



*Rewarding Learning*

**ADVANCED**  
**General Certificate of Education**  
**2013**

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## **Geography**

**Assessment Unit A2 1**

*assessing*

**Human Interactions and  
Global Issues**

**[AG211]**

**TUESDAY 14 MAY, AFTERNOON**

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**MARK  
SCHEME**

## 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- to 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 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 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.

## Introductory Remarks

The assessment objectives (AOs) for this specification are listed below. Students must:

- AO1 demonstrate knowledge and understanding of the content, concepts and processes;
- AO2 analyse, interpret and evaluate geographical information, issues and viewpoints and apply understanding in unfamiliar contexts;
- AO3 select and use a variety of methods, skills and techniques (including the use of new technologies) to investigate questions and issues, reach conclusions and communicate findings.

## 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 is difficult to read. Markers should take 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	Level
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, punctuation and grammar.	3
The candidate will display an accurate to good knowledge and understanding of many of the relevant concepts/ideas. Much of the body of knowledge that can be expected is given.	The candidate will display evidence of the ability to analyse and interpret the resource material but gaps, errors 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, punctuation and grammar. 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 or misapprehensions may 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, punctuation and grammar. Writing may be illegible in places.	1

## Section A

AVAILABLE  
MARKS

## Option A: Impact of Population Change

- 1 (a) The epidemiological transition deals with the way causes of death tend to vary over time and space in association with development, a transition from deaths largely caused by dearth and disease to a situation where deaths are more likely to be from the inevitable ageing processes, such as cancer and heart attacks. Seek understanding for the definition and do not require textbook definitions [3]. There are clear associations with the DTM and also some work on a temporal model for this transition itself. In this question we are looking for the spatial variation, so the ways in which a MEDC has gone through the process, compared to the lesser progress of LEDCs would be fine. This is no requirement for examples or case studies, but better answers may well use them to help. If there is no spatial variation, maximum [1] out of [3].  
(2 × [3]) [6]
- (b) (i) The description should deal with a fairly stable pattern at around six children per women until around 1960 when there was the devastating famine referred to in Resource 1B. Then a rebound from that back to a more stable situation for a few years and then the steep decline for a decade and a gradual decline/stability since 1990 at a little under two children per woman. [3] for the description and it is a description so do not seek or reward explanation. Maximum [2] if there are no figures. [6] in levels for the more challenging part on the rate having fallen below 2.1 per woman. This, as they should know but are not told, is the replacement level. The consequences of dropping below this are that the population does not replace itself and begins to age. They might bring in social issues, dependency ratio issues, economic issues: getting labour is a potential problem, mediated to some extent and for some years perhaps by rural–urban migration. They are told to look at Resource 1A, but if they take material from 1B do not worry about it.

**Level 3 ([5]–[6])**

The answer is clear and explains more than one consequence. The significance of the 2.1 TFR is dealt with and explained. Language and terminology are both appropriate.

**Level 2 ([3]–[4])**

Answers with one consequence can be here if they are otherwise excellent. If more than one there may be some issues regarding depth of explanation. The significance of the 2.1 figure is at least acknowledged.

**Level 1 ([1]–[2])**

Answers which do not say why a TFR of 2.1 is important will be here along with those which through lack of understanding or clarity do not deserve higher reward.

([3] + [6])

[9]

- (ii) Here they have to use the Resources, principally 1B but 1A is also available to them, and their case study material. Their case study can be of China, too, but if that is the case look for extra detail and information not given to them in the Resources. They need to discuss policies and socio-economic developments, both of which are in the Resources, the latter in the work of Yong Cai.
- If either socio-economic developments or policies are missed, Level 2 maximum.
  - If either their own material or the Resources are not presented, Level 2 maximum.
  - They must focus on 'bringing about changes in fertility'; if they do not, Level 1.
  - If more than one problem, Level 1.

**Level 3 ([11]–[15])**

All aspects of the question are covered, maybe not fully balanced, but nothing is omitted. Detail from the Resources is taken, backed up by their own contribution, which is presented in a sound and comprehensive way using appropriate language and terminology.

