of course.) That the Mi'kmaq here have their own island has helped economically in that there is the tourism complex and also, as shown, access to the sea which has seen the development of the lobster fishery exploited by the First Nation, another positive. It is positive outcomes, plural, so if there is only one identified, maximum [2]. [4]
- (c)
- It is two policies that have to be compared. If they do not compare at all, in any way, Level 2.
 - If the answer is at the wrong scale and they use local or regional examples, Level 1.
 - The focus is on impacts; material on the reasons for the policy is thus no more than background. If the answer is about reasons and/or operations of policies and not on the impacts at all, Level 1.
 - There must be at least reasonable balance between the two sets of impacts for entry into Level 3.
 - The impacts should be rounded; it is never all good or bad. China has reduced its population growth (good) but at the cost of social problems (bad). Again for Level 3 one would require that there is a realisation of positive and negative impacts.

Level 3 ([11]–[15])

The answer is properly balanced in all ways. It uses appropriate terminology and language and displays command of both case studies. There is proper comparison and contrast and good focus on the impacts.

Level 2 ([6]–[10])

There may not be full balance but neither is there much missing. There is reasonable knowledge and command, but depth and detail may be a little lacking. The focus is on impacts.

Level 1 ([1]–[5])

Sub-optimal answers in Level 1 were identified above. Otherwise the answer has insufficient depth and detail for higher reward. [15]

- 2 (a) • They have to work on both fertility and migration policies;
- if they do them sequentially, $2 \times [2]$.
 - if they put the discussion together, say within a search for optimum population, mark out of [4].
 - If either fertility or migration is absent, maximum [2].
 - Note the question is on the considerations behind the policy; do not reward material that looks at impacts. [4]

- (b) This is about Boserup, so we need details about her ideas on human inventiveness etc., and how this helps/has helped mankind to deal with population/resource issues. What we don't want are great screeds about Malthus. He should appear only as a context for Boserup. This is not a compare one with the other type question. The command word is explain, which means that we seek depth. How does the inventiveness idea work, are there examples, details? An explanation can include evaluation – candidates may say that her contribution is unrealistic; that it cannot work in the long term or take the opposite view. Accept anything reasoned. Just identifying or stating her contribution does not get a candidate beyond Level 2.

Level 3 ([7]–[8])

The answer has proper focus on Boserup and explains her contribution at some length and in depth. There may be context regarding Malthus but this is not excessive. Malthus does not have to be mentioned. Language use is apt and the candidate displays command.

Level 2 ([4]–[6])

The answer has focus but may lack some depth and detail. Language and terminology are adequate.

Level 1 ([1]–[3])

Answers here may not be fully on the topic; certainly they will lack sufficient explanation. They may be short and/or unfinished with insufficient knowledge displayed for higher reward. [8]

- (c) (i) • Economic: it is the developing world with the highest rates of maternal mortality and the table shows massive differences between MEDCs and LEDCs and within LEDCs, too. They should realise that this ties in very well with economic differences and hence levels of health care, nutrition, etc. The text reinforces the point and identifies needs for investment.
- Social: this comes from the text: maternal health, women's status, women's rights are mentioned with the message that these are "worth fighting for". If women were not an underclass things would be better for them and largely preventable deaths would be reduced.
 - Do not seek full balance, but if either economic or social are ignored, maximum [3].
 - No reference to the resources, maximum [2]. [5]

- (ii) A compound or double bar graph would be best.
 [1] for bar graph alone,
 [2] if they say that it is compound or double.
 [1] for the justification; [3]
- (iii) • The spatial variations are clear.
 ○ MEDCs are better than LEDCs.
 ○ Within LEDCs there is much variation: North Africa is better than sub-Saharan Africa; Latin America and the Caribbean better than the others, etc.
- Temporally, maternal mortality declines everywhere, but at different rates.
 - The fastest decline is in the more developed parts of the developing world.
 - Sub-Saharan Africa changes little; in 1990 it was 373 points (maternal deaths per 100,000 births) worse than the next highest region; in 2005 it was 478 worse.
 - The text gives only a limited amount of information on patterns, rather more on trends identifying that initiatives are underway to reduce maternal mortality.
 - They have to bring in their own information on mortality, with global contrasts. Seek proper details for high rewards.
 - No reward for material on fertility.
 - Level 2 maximum if there is no resource use.
 - Level 2 maximum if there is no additional material.
 - Level 2 maximum if either patterns or trends are not discussed.

Level 3 ([11]–[15])

All aspects of the question are dealt with: patterns, trends, global contrasts, with resource use and their own material. The candidate answers in appropriate language and terminology and displays knowledge of the topic as shown by the depth of the response.

Level 2 ([6]–[10])

Various sub-optimal routes to Level 2 were detailed above. Full answers here have focus but may lack depth, such as dealing inadequately with the global contrasts aspect.

Level 1 ([1]–[5])

Answers at this level may be unfinished or lacking in detail and command. Knowledge may be partial and language and terminology weak. [15]

Unit B: Issues in Ethnic Diversity

- 3 (a) (i) The two processes are **Colonialism** and **Annexation** [1]. They should refer to Portugal and Indonesia correctly [1]. Annexation is taking control of a neighbouring country. In this case Indonesia, already in control of West Timor, invaded and annexed its neighbour East Timor (Resource 3B will help here). Portugal took control of that part of the island through colonisation, as it does not share a border with East Timor [2]. [4]
- (ii) Autonomy is a political system that allows a state, province or region to have control over its internal affairs while still remaining under the control of the national government. In this case, Indonesia would have granted this to East Timor. East Timor wanted total control for its own government without any interference from Indonesia. The Resource details 25 years of bitter struggle resulting in over 100 000 deaths so the East Timorese will presumably be unwilling to give up their struggle for complete independence. They have voted for independence despite widespread violence and intimidation. There is plenty of material for candidates in the Resource. Look for thorough Resource use to back up their answer. The maps in Resource 3B are there to help them but do not penalise them if they do not make overt reference to them. It is theoretically possible that someone might answer this without any reference to Resource 3A. In that case award no more than [1] for an understanding of autonomy. [4]
- (iii) Some ethnic conflicts attract much international attention while others are rarely mentioned. International attention to conflict usually comes from the United Nations but international attention will only be effective when the most powerful nations – such as USA, Russia and the European Union – are involved. If they do not take up the cause of one side in an ethnic conflict it is unlikely that an ethnic conflict will have much impact on the international front. If conflict occurs in a former colony or in some region with a common link to a major power then it is likely that there will be some international concern such as is the case in Zimbabwe at present or in Bosnia and Kosovo in the recent past. The international community is often triggered into action where an ethnic conflict may have economic, political or social repercussions in their own countries. The current situation in the Middle East is a prime example where the USA has always been supportive of Israel. There is plenty of scope for candidates to write a good answer here. The Resource refers to the international community selling arms to Indonesia and therefore not wanting to get involved with the East Timorese in this conflict. They do not have to use other examples of places but that would probably make it easier. However, do not penalise an answer because it does not make specific reference to examples. Award all of the marks for a sound discussion.