**Level 2 ([6]–[10])**

Suboptimal routes to Level 2 were given above. Otherwise the answer is complete but may lack some depth and understanding. The focus is still correct and language and terminology acceptable.

**Level 1 ([1]–[5])**

Suboptimal ways of achieving Level 1 were described above; otherwise the answer will, through lack of length or depth, display only a partial understanding or coverage of the topic under consideration.

[15]

AVAILABLE  
MARKS

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- 2 (a) The answer will need to deal with the different availability of drugs and treatment in different parts of the world. This might be cast in terms of costs, thus poorer places are less able to afford care. There is also an issue with social attitudes in some places, for example in South Africa under the last president, Thabo Mbeke, there was a reluctance to acknowledge the seriousness of the situation and treatment was not facilitated. Another issue might be whether or not HIV/AIDS has become established amongst the heterosexual population. Availability of/willingness to use condoms might also be discussed.
- If they do not deal with differential mortality, just with HIV/AIDS and why people die, Level 1.

### Level 3 ([5]–[6])

Answers here are full, perhaps with a range of reasons, or if one, probably just cost, it is dealt with in good detail. The focus on spatial variation is clear and the answer is couched in appropriate language and terminology.

### Level 2 ([3]–[4])

The answers here are adequate but lack something in terms of depth and focus.

### Level 1 ([1]–[2])

Flawed answers are put at this level, those lacking in understanding and coverage of the issue under consideration. [6]

- (b) [3] for the description. They should see that migration rates rise during the teenage years; peak in the twenties, fall thereafter to a steady and low level and pick up a bit in the 60s. Maximum [2] if they do not cite figures. [6] for the explanation. Children migrate with their parents and then they leave home and set up their own households. They migrate to do this; to marry or live with friends, they migrate for work, they might migrate because they have no ties. By their thirties and forties most have steady jobs, families and migration rates fall to a minimum. They pick up in the 60s as people may migrate to their retirement locations. No penalty for interpreting graph as international migration. If they do not sufficiently separate out the description and the explanation, then you will have to mark in Levels out of [9] (Level 3 ([7]–[9])); Level 2 ([4]–[6]); Level 1 ([1]–[3]).

### Level 3 ([5]–[6])

The answer is full and brings in the idea of life cycle stages (though the term itself need not be used to get into Level 3). The answer is presented confidently using appropriate terminology and language.

### Level 2 ([3]–[4])

The answer may only be partial although what is seen will be valid. Full answers may lack depth.

### Level 1 ([1]–[2])

Answers will be flawed in some way, dealing with only a limited range of ages or displaying a limited understanding of the way in which migration rates are affected by age.

([3] + [6]) [9]

AVAILABLE  
MARKS

- (c) There are four things to cover. Not all need be dealt with in equal measure, but for high reward all must form part of the answer. Don't worry, though, about distinctions between 'describe and explain' in this particular context. They can be seen as distinct tasks when applied to, say, a graph as in the previous question but in this discursive question do not set aside marks for these elements.
- This is on the implications of migration. If the answer deals only with causes, Level 1. Causes might come into better answers but really only as background.
  - If they only do out-migration or in-migration, maximum Level 2.
  - If they only do economic activity or social stability, maximum Level 2.
  - More than one problem, Level 1.

### Level 3 ([11]–[15])

Answers here are full, though they do not need precise balance between the different elements. There is a correct focus on the implications of migration. The small-scale case studies are presented in detail. Language use is acceptable and the answer uses correct terminology.

### Level 2 ([6]–[10])

Good answers that are somewhat partial as described above can get Level 2, full answers lack the command required for higher reward. Language and terminology remain valid.

### Level 1 ([1]–[5])

Answers here are badly unbalanced as mentioned above or fail in other ways to deal properly with the implications of migration. There might be lack of understanding and poor language or the answer might be too sketchy to receive a better mark. [15]

AVAILABLE  
MARKS

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### Option B: Planning for Sustainable Settlements

#### AVAILABLE MARKS

- 3 (a) [3] for the material on parks and [3] for that on high rise city centres. For parks seek mention of environmental matters, perhaps also social in terms of relaxation and renewal. For the city centre we will probably see answers dealing with the greater efficiency of high density urban areas in terms of the provision of services and infrastructure. Do not insist on any places other than Tswane/Pretoria being mentioned, their own material in this case can be seen as the discussion. If there is absolutely no use made of the photograph in Resource 3A, deduct [1] from the total of [6].

(2 × [3])

[6]

- (b) The 'to help you' requires them to do more than repeat Resource 3B. If they do not go beyond the Resource, Level 2 maximum. If they do not use Resource 3B, Level 1.

#### Level 3 ([7]–[9])

Both aspects of the question, the necessity for sustainable development and why it is difficult to establish, are covered in reasonable depth. There is use of Resource 3B and their own extra material. The use of language and terminology is acceptable.

#### Level 2 ([4]–[6])

There might be less command here or the answer might not be sufficiently balanced between the various tasks. There remains focus on the question and both parts are mentioned.

#### Level 1 ([1]–[3])

The answer may be partial, through being short or lacking balance. There might be problems with depth and understanding of sustainable development.

[9]

- (c) They have to describe and evaluate. They cannot evaluate without some description, but if they just describe, maximum Level 2.
- If the answer has no case study or it is the wrong scale, confine to Level 1.
  - This is traffic management strategies, plural, so if there is only one strategy given, Level 2.

#### Level 3 ([11]–[15])

More than one strategy is described and evaluated in reasonable depth. The case study has detail and the candidate shows command of the material including appropriate language and terminology.

#### Level 2 ([6]–[10])

Answers not getting beyond description can be here as can those which cover the ground but lack depth. Case study material remains sound.

#### Level 1 ([1]–[5])

An inappropriate case study has been chosen or it is poorly handled because of length or understanding. There could be issues with evaluation.

[15]

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- 4 (a) They are speculating, so allow for that, but there are hints to help. The buses that have been replaced were very old, which might suggest, correctly, that they were more polluting than the new fleet. Also, the buses were maintained by their owners, rather than in a properly equipped garage. The new buses are energy efficient and run by a single company so the system can be more efficient overall and everything benefits from economies of scale. On the negative side there is the scrapping of hundreds of vehicles, which did run and the resources used to build the new fleet of buses. There may be job losses and loss of entrepreneurialism, leakage, change of culture, impact on tourism. They do not have to mention specifically the bus shown.

**Level 3 ([5]–[6])**

A number of impacts are mentioned, including some balance between positive and/or negative. There is understanding and some command.

**Level 2 ([3]–[4])**

Answers which address fewer impacts or at less depth can be here.

**Level 1 ([1]–[2])**

Answers that are too short or unfinished will be here along with those which do not demonstrate proper understanding of the issues. [6]

- (b) The Gandhi material is to get them into the topic. They would need to mention it (Level 2 maximum if they do not), but the bulk of the answer may well be on their own material including the requirement to use places for illustration.
- If places are not used, Level 2 maximum.
  - If the focus is not on social considerations (Gandhi's need vs greed), Level 1.

**Level 3 ([7]–[9])**

There is use of Gandhi material and their own, including places for illustration. The correct focus on social consideration is seen and the answer displays good understanding of the topic, its language and terminology.

**Level 2 ([4]–[6])**

The answer has some depth and the correct focus but may lack illustration or detail.

**Level 1 ([1]–[3])**

The focus may be incorrect; depth and detail may be lacking; the answer certainly lacks conviction. [9]

- (c) They have to deal with objectives and present an evaluation of urban land use planning. They can hardly evaluate without saying what they are evaluating, but if they just outline the policies and say no more, Level 1.
- If the case study is incorrect or absent, Level 1.

**Level 3 ([11]–[15])**

There is a detailed case study, the objectives of its landuse planning policies are clearly understood and, most significantly, the evaluation is handled well using appropriate language and terminology.

**Level 2 ([6]–[10])**

The case study might well be only adequate and/or the evaluation material might lack some depth.