- If they do not use the Resource award Level 2 maximum
- If they do not use additional material award nothing more than Level 2.

Level 3 ([7]–[8])

A thorough answer, which makes good use of the Resource and has useful additional material. The candidate demonstrates sound understanding and writes in good English.

Level 2 ([4]–[6])

Apart from the sub-optimal situation described above, an answer at this level will still have good material, but the depth and detail will be less than the previous level. English is of good quality.

Level 1 ([1]–[3])

Apart from the sub-optimal situation described above, an answer at this level will have serious weaknesses in terms of detail, depth and accuracy. There may also be errors in English. [8]

- (b) **Federalism:** a tiered system of government where states or provinces are created on ethnic lines. Each state is given some degree of control over its own internal affairs but still under the control of the central government.

Integration: in this situation all groups in a country are represented by the national government. No attempt is made to give political or economic control to any ethnic or minority group. There may still be separate identities and differences but everyone works towards a national identity. Integration contrasts with federalism which recognises the differences and responds by giving some form of political control to the ethnic group. Integration aims to unite all of the different groups into one nation.

Award [2] for understanding of the two processes and the other [2] for the distinction between them. [4]

- (c) This is case study material of a MEDC; if someone uses LEDC, award Level 1 maximum. They have to explain the underlying causes of the conflict and discuss the outcomes and responses to the conflict. Do not reserve equal marks for each of the three parts of the question but if one part is omitted completely, maximum Level 2.

Level 3 ([11]–[15])

There is a correct choice of case study. There is good understanding shown with depth and detail in all aspects. The answer is well written.

Level 2 ([6]–[10])

The case study is still correctly chosen but there is less detail and depth throughout or one aspect is only dealt with in a superficial manner. English is still good.

Level 1 ([1]–[5])

This answer is lacking in detail and depth on all aspects or there may be incorrect information. Use of English may be flawed. [15]

- 4 (a) (i) Ethnic diversity is maintained by the processes of segregation, pluralism, violence and discrimination. In Switzerland, there is evidence that discrimination has occurred. Foreigners who have committed a crime are dealt with more harshly than Swiss citizens. It is extremely difficult for those of foreign descent to obtain Swiss citizenship. Unemployment seems to be much higher amongst foreigners and segregation is also evident from the fact that many live in socially deprived areas. The election poster has distinct racial undertones and the new law which the national party is hoping to introduce could be seen by many as evidence of state violence, certainly an extreme case of discrimination. Switzerland is clearly a plural society and the Swiss have shown little or no desire to encourage assimilation. The key to this question lies in their ability to identify the appropriate processes. Make sure they explain how these processes will maintain ethnic diversity.

- If there is no resource use award only from Level 1

Level 3 ([7]–[9])

All aspects of the question are addressed thoroughly and there is clear understanding shown. The processes maintaining ethnic diversity are clearly understood and there is relevant material taken from the resource. The answer is written in grammatically correct English.

Level 2 ([4]–[6])

Apart from the situation described above, at this level there is still a competent answer but it has less depth or detail in the discussion or the processes are less well understood. Use of English is still good.

Level 1 ([1]–[3])

Apart from the situation described above, an answer at this level will show incomplete understanding of the question or have so little detail that a higher mark cannot be justified. There may be weaknesses in English also. [9]

- (ii) The Chi squared test in this case would test samples of the two populations to see if there were significant differences [1] in their unemployment figures. This is done by looking at the actual numbers unemployed (observed) of the Swiss and the foreign populations and the expected unemployment figures [1] which should be in proportion to each group's total numbers. The result allows us to see whether the differences are statistically significant or simply chance occurrences. Further discussion of Swiss context or statistics/chance for [1]. [3]

- (b) They will most likely have studied these outcomes through case study material but there is no requirement for case studies here. Many will answer through examples but note that full marks are available to those who answer competently without the use of examples. Note also that the command word is “discuss” so we are looking for more than a definition of these terms. We want to see their chosen outcomes discussed in some detail. If anyone answers on all three, mark all of them but award only the two highest scoring answers.

Refugee movement is an all too familiar outcome of ethnic conflict where one group of people are either forced out of their homes or else they move for their own safety. Many will end up in camps living in unsanitary conditions and face an uncertain future.

Ethnic cleansing is where a group of people are forced out of an area because they belong to a particular ethnic or tribal group. They will undoubtedly lose all their possessions. It has occurred in many places including Bosnia, Sudan and Rwanda.

Peace processes. At some stage in an ethnic conflict attempts are made to find a resolution. These attempts or peace processes will often involve a neighbouring country or a regional/global organisation such as the EU/ UN that will try to broker a deal. Sadly many break down and the violence restarts.

Award out of [4] for each outcome. If there is no discussion and the answer is only a definition then award out of [2]. $2 \times [4]$ [8]

- (c) There are several things to do here. Ethnicity has to be defined with reference primary and secondary factors and examples are needed. Primary = race, religion, nationality, language, perceived ethnic identity. Secondary = social status, residential concentration, age, gender, caste. There is no absolute number of primary and secondary factors to be used but plural in each case for a Level 3 answer. If they only look at primary or secondary factors award from levels divided by two. No examples used award from Level 1 only.

Level 3 ([11]–[15])

There is good detail here. The candidate addresses all aspects of the question competently. The detail on primary and secondary factors is accurate, the examples used are relevant and the answer is written in good English.

Level 2 ([6]–[10])

This is still a good answer and the candidate is still in control of the topic. The main reason for awarding from this level is lack of depth and/or detail. Use of English is still good.

Level 1 ([1]–[5])

The sub-optimal situation above is at this level. Otherwise, a Level 1 answer will most likely be lacking in relevant accurate detail. There may also be grammatical errors. [15]