**Level 1 ([1]–[5])**

Answers here are flawed. The candidate may not have finished or maybe they lack understanding of the material. Language use may be weak. [15]

AVAILABLE  
MARKS

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## Option C: Issues in Ethnic Diversity

AVAILABLE  
MARKS

- 5 (a) (i) They have to describe **one** possible objection from the Indian Government and **one** from the Gorkha people. They do not need to bring in additional material so full marks are available for plausible reasons based solely on the Resource. Possible objections from the Indian Government include their unwillingness to lose control of territory, loss of income from tourism and tea production. The Gorkha people might object because they wanted full independence and this deal falls short of their demands. They may distrust the Indian Government because of past events. Allow [3] for each plausible objection. Do not expect a lot of detail but look for a plausible objection described clearly in each case. [6]
- (ii) The economic impacts of ethnic conflict from the Resource include the loss of revenue from tea production and tourism. Over 70% of tea produced in the region goes for export. Thousands of tourists have either curtailed or cancelled their visit to this region.

The social impacts from the Resource include the loss of life during various periods of conflict and the disruption to normal life from civil disobedience, strikes and hunger strikes.

They have to bring in additional material to aid their discussion.

- No extra material used, confine to Level 2
- No use of the Resource, confine to Level 2
- Omitting either social or economic impacts from the Resource, award from Level 2 maximum.
- Multiple errors, confine to Level 1.

**Level 3 ([7]–[9])**

This is a thorough answer that demonstrates sound understanding of the social and economic impacts of ethnic conflict. The discussion is based around rigorous Resource use and the extra material is well integrated into the answer. Use of English is good.

**Level 2 ([4]–[6])**

The suboptimal situations described above is here. Apart from this, answers at this level are still adequate but lacking some depth and detail. Use of English is quite good.

**Level 1 ([1]–[3])**

Apart from the suboptimal situation described above, an answer at this level is seriously flawed by inaccuracies or irrelevant material. There may also be grammatical errors. [9]

- (b) The specification lists migration, colonisation and annexation as processes creating ethnic diversity. Obviously, the detail of their answer will depend on their case study choice. However, they will need to evaluate the role these processes played in creating ethnic diversity before reaching a decision on the statement. They need to address all of the three processes mentioned in the specification even if one process played no part in the ethnic make-up of their case study.

- If there is no case study and there is only a discussion of processes, then award out of Level 1 maximum.
- If the answer is at the wrong scale, confine to Level 1.
- If one process is omitted completely, award from Level 2 maximum.
- If there is no clear statement of the extent of their agreement with the quotation, award from Level 2 maximum.
- Multiple errors, confine to Level 1.

### **Level 3 ([11]–[15])**

The processes contributing to ethnic diversity are understood and there is depth, detail and the extent of their agreement with the statement is clear. Case study detail is evident. The answer is well written.

### **Level 2 ([6]–[10])**

Apart from the situations described above, there is less detail and depth throughout or the processes/discussion are handled less rigorously than at the previous level. English is still good.

### **Level 1 ([1]–[5])**

Apart from the situations described above, this answer is lacking in detail and depth on all aspects or there may be incorrect information. Use of English may be flawed.

[15]

AVAILABLE MARKS
30

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- 6 (a) (i) Ethnicity refers to social groups with a shared history, sense of identity, geography and cultural roots. There are a number of primary and secondary factors that can be combined to define ethnicity. In Egypt there are 2 main ethnic groups defined mainly by religion (primary factor). Each group has clearly identifiable outward symbols of their religion. In addition, Coptic Christians tend to live in clusters and are of a lower social status (secondary factors) compared to the Muslim population.
- Allow [3] for a clear explanation of ethnicity that includes reference to the use of primary and secondary factors.
  - If primary and secondary factors are not mentioned, award [2] maximum.

The remaining [3] should be awarded for their discussion of ethnicity in Egypt. No extra material is required so we should see thorough Resource use. [6]

- (ii) The 2 ethnic groups in Egypt show high levels of segregation in all aspects of life – places of worship with their distinctive architecture (photographs), dress code with limited social interaction. The Coptic Christians cite many examples to support their claims of discrimination. This has bred resentment between the 2 groups with frequent violent episodes. Candidates have to bring in some extra material to help them explain how segregation and discrimination maintain ethnic diversity.
- No extra material used, confine to Level 2.
  - No use of the Resource, confine to Level 2.
  - Omitting either segregation or discrimination from the Resource, award from Level 2 maximum.
  - Multiple errors, confine to Level 1.