Unit C: Planning for Sustainable Settlements

- 5 (a) • This is “how”, not “why” so answers with too much “why” should not get more than [2].
- Candidates are asked to consider “size” and “extent”, but we could assume that most will probably just run these two together. No penalty, take “size” and “extent” to be synonyms.
 - Require a focus on settlements, if the answer is on AONBs or SSSIs or the like, no reward; we are looking for green belts, stop lines.
 - Answers entirely at the national scale without reference to settlements, no reward.
 - For [4] or [5] seek clear understanding and focus. [5]
- (b) • Two things to do, [3] for each task.
- Firstly, what is urban conservation?
 - Seek understanding, not a textbook definition: a policy that restricts new development in order to retain the best from the past in terms of buildings and streetscapes. New buildings might be required to reflect their older surroundings, too. You often see facades being retained, with a new building concealed behind the old frontage.
 - It is not to do with wildlife or plants; if the answer is entirely on that, no reward.
 - Secondly, how does it contribute to urban sustainability?
 - They might say something about urban conservation making a settlement more pleasant, improving its “liveability”.
 - They could mention that a policy that retains existing buildings does not require energy and materials to replace them.
 - Better candidates might also realise that there is a counterargument in that old buildings may not be as efficient in terms of energy use or ease of access, etc. as new buildings and so in some ways conservation might work against sustainability.
 - Also the materials from the old buildings can be recycled if they are demolished. I observe in recent years when old brick buildings in Belfast are demolished, the bricks are carefully taken away for re-use.
 - If they present the answer in such a way that you have to mark out of [6], do it in levels (Level 3 ([5]–[6]), Level 2 ([3]–[4]), Level 1 ([1]–[2])). [6]
- (c) (i) • They are told that the consultants looked at “accessibility and transport, environment and energy efficiency, community and social justice and infrastructure constraints”.
- Durieshill is furthest away from Stirling, so energy use would be highest in getting there.
 - It also requires crossing a main road with the attendant delays that would cause.
 - In terms of public transport, it is not on a railway line.
 - Also the candidates are told that it was the public’s third and last choice, surely a community constraint.
 - Seek more than one reason for [3]. [3]

(ii) Matters that would seem to be important are:

- To make transport into Stirling as efficient as possible, especially public transport. They might speculate about building a spur from the railway, but note that would be very expensive and demand might not justify it.
- The resources note that there are to be “associated facilities” built. These should be such as to satisfy as many demands in Durieshill itself as possible and so should include educational, medical, commercial, leisure and other services, to minimise the need for residents of the new development to have to travel.
- They might also get into the types and design of houses, etc., to be built, to be as energy efficient as possible.

They might well bring in their own information, which is fine. Accept anything reasonable which can be applied in the new setting but there has to be reference to the situation in Durieshill; if not, Level 2.

Level 3 ([5]–[6])

The answer is full with proper reference to Durieshill. The suggestions made are sensible and practical and the answer has a good grasp of sustainability as applied in this context.

Level 2 ([3]–[4])

There is some reference to the situation at Durieshill with reasonable suggestions made, although there may be some lack of depth.

Level 1 ([1]–[2])

A sub-optimal route was given above. Otherwise answers are unfinished or fail to display adequate command of the topic. [6]

- (d)
- This is the national scale case study. Anything else, Level 1.
 - The focus is on legislation and how the country has been affected by it. This will be the likes of the Netherlands with the Randstad/greenheart metropolis. If the focus is on anything else, Level 1.
 - There is a requirement to look at settlement; if they do not, Level 1.

Level 3 ([11]–[15])

Answers here will be in detail; the case study will have places, perhaps pieces of legislation, facts. The candidate will be in command of the topic and answer using the appropriate language and terminology.

Level 2 ([6]–[10])

The case study is appropriate and the material presented reasonable but there may be problems with detail and the depth of the answer.

Level 1 ([1]–[5])

Sub-optimal answers were listed above. Otherwise answers at this level will be too short or unfinished and fail to display an adequate knowledge of containment policies. [15]

6 (a) Do not seek a textbook definition necessarily but proper understanding. Something like the planning, provision and operation [1] of different modes of transport [1] in such a way that journeys can be made as efficiently as possible [1]. [3]

(b) (i) They have to come up with positive and negative; so [3] marks each. Resource 6A doesn't say everything, hence the "possibly", but it is there to be used; [2] in each case if it is not mentioned.

Positive:

- The Resource shows that the number of vehicles entering has been reduced from 2000 to 200 per day, so congestion is down.
- It also shows that some income is generated for the Council.
- They might also speculate that the area inside the zone is more pleasant and free from fumes and accidents and it is a better place for shopping etc., as a result.
- The sign shows that the charge only operates between 10.00 am and 4 pm, so there is free access at times during the day which will mean that deliveries can be made without charge.

Negative:

- There is a queue to get out (in fact I observed that some drivers could not operate the system and people from the cars behind had to get out and help).
- A charge will dissuade some people from coming into central Durham and thus trade there could be affected.
- Costs for businesses inside the zone will increase as any deliveries etc., will have to pay the charge or alternatively come in the early morning or late afternoon, at a cost to flexibility.
- Some people will be particularly disadvantaged, e.g. the elderly and infirm who may find it difficult to walk.

They might construct the answer in such a way as to make it difficult for you to mark at $2 \times [3]$; if so mark in levels out of [6] (Level 3 ([5]–[6]); Level 2 ([3]–[4]); Level 1 ([1]–[2])). [6]

(ii) 1

- The congestion charge dissuades people from using their cars so pushes them onto public transport [1].
- Net revenue for the first 10 years has to be spent on improving transport for London [1].
- The leaflet advises people that travel within central London is anyway more efficient and directs travellers towards three different modes of public transport [1]. [3]

2

- This is “generally”, so they are not confined to talking about London. No penalty if the resource is not specifically used, although welcome any use seen.
- They know about traffic and transport policies and have studied traffic management strategies relating to public transport. They also have a case study so have plenty to draw upon.
- Do not require case study use, though if it is brought in to add depth, all well and good.
- The focus has to be why promotion of public transport is worthwhile regarding sustainability:
 - Resource 6B mentions congestion, reduce that and there are fewer emissions, less pollution, less fuel wasted in stationary vehicles, etc.
 - If more people use public transport less land has to be given over to catering for cars and the parking thereof.
- No reward for material that deals with operation or impact of public transport policies.

Level 3 ([7]–[8])

The answer has a focus on why public transport strategies enhance sustainability and the candidate displays command of the topic. Language use and terminology are appropriate; the answer has depth.

Level 2 ([4]–[6])

The focus remains, but maybe is not as sharp as one would like. Further, the answer may lack detail. Language and terminology are acceptable.

Level 1 ([1]–[3])

There are no sub-optimal answers here so candidates achieving only Level 1 may present a short answer lacking in explanation or alternatively a full answer which fails to deal adequately with the topic.

[8]

- (b) (iii)**
- They have to use the resources here, but do not seek both to be specifically mentioned. No resource use, maximum Level 2.
 - No case study material, maximum Level 2.
 - They are asked about traffic and transport strategies. Do not seek these two things to be considered separately. If they are, that is fine, but no penalty for candidates combining them.
 - The focus has to be on how the strategies affect movement in settlements.
 - Seek detail from their case studies; generalities attached to a name should not impress.
 - The specification mentions strategies such as traffic cells and parking restrictions, which discourage car use, etc., whilst channelling it in certain ways.
 - The resources show how the two cities’ congestion charges have impacts on movements in Durham and London, the reduction from 2000 to 200 vehicles a day entering central Durham, for example.
 - If their case study is London or, less likely, Durham, seek extra material beyond the resources from their case study.

Level 3 ([11]–[15])

There is specific reference to the resources and, in addition, the candidate puts forward a detailed case study, which specifies place and policies and shows how the policies affect movement in their chosen city. There is command of the topic and proper use of language and terminology.