### Level 3 ([7]–[9])

This is a thorough answer that demonstrates sound understanding of the role of segregation and discrimination in maintaining ethnic diversity. The discussion is based around rigorous Resource use and the extra material is well integrated into the answer. Use of English is good.

### Level 2 ([4]–[6])

The suboptimal situations described above is here. Apart from this, answers at this level are still adequate but lacking some depth and detail. Alternatively, there is inadequate emphasis on how segregation and discrimination maintain ethnic diversity. Use of English is quite good.

### Level 1 ([1]–[3])

Apart from the suboptimal situation described above, an answer at this level is seriously flawed by inaccuracies or irrelevant material. There may also be grammatical errors. [9]

AVAILABLE  
MARKS

- (b) This is their national case study of ethnic conflict. They have to evaluate the importance of any 3 of the given processes in the conflict. If anyone answers on more than 3, mark all of them but only award the 3 highest scoring answers. As with all case studies look for precise detail and a sound understanding of their selected processes.

- If three stand alone pieces are presented, mark (3 × [5]).
- If only 2 processes are chosen, award from Level 2 maximum.
- If there is no evaluation, award from Level 2 maximum.
- If only 1 process used, confine to Level 1.
- If there is no case study or the answer is at the wrong scale, confine to Level 1.
- Multiple errors, confine to 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, and the evaluation is sound. The answer is well written.

### Level 2 ([6]–[10])

Apart from the situation described above, an answer at this level will still demonstrate a good understanding of this topic but there is less detail and depth throughout. The evaluation is less rigorous than at the previous level. English is still of acceptable standard.

### 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]

### Section A

#### AVAILABLE MARKS

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## Section B

## Global Issues

AVAILABLE  
MARKS

- 7 (a) Sulphur dioxide damages respiratory systems, reacts with other chemicals to reduce visibility, contributes to the formation of photochemical smog, and reacts with moisture and oxygen in the atmosphere to form sulphuric acid and acid rain. Foliage, soils and buildings will be damaged and health impaired. There will be spin-off consequences from these effects.

If only a simple statement/discussion referring to sulphur dioxide is presented, a maximum of [2] marks may be awarded. Detailed, valid comments making explicit reference to environmental threats may be awarded a maximum of [4]

[4]

- (b) A clear description of an appropriate data collection technique should be given, along with comment on its suitability for use in the given investigation. If no context is given for the data collection, award maximum [3].

**Level 3 ([5]–[6])**

An appropriate data collection technique is described with a high level of detail. Strong, valid comment on its suitability for use in the context of the specific investigation is presented. Terminology is good.

**Level 2 ([3]–[4])**

An appropriate data collection technique is described with some detail. Some comment on its suitability for use in the given investigation is presented, although depth and detail may be restricted. Terminology may be restricted.

**Level 1 ([1]–[2])**

An inappropriate data collection technique may be described, or the comments presented may not relate to air pollution. Alternatively, an appropriate technique may be described in a cursory manner. Comment on the suitability of the technique for the given investigation may be absent, invalid, or cursory.

[6]

- (c) The candidate is asked to explain the nature of the air pollution problem within the context of a relevant small scale case study and to describe and evaluate the strategies implemented to address it. The most commonly (but not exclusively) discussed location is Los Angeles. In that location, photochemical smog is a major health and environmental issue. Strategies include: burning of rubbish forbidden; industrial constraints with techno-fixes and emission controls; enforced car-pooling; increasing use of public transport; smog alerts etc.

**Level 3 ([14]–[20])**

The nature of the air pollution problem is explained in the context of an appropriate small scale case study. The strategies implemented to address the issue are described with clarity and detail. The strategies are strongly evaluated, either generically or individually. Remarks are well-developed, detailed and valid. Terminology is precise.