Level 2 ([6]–[10])

A sub-optimal response was detailed above. Otherwise the candidate has reasonable knowledge of the case study and makes some use of the resources but may answer in insufficient depth for higher reward.

Level 1 ([1]–[5])

A sub-optimal response was detailed above. Otherwise the answer, if full and finished, lacks focus, detail or knowledge. Language use may be poor.

[15]

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Unit D: The Changing Nature of Economic Activity

- 7 (a) (i) Resource 7 deals mostly with the negative environmental impacts of tourism. There is plenty of material here for them – the over development along the coastline with every available piece of land used for tourism, the problems of waste disposal, the excessive demand for freshwater supplies for personal use and golf courses, and the loss of biodiversity as a result of urbanisation associated with tourism. They have to discuss these not just for the example given but they should be able to extend these and other negative impacts further afield. There is nothing really on social impacts so this will be largely their own material.

- No resource use award from Level 2
- Omitting either environmental or social impacts award from Level 1
- No extra material award from Level 2

Level 3 ([7]–[8])

A thorough answer, which uses the resources well and has useful additional material all written in good English.

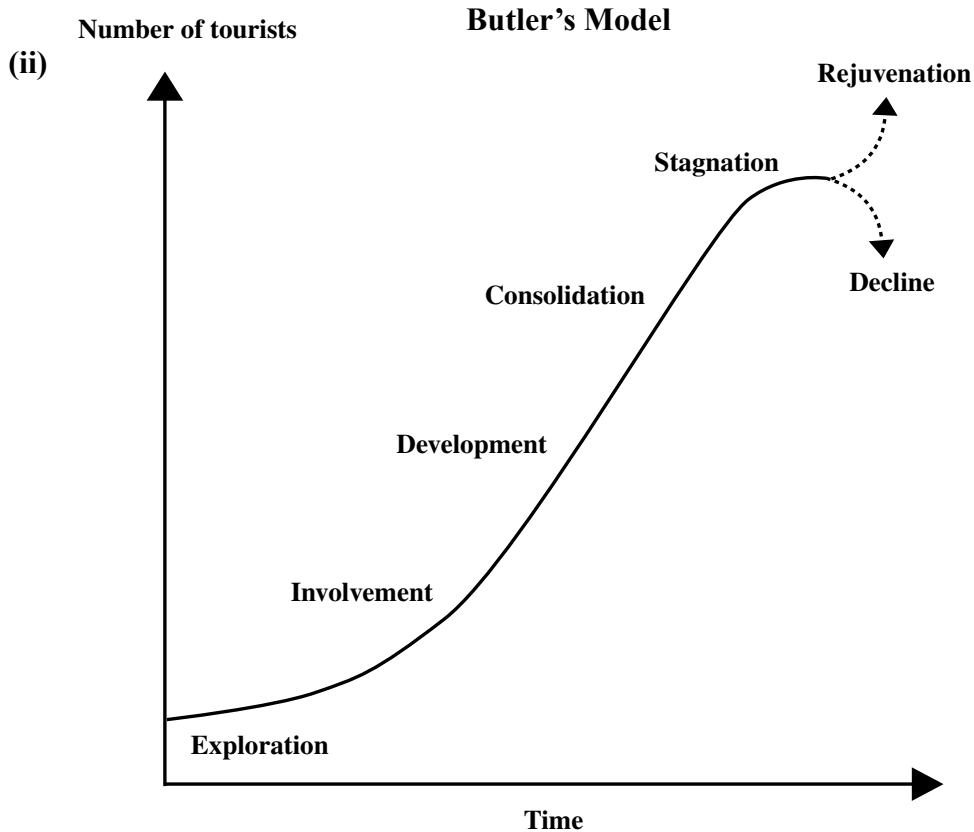
Level 2 ([4]–[6])

An answer at this level will still have good material, but the depth and detail will be less than the previous level. English is of good quality.

Level 1 ([1]–[3])

Apart from the sub-optimal situations described above, answers at this level will have serious weaknesses in terms of detail, depth and accuracy. There may also be errors in English.

[8]



Allow [4] for drawing the diagram as follows:

[1] for labelling both axes.

[1] for drawing the curve correctly.

[2] for identifying and labelling at least 5 stages. ([0] marks for 1–2 stages correct, [1] mark for 3 or 4 stages correct.)

As no specific model is named in the specification any accurately drawn model is acceptable, such as Butler's (above) or the product life cycle model as shown below.

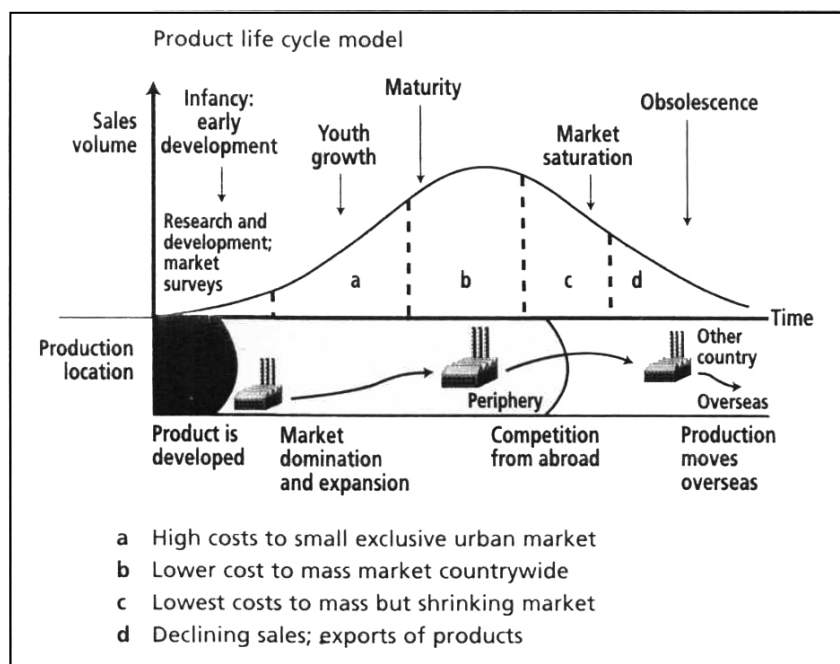


Figure from *Advanced Geography* by Garrett Nagle (OUP, 2000), copyright © Garrett Nagle, reprinted by permission of Oxford University Press.