**Level 2 ([7]–[13])**

The nature of the air pollution problem is explained in the context of an appropriate small scale case study. Although the strategies implemented to address the issue are described, there may be some lack of clarity, underdevelopment or restricted detail. The strategies are evaluated, either generically or individually. Remarks, though valid, may lack development and/or details may be restricted. The answer may be lacking in precise terminology.

**Level 1 ([1]–[6])**

A case study of an inappropriate scale may have been used. One or more elements of the question (nature of the problem, description of strategies, evaluation) may have been neglected. Comments may be invalid, cursory or non-relevant. Use of terminology may be poor. [20]

AVAILABLE  
MARKS

30



- 8 (a) Medical applications include diagnosis (for example through radioactive tracers) and treatments such as radiotherapy. If only a simple statement/description is presented, or if only one valid medical application is given, a maximum of [2] may be awarded. Detailed, valid comments inclusive of more than one medical application may be awarded a maximum of [4]. [4]
- (b) A clear description of an appropriate data collection technique should be given, along with comment on its suitability for use in the given investigation. If no context is given for the data collection, award maximum [3].

**Level 3 ([5]–[6])**

An appropriate data collection technique is described with a high level of detail. Strong, valid comment on its suitability for use in the context of the specific investigation is presented. Terminology is good.

**Level 2 ([3]–[4])**

An appropriate data collection technique is described with some detail. Some comment on its suitability for use in the given investigation is presented, although depth and detail may be restricted. Terminology may be restricted.

**Level 1 ([1]–[2])**

An inappropriate data collection technique may be described, or the comments presented may not relate to nuclear energy. Alternatively, an appropriate technique may be described in a cursory manner. Comment on the suitability of the technique for the given investigation may be absent, invalid, or cursory. [6]

- (c) The candidate is asked to discuss the extent to which they agree with the given statement. Thus, reference to the statement is an integral expectation of the response. Candidates may elect to agree or disagree, providing they support their comments.

**Level 3 ([14]–[20])**

At least four elements of the question are strongly addressed: amount; timing; cost; risk; spatial reference. The extent to which the candidate agrees with the statement is explicitly clarified. Comments are well-developed and with good use of terminology. A high level of relevant detail is given.

**Level 2 ([7]–[13])**

At least three elements of the question are strongly addressed: amount; timing; cost; risk; spatial reference. There is some attempt to clarify the extent to which the candidate agrees with the statement. Comments may be underdeveloped and terminology/details may be restricted.

**Level 1 ([1]–[6])**

More than one element (amount; timing; cost; risk; spatial reference) may have been neglected. Comments may be cursory only, perhaps lacking validity or detail validity. Use of terminology may be poor. [20]

AVAILABLE  
MARKS

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- 9 (a) Changes in agriculture can lead to a reduction in biodiversity through the clearing of land, excessive water use, habitat destruction and the contamination of soil and water. Do not expect long answers but for full marks they should describe at least 2 changes and give some detail. If only 1 change is described, award no more than [2]. [4]

- (b) A clear description of an appropriate data collection technique should be given, along with comment on its suitability for use in the given investigation. If no context is given for the data collection, award maximum [3].

### Level 3 ([5]–[6])

An appropriate data collection technique is described with a high level of detail. Strong, valid comment on its suitability for use in the context of the specific investigation is presented. Terminology is good.

### Level 2 ([3]–[4])

An appropriate data collection technique is described with some detail. Some comment on its suitability for use in the given investigation is presented, although depth and detail may be restricted. Terminology may also be restricted.

### Level 1 ([1]–[2])

An inappropriate data collection technique may be described, or the comments presented do not relate to agricultural change. Alternatively, an appropriate technique may be described in a cursory manner. Comment on the suitability of the technique for the given investigation may be absent, invalid or cursory. [6]

- (c) This is their case study of a region undergoing agricultural change. There are two things to do here – describe the environmental consequences of agricultural change and evaluate the success of their management. Do not expect a given number/type of changes to be discussed. 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. Evaluation of the environmental management must be closely related to the changes discussed in the previous section. They must have a regional scale case study. If anyone presents an answer at a different scale, confine to Level 1.