The remaining [4] are allocated to their application of the model to areas such as along the Mediterranean coastline. Product cycle is a model which shows how a tourist region/resort changes through time. At the beginning a resort grows in popularity through the exploration and involvement stages and the number of tourists increases. The resort then becomes very developed with more and more facilities for the tourist trade and by stage 4, tourism has become a major part of the local economy. Eventually the resort suffers from over development or saturation. Saturation is followed by decline and loss of popularity or else undertakes a process of rejuvenation. The Mediterranean coastline of Europe would most likely fit into the stagnation stage although some parts will have moved beyond that into a rejuvenation stage. They should describe how these areas have passed through the preceding stages and see this model showing change over time. They could point to the ever-increased demands that tourism is making on resources such as fresh water and waste disposal. [4] + [4] [8]

- (b) Tourism can be managed to promote sustainability in several ways. They have to select any one way for discussion here. Allow anything plausible but expect to see something from ecotourism. They will also have studied leakage brought about by outside developers taking the profits of tourism out of the country where it was generated and they may discuss a method of preventing this occurring. They may even refer to their tourism management case study. Make sure they address the “sustainable” aspect of the question, maximum [2] for an answer that deals with some form of management without dealing with sustainability. [4]
- (c) This is their case study of a region undergoing agricultural change. The case study can be either local or regional in scale. There are three things to do here but do not reserve equal marks for each as the detail they will have on each will depend on their case study. However, if one aspect – description of changes, rural society or environment – is missed completely, deduct [5]. Similarly do not expect a given number/type of change to be discussed. The specification is quite flexible in this respect and we must accommodate this. Remember this is case study material and we should be guided by the normal requirements of a good case study answer, i.e. knowledge of place and detail. Inappropriate case study, Level 1.

Level 3 ([11]–[15])

There is a correct choice of case study. There is good understanding shown with depth and detail in all aspects. The answer is well written.

Level 2 ([6]–[10])

The case study is still correctly chosen but there is less detail and depth throughout or one aspect is only dealt with in a superficial manner. English is still good.

Level 1 ([1]–[5])

This answer is lacking in detail and depth on all aspects or there may be incorrect information. Use of English may be flawed. [15]

35

- 8 (a) (i) The closure of the MG factory will result in the loss of almost 7000 jobs, possibly more if the component factories also close. This will have a negative impact on society because there is an immediate loss of income. This inevitably will cause stress and hardship, as some may be unable to keep up with mortgage payments, etc. The lifestyle of those who depended on work in the car factory will be changed dramatically. A society with high levels of unemployment is associated with poor educational attainments, poor health and a high incidence of stress related illnesses. There may even be further job losses as the demand for non essential goods declines. Social benefit = diversified workforce [3]. The environmental impacts of the factory closure will be associated with derelict factories and general deterioration of the physical environment including vandalism and graffiti. Environmental benefit = less pollution. They will have studied deindustrialisation so they should have a good understanding of the potential impacts. There is no requirement for extra material here and this question is to be answered with reference to the example given in the resource only.

2 × [3] [6]

- (ii) Relocation of manufacturing abroad, usually to LEDCs, is all to do with economics and globalisation. Basically a manufacturer can locate any part of the production process to anywhere that costs are lower. This will enable the manufacturer to increase his profits and sell his product at a more competitive price. In the case of the car industry it is often the routine component production that is moved to LEDCs where wages are lower. In Britain as a whole the number of people employed in the component sector has fallen by 16% and only 20 to 25% of the parts in a typical car assembled in Britain were actually made in Britain. The more highly skilled jobs such as research and product development will usually remain in the MEDC. They now need to bring in some material of their own. This may take the form of additional examples or a deeper explanation. They may even use the diagram of product life cycle here. There is no prescribed form that their additional material must take but if it is omitted then only award from Level 2. If there is no resource use award Level 2 maximum.

Level 3 ([8]–[10])

All aspects of the question are addressed thoroughly and there is clear understanding shown. The Resource is used to good effect, the explanation has both depth and detail and the extra material is accurate and relevant. The answer is written in grammatically correct English.

Level 2 ([4]–[7])

Apart from the situation described above, at this level there is still a competent answer but it has less depth or detail in the explanation or resource use may be less rigorous. Use of English is still good.

Level 1 ([1]–[3])

Apart from the situation described above, an answer at this level will show incomplete understanding of the question or have so little detail that a higher mark cannot be justified. There may be weaknesses in English also.

[10]

- (b) Biodiversity is reduced by changes in agriculture when wildlife habitats and food supply are removed. This may result from the removal of hedgerows and the greater use of machinery associated with increased field size. This will pose a serious threat to the number and variety of species of birds, insects and small mammals. Increased use of artificial fertilisers can result in ground water and eventually river water being contaminated. Do not expect long answers here as there are only [4] available but they need to use at least two examples of changes that could result in the reduction of biodiversity. Only one change, maximum [2]. [4]
- (c) The specification gives a multi-national food/drinks industry as a possibility here. This will be the most common but others are acceptable so long as all the elements of economic activity – primary, secondary, tertiary and beyond – are vertically integrated. We need to see an understanding of vertical integration and the case study must be multi-national/global.

Level 3 ([11]–[15])

An appropriate case study is chosen. There is information on the various stages of production and the linkages of each sector. There is detail of a case study with real places.

Level 2 ([6]–[10])

At this level, there is less detail in the case study but the candidate is still in command of the topic. Vertical integration is understood, the case study is appropriate and its scale accurate.

Level 1 ([1]–[5])

The candidate is not in control of the topic. There may not be full-scale coverage of all sectors of production; the case study may be inappropriate or inaccurate in scale. Alternatively, the answer is so lacking in depth and detail that a higher mark cannot be awarded. [15]

	35
Total	70



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2009

Geography

Assessment Unit A2 3

assessing

**Module 6: Skills and Decision Making
in Geography**

[A2G31]

WEDNESDAY 27 MAY, MORNING

MARK SCHEME

Introductory Remarks

Note that the assessment objectives (AOs) for this specification are more extensive than those of the previous syllabus. There are now four AOs, and the style of questions and the requirements of the mark scheme have had to be modified somewhat to take account of them, particularly AO2 and AO3 with the need for “critical understanding”. It is worth reproducing the AOs here:

- AO1 Show knowledge of the specified content;
- AO2 Show critical understanding of the specified content;
- AO3 Apply knowledge and critical understanding to unfamiliar contexts;
- AO4 Select and use a variety of skills and techniques, including communicative skills, appropriate to geographical studies.

General Instructions for Markers

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all markers are following exactly the same instructions and making the same judgements so far as this is possible. Markers must apply the mark scheme in a consistent manner and to the standard agreed at the standardising meeting.

It is important to recognise that in some cases there may be other correct responses that are equally acceptable to those included in this mark scheme. There may be instances where certain judgements have to be left to the experience of the examiner, for example, where there is no absolute, correct answer.

Markers are advised that there is no correlation between length and quality of response. Candidates may provide a very concise answer that fully addresses the requirements of the question and is therefore worthy of full or almost full marks. Alternatively, a candidate may provide a very long answer which also addresses the requirements of the question and is equally worthy of full or almost full marks. It is important, therefore, not to be influenced by the length of the candidate’s response but rather by the extent to which the requirements of the mark scheme have been met.

Some candidates may present answers in writing that are difficult to read. Markers should take the time to establish what points are being expressed before deciding on a mark allocation. However, candidates should present answers which are legible and markers should not spend a disproportionate amount of time trying to decipher writing that is illegible.

Levels of Response

For questions with an allocation of six or more marks three levels of response will be provided to help guide the marking process. General descriptions of the criteria governing levels of response mark schemes are set out on the next page. When deciding about the level of a response, a “best fit” approach should be taken. It will not be necessary for a response to meet the requirements of all the criteria within any given level for that level to be awarded. For example, a Level 3 response does not require all of the possible knowledge and understanding which might be realistically expected from an AS or AL candidate to be present in the answer.

Having decided what the level is, it is then important that a mark from within the range for that level, which accurately reflects the value of the candidate’s answer, is awarded.

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

Geographical Skills

Section A

Skills and Techniques

1 (a) Isoline [1]

Acceptable example such as contour, isobar, isobath etc. [1] [2]

(b) (i) Each dot represents a year. [1]

(ii) The graph indicates that yields increase as summer precipitation declines. For example, about 75 mm of rain produced yields in two years of 76 and just over 78 kilogrammes per hectolitre, whereas two years where summer precipitation was 280 mm produced yields of 73.5 to 76 kilogrammes per hectolitre. While there are anomalies which “buck this trend”, the best fit line shows clearly the negative relationship.

Look for a clear understanding and a use of both yield and precipitation figures from the graph for full marks. Note that no explanation is required nor can it be credited if provided. Should a candidate get (b)(i) wrong, they should not be disadvantaged in their interpretation of (b)(ii), if appropriate to their answer in (b)(i). [3]

(c) (i) Income – proximity has the lowest correlation, with the number closest to 0. [1]

(ii) A correlation coefficient value of 0.693 indicates a positive correlation: as income increases, so too does health. [1]

As it is significant at the 95% level, this means that only in 5 times out of every hundred would such a result occur by chance. This is significant enough to be acceptable to geographers. [1] [2]

(d) (i) Area of Northern Ireland, [1] number of district centres [1] and the distance between each district centre and its nearest neighbour. [1] (If only the correct formula is provided [1]) [3]

(ii) With 35 points, the value of 1.42 shows that the District Centres are significantly regular.

Look for an awareness of the number of points [1] and the correct identification of the Rn as showing a significantly regular distribution [1] for both marks. [2]

- 2 Fieldwork context identified [1] appropriate to the item [1] [2]
- Description of one safety precaution appropriate for the equipment. [2]
(General description of safety precautions not linked to equipment [1])
- Outline of how it should be used to ensure accurate data collection: [2]

Any item of fieldwork equipment can be used here, from a questionnaire to a ranging pole. A safety precaution appropriate to the use of such a piece of equipment as a questionnaire might describe appropriate and safe times to apply the questionnaire, perhaps in pairs or in a public place. Safety in the use of ranging poles is rather more straightforward, but it should be possible to get both marks for a piece of equipment that is not, in itself, dangerous too.

If the description belongs to a different piece of equipment from that stated, or inappropriate for the context chosen, this should still be worthy of credit, but should provide for a maximum of [2] of the potential [4] for description.

6

Section A

20

Section B

Decision Making Exercise

3 Introduction: some guiding principles

The ideas outlined in the “Guidance on Content” section are lines of thought that candidates might take in their report. They are not to be seen as the definitive answer, though it is to be expected that the points outlined below will feature, if only in part, in most answers. When allocating marks look favourably on answers which:

- (a) avoid undue verbatim quoting from Resource Booklet and adopt a consistent style,
- (b) use the full range of the resource material appropriate to the task – particularly where it is provided in non-literary format such as printed maps and photographs,
- (c) apply knowledge and concepts that are not specifically raised in the resource material, yet are both illuminating and relevant to the task,
- (d) maximise opportunities presented by the resource material,
- (e) appreciate that “bias” might exist in resource material which expresses particular views,
- (f) avoid undue repetition of the same answer material in different sections or, if overlap is unavoidable, present it in a fresh way, and
- (g) back up points with specific detail, e.g. giving statistical information where it is provided rather than making vague statements when details are readily available.

Guidance on content

A. Introduction

(Describe briefly the proposed development and discuss the UK and global need for it)

The part of Europe most suited to providing renewable electricity from wind and waves is the north of Scotland. This electricity will be used in the main cities of Scotland and in the north of England. A replacement electricity line is proposed by Scottish Hydro-Electric Transmission Limited (SHETL) and Scottish Power to transport this green electricity from the north of Scotland to these places. The replacement line will be 220 kilometres long and will run from Beaully, near Inverness, to Denny, close to Stirling. It is a 400 kV line, and will replace the existing 132 kV line, along a similar route (see Resource A2). The route that the proposed line will follow links six substations between Beaully, Fasnakyle, Fort Augustus, Tummell Bridge, Braco and Denny. The proposed line will be carried on pylons up to 20 metres higher than those on the existing line. However, there will be fewer of them.

The UK needs this development in order to help to meet its target for increasing the amount of electricity produced from renewable sources. This is necessary if the UK is to reduce the amount of carbon it produces. The UK government target is that, by 2010, 10% of the electricity made in the UK would be from renewable sources, such as wind and water. In 2006 13% of Scotland's power generation was renewable. The targets would have that increase by 5% in the four years following and eventually reach 40% by 2020. The UK government has set a target of reducing its carbon emissions by over half by 2050 to help in the battle against climate change. Schemes such as this are essential in this effort. The existing network will be inadequate, designed to serve a rural area with low demand for electricity, therefore the need to upgrade.

Of course, climate change will not just affect Scotland and the remainder of the UK. All around the world, rising sea levels threaten coasts. In addition, increased temperatures around the world will also threaten ecosystems and agriculture. Some parts of the world will suffer from increased storminess while other places may suffer droughts. Climate change may also lead to increased incidence of storms in some parts of the world and droughts in others. Schemes such as this can make a contribution in the battle to reduce such changes globally, as well as within the UK.

Level 3 ([8]–[10])

The candidate clearly describes the proposed development and effectively discusses the need for such a development both for the UK and globally. Both elements are included from the resource material and are handled confidently and to good effect.

Level 2 ([4]–[7])

The candidate makes fewer clear and correct points. There is little or no development of any point, but points made are valid. There may be an imbalance between the discussion of the need and the description of the project. The candidate may not examine both global and national need. There may be an over-reliance on verbatim or almost verbatim quoting.