### Level 3 ([14]–[20])

At this level the candidate has provided a balanced answer. The nature of the agricultural change/s is described in detail. The candidate has facts and figures from a case study and these are used to good effect. The potential environmental consequences and their management are clearly understood and evaluated. The answer is well written using appropriate terminology and showing good written communication skills.

### Level 2 ([7]–[13])

This is still a competent answer addressing both aspects of the question but the level of depth and detail is less than above. There may be fewer facts and figures relating to the case study either in terms of the changes or the evaluation of the management strategies is limited. Nevertheless, there is still adequate understanding shown and the main difference between a Level 2 and a Level 3 answer is the depth and detail used. An answer with no evaluation could just make it into lower Level 2, provided there is good case study detail on the environmental consequences. Quality of language is fairly good.

AVAILABLE  
MARKS

**Level 1 ([1]–[6])**

At this level the answer is seriously flawed either in accuracy, depth and or detail. The candidate is not in control of the topic. The answer is short showing only partial understanding or knowledge. Written English may be flawed.

[20]

**AVAILABLE  
MARKS**

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- 10 (a)** Social sustainability refers to the ability of a community to function and adapt to changing situations without having attitudes and ways of life altered in an adverse manner. Changes in tourism largely through increased numbers of visitors often from different cultural backgrounds can affect social sustainability in an area in a number of ways:

- an additional layer of cultural diversity is introduced to a region. This can be an enriching experience but in other occasions it can result in new challenges.
- Traditional occupations are often abandoned in favour of higher paid opportunities in the service sector in the tourist resorts.
- Young people in particular will leave rural farming communities to find employment in hotels, cafes and other services.
- Many of the jobs associated with tourism are unskilled, seasonal and low-paid.
- Workers often find that because of the seasonal nature of their employment they have to work long and antisocial hours for several months of the year.
- It has also been shown that this type of work often leads to the break-up of families.

Look for an understanding of social sustainability and how it can be affected by tourism. For [4] two or more potential effects with some detail are required. [4]

- (b)** A clear description of an appropriate data collection technique should be given, along with comment on its suitability for use in the given investigation. If no context is given for the data collection, award maximum [3].

**Level 3 ([5]–[6])**

An appropriate data collection technique is described with a high level of detail. Strong, valid comment on its suitability for use in the context of the specific investigation is presented. Terminology is good.

**Level 2 ([3]–[4])**

An appropriate data collection technique is described with some detail. Some comment on its suitability for use in the given investigation is presented, although depth and detail may be restricted. Terminology may also be restricted.

**Level 1 ([1]–[2])**

An inappropriate data collection technique may be described, or the comments presented do not relate to tourism change. Alternatively, an appropriate technique may be described in a cursory manner. Comment on the suitability of the technique for the given investigation may be absent, invalid or cursory. [6]

AVAILABLE  
MARKS

- (c) This is their regional/national scale case study of a region undergoing tourism change. There are two things to do here – describe the environmental consequences of the tourism change and evaluate the success of their management. Do not expect a given number/type of changes to be discussed. 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. The evaluation of the management strategies must be closely related to the changes discussed in the previous section. Allow for a wide interpretation of environmental consequences.

### Level 3 ([14]–[20])

At this level the candidate has provided a balanced answer. The nature of the tourism change/s is described in detail. The candidate has facts and figures from a case study and these are used to good effect. The potential environmental consequences and their management policies are clearly understood and evaluated. The answer is well written using appropriate terminology and showing good written communication skills.

### Level 2 ([7]–[13])

This is still a competent answer addressing both aspects of the question but the level of depth and detail is less than above. There may be fewer facts and figures relating to the case study either in terms of the changes or the evaluation of the management strategies is limited. Nevertheless, there is still adequate understanding shown and the main difference between a Level 2 and a Level 3 answer is the depth and detail used. An answer with no evaluation could just make it into lower Level 2, provided there is good case study detail on the environmental consequences. Quality of language is fairly good.

### Level 1 ([1]–[6])

At this level the answer is seriously flawed either in accuracy, depth and or detail. The candidate is not in control of the topic. The answer is short showing only partial understanding or knowledge. Written English may be flawed.

[20]

**Section B****Total****AVAILABLE  
MARKS**

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