Level 1 ([1]–[3])

The candidate presents little content and a lot of it is irrelevant to the need for the development or the description of it. Some of the points made may lack validity. [10]

B. The likely impact on:

(i) The Environment along the Route

(Discuss the environmental impact of the proposed development and the counter arguments)

The route of the proposed line threatens a number of protected areas. It cuts through the Cairngorm National Park, for instance, and it contains Sites of Special Scientific Interest (SSSIs) and Natura 2000 (N2k) sites. These areas require protection, not development nearby. Little assessment has been made regarding the potential impact of building and operating this line on protected areas such as these. The area is designated as a National Scenic Area (NSA) and proposed Area of Great

Landscape Value (AGLV) because of its outstanding beauty. There will be enormous visual pollution with the giant pylons, some as much as 65 metres high.

The companies involved in the proposed construction themselves admit that power lines “can intrude upon the landscape and it is difficult to reduce this impact” (Resource F). They say that careful routing of the line will achieve this reduction in impact. Anyone viewing what Drumochter Pass looks like now (Resource C1) and what it will look like with the proposed pylons (Resource B2) alongside a main road would not agree that the line has been carefully routed.

In the Beaully area, the development will have a negative impact, not just visually, but also by generating a constant noise. As Pylon Pressure say in their flyer, all of these power lines have the potential of “... creating a steel jungle of mega-pylons and a constantly humming high voltage aerial wirescape”.

Building the new line will entail the removal of 424 hectares of forest. SHETL and Scottish Power say that they intend to plant up to 48 hectares but do not state exactly how much. They also argue that the removal of the old line will free up around 214 hectares to plant. However they do not seem to be committing to planting this themselves. The loss of woodland is 162 hectares which, while a relatively small proportion of Scotland’s forest cover, is significant for just one development.

The proposed development also poses a threat to the wildlife. One local species, the black grouse, is a bird about which there is a high conservation priority. It is already declining in numbers and building and operating this power line will affect it in significant ways. A lot of deaths of black grouse are because they fly into power lines – indeed 25 000 of them die each year in Norway for this reason – so building pylons and a power line through a place where they are located will not help in their recovery. This is particularly bizarre as the UK government has targeted the recovery of black grouse numbers in a UK Biodiversity Action Plan.

On the other hand, the proposed new line uses galvanised steel lattice towers which have been specially chosen for their transparency. In addition, by using these lattice towers, the line will need 200 less of these towers than the number in the current line. Most will be not be as tall as argued as most will be just between 50 and 56 metres high. Indeed, a few will be only 43 metres tall. While they need to be closer together in high altitudes, at lower altitudes they can be much more widely spaced than the pylons they replace (see Resource C4). On occasions there will only be a steel lattice tower every 450 metres. While it is accepted by those building the line that large overhead lines can have a negative impact on landscapes they argue that it is difficult to reduce this, but the best way of reducing it is to make sure the line is built along a route which takes it out of sight as much as possible. This has been done in this case. The towers will also be carefully placed in the landscape and take advantage of natural features in the environment to reduce their visibility.

Substations are required along the proposed route to allow for lines to join and fork off from the main line. Resource C2 shows that they are relatively insignificant in the environment. In any case three of these are already in place and only three will be newly built. To reduce the visual impact even more, the height of the largest item at any of these substations will be typically between five and ten metres and they will be painted grey to allow them to tone into the environment.

In some places access tracks will be built so that the line and the substations can be built. About 154 km of temporary track will be built in all and somewhat less of the existing track will be improved to make it passable. Public roads will need upgrading in some places to allow for the heavy vehicles used in building the line.

There is some impact on forestry as 424 hectares will be lost. However, along the new route there will be planting of 48 hectares of woodland and the removal of the former line will free up another 214 hectares which could be planted. The loss of woodland is just 0.012% of Scotland's woodland – an insignificant amount.

The route of the line has been chosen in order to avoid places where conservation of habitats is particularly important. The proponents of the scheme accept that breeding birds and some other animals will be negatively affected as the line is built but this is “short term and unlikely to be significant”. No protected plants, birds, mammals or aquatic species will suffer “long term adverse ecological impact”, they say.

While the landscape of the area will have some “moderate adverse effects”, the removal of the existing line will actually improve the landscape in some places. It is only those places which did not have any line before the proposed one which will have a significant change to their environment; elsewhere it will be negligible or beneficial to the environment.

Level 3 ([9]–[12])

Candidate states clearly the main environmental impact and the counterarguments. **Two** or more different factors should be discussed.

The account will have many of these characteristics:

- the points made will be consistently relevant and logically structured;
- the environment along the route will be the scale considered, not the global environment;
- the ideas will demonstrate insight and a level of sophistication;
- clear understanding of all concepts will be demonstrated;
- use will be made of most of the relevant resource material – no significant points will be omitted;
- figures, where available and appropriate, will be used to good effect; and
- ideas will be expressed clearly and effectively.

Level 2 ([5]–[8])

Candidate will have fewer lines of thought or discussion may be limited. However, while ideas may lack depth and/or detail, they are still adequate. There may be a heavy imbalance between the two sides of the argument. The account may show deficiencies in the following ways:

- understanding displayed, but an over-reliance on verbatim or almost verbatim quoting, even though appropriate;
- resource material used, but some information not as well exploited as it could be;
- largely related to the question, but some irrelevant material introduced; and
- ideas not expressed particularly logically or clearly.

Level 1 ([1]–[4])

- Simple understanding demonstrated, but sketchily dealt with.
- Verbatim use of resources, sometimes not fully appropriately.
- Some use made of the resource material, but many relevant resources omitted, and
- Little or no structure or logic in the ordering of content. [12]

(ii) Local economy

(Discuss the possible beneficial effects on the local economy and the counterarguments)

Some local areas will benefit by the removal of the old line as the new line does not always take the same route as the line it is proposed to replace. For example, the new line runs closer to the boundary of the Cairngorm National Park than the existing line and this will improve the landscape there, with potential benefits for tourism. Also the development has been very carefully sited to minimise any visual intrusion, so impact on tourism revenues will also be minimised.

Whilst Scotland as a whole will benefit from this development, this will benefit towns such as Perth, Stirling and Inverness over the four years that it will take for new line to be built. There will be big contracts, in excess of £1 billion in one estimate, to supply transport to get the workers to the line and to provide machinery for the work. The work will bring between 250 and 300 workers into the area and these workers also need to stay somewhere. As a result, accommodation and shops and other services will benefit greatly. Many of the jobs in building the replacement line will go to local people and so local services will benefit from the wages that these people will earn. Jason Ormiston, Chief Executive of Scottish Renewables has pointed out that the rural economy could benefit with more than £175 million as a result of “land rentals and community payments” from wind farm schemes for 25 years. The line will cost an estimated £330 million to construct but will form “an essential part of Scotland’s infrastructure”, to the benefit of the local economy.

There are counterarguments that can be advanced. Along the route of the proposed line, the communities depend on tourism, as there is little else that will generate incomes. Fishing, wildlife, landscape and relaxation are what attract tourists to these areas. A vast majority of tourists (91%) list “beautiful unspoilt scenery” among their reasons for coming to Scotland. The proposed line is very close to key places in the Highlands of Scotland. These tourist corridors and destinations, such as the Cairngorm National Park which it passes through, will be spoiled for visitors and the tourists may not return. This would be a disaster for local people who have a very limited means of gaining income in other ways.

The tourist industry is not small scale. Of tourists to Scotland in 2004, 16% visited the Highlands and spent more than £50 million. There are more than 14 000 jobs in tourism. A survey has shown that more than half of tourists thought that pylons took away from their holiday experiences to some extent. The pylons they objected to were much smaller than those proposed for the new line. As there is no compensation for loss of tourist business, up to £400 million could be lost.

The unspoiled scenery of Scotland is also important in attracting film and other media. Many come to the Cairngorm National Park and spend money there. In addition those who see the films and television programmes are more likely to travel to the areas as a result. These pylons will make the area much less attractive for these uses and this too will have a negative impact on tourism and the income it can generate. As Davie Black of the Ramblers Association has argued, this power line will trash the magnificent scenery of the Scottish Highlands, and that is bound to have a negative effect on tourism in the area.

Property values will also be affected as one university study has found that homes located near to high voltage power lines are worth 38% less than those in the same area, not next to power lines.

Level 3 ([8]–[10])

Candidate states clearly the main beneficial effects and the counterarguments. **Two** or more different factors should be discussed. The account will have many of these characteristics:

- the points made will be consistently relevant and logically structured and will not stray beyond the local economy or, if they do, the local impact will be highlighted, do not penalise occasional reference to Scotland;
- the ideas will demonstrate insight and a level of sophistication;
- clear understanding of all concepts will be demonstrated;
- use will be made of most of the relevant resource material – no significant points will be omitted;
- figures, where available and appropriate, will be used to good effect;
- and
- ideas will be expressed clearly and effectively.

Level 2 ([4]–[7])

Candidate will have fewer lines of thought or discussion may be limited. However, while ideas may lack depth and/or detail, they are still adequate. There may be a heavy imbalance between the two sides of the argument. The account may show deficiencies in the following ways:

- understanding displayed, but an over-reliance on verbatim or almost verbatim quoting, even though appropriate;
- resource material used, but some information not as well exploited as it could be;
- largely related to the question, but some irrelevant material introduced; and
- ideas not expressed particularly logically or clearly.

Level 1 ([1]–[3])

- Simple understanding demonstrated but sketchily dealt with.
- Verbatim use of resources, sometimes not fully appropriately.
- Some use made of the resource material, but many relevant resources omitted, and
- Little or no structure or logic in the ordering of content. [10]

(iii) The health of the people living close to the route

(Discuss the impact on the health of local people and the counterarguments)

The new line could affect the health of people living close to the line. One serious disease has been linked to living close to high voltage lines and this line is 400 kilovolt (kV). The disease is a type of cancer, leukaemia, in children. This risk is said to occur for those who live within 200 metres, but there is some risk even if you live 600 metres away from the line. Adult cancers, depression, suicide and miscarriage are also said to be more common in people living close to such lines. Professor Denis Henshaw, who is an expert on Human Radiation Effects at Bristol University has recommended that the Scottish Parliament should be very careful about “the siting of power lines near houses” and reminded them that Scotland is well behind some other countries in this. For example, Sweden has introduced a limit which is 500 times lower than the present UK limit. The University of Stirling is located close to the proposed route and has expressed a concern about the risk to health.

There are counterarguments to these health concerns. The proponents of the scheme point out that there are no regulations in the UK to limit the exposure of people to electrical and magnetic fields. Even so, this proposal meets the government guidelines. The Health Protection Agency has said that no convincing evidence exists to show that electromagnetic fields cause cancer and Government ministers have agreed with this. Even if there was a problem, and the evidence seems to suggest that there isn't, only 10 houses are located within 100 metres of the new line along its entire 220 kilometres. This is much less than the 93 properties located within 100 metres of the existing line.

Level 3 ([5]–[6])

Candidate states clearly the main effects and the efforts to reduce these. **Two** or more different factors should be discussed. The account will have many of these characteristics:

- the points made will be consistently relevant and logically structured and will not stray beyond the local area;
- the ideas will demonstrate insight and a level of sophistication;
- clear understanding of all concepts will be demonstrated;
- use will be made of most of the relevant resource material – no significant points will be omitted;
- figures, where available and appropriate, will be used to good effect; and
- ideas will be expressed clearly and effectively.

Level 2 ([3]–[4])

Candidate will have fewer lines of thought or discussion may be limited. However, while ideas may lack depth and/or detail, they are still adequate. There may be a heavy imbalance between the two sides of the argument. The account may show deficiencies in the following ways:

- understanding displayed, but an over-reliance on verbatim quoting, even though appropriate;
- resource material used, but some information not as well exploited as it could be;
- largely related to the question, but some irrelevant material introduced; and
- ideas not expressed particularly logically or clearly.

Level 1 ([1]–[2])

- Simple understanding demonstrated, but sketchily dealt with,
- Verbatim use of resources, sometimes not fully appropriately,
- Some use made of the resource material, but many relevant resources omitted, and
- Little or no structure or logic in the ordering of content. [6]

C. Decision

(State clearly your decision and justify it on the basis of the greater overall benefits)

The recommendation may overlap with some of the points made in B with regards to economic, environmental and health impacts of the proposed development. However, the emphasis here has to be on the *greater overall benefits* of one option over the other. In this section, candidates can weigh up the relative merits of both positions. *No mark for stating a decision alone without a justification.*

Candidates who only present one side of the argument, maximum Level 2.

Level 3 ([8]–[10])

Candidate states clearly a decision. A range of reasons are provided in justification. The account will have many of the following:

- there is evidence that the arguments of both sides are being balanced, one against the other;
- links are made between diverse aspects of resource material, not possible in B;
- points are consistently relevant and logically structured;
- there is a clear grasp of the concepts used.

Level 2 ([4]–[7])

Candidate states or clearly implies a decision. There are fewer lines of thought or discussion, but what is present is relevant and correct or supportable in what is argued. There may be deficiencies such as:

- too much verbatim quoting or overuse of quotations in full;
- important sections of resource material not utilised;
- irrelevant material introduced;
- ideas not expressed particularly logically or clearly;
- understanding of concepts not always clearly demonstrated.

Level 1 ([1]–[3])

- Few lines of thought and sketchy in detail.
- Large gaps in the use of resource material.
- Little or no structure or logic in the ordering of the concepts. [10]

Format

Clear format headings **using the headings provided** throughout [1].
 Clear subheadings **using the subheadings provided** in Section B [1]. [2]

Role

Role adopted [1].
 Role maintained [1]. [2]

Graph

Reference in report [1].
 Appropriateness of the technique (such as bar graph and composite line graph) used [1].
 Accuracy of the data presented [3].
 Conventions (key, labelled axes, title) [3]. [8]

Section B

Total

60

60

80

