GCE MARKING SCHEME

SUMMER 2016

GEOGRAPHY
G1 – CHANGING PHYSICAL ENVIRONMENTS
1201/01

INTRODUCTION

This marking scheme was used by WJEC for the 2016 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

GEOGRAPHY

The Assessment of Quality of Written Communication at AS

Opportunities for assessment of quality of written communication are found within each of the Assessment Objectives and thus within all questions that demand continuous prose that are marked out of ten.

For each of the ten mark questions in G1 and G2, the following criteria for quality of written communication should be applied to the levels of assessment.

Mark Band Criteria for the Assessment of Quality of Written Communication for 10 mark questions at AS.

Level 3	• Information is organised clearly and coherently and arguments are logically developed and tightly structured. • Candidate writes in continuous prose using relevant and accurate geographical vocabulary. • There are relatively few errors of spelling, punctuation and grammar.
Level 2	• Information is relatively clear but points and arguments are not always direct or logically developed. • The use of geographical vocabulary is variable and prose style may lack precision or accuracy. • There are some errors of spelling, punctuation and grammar that may make the meaning unclear.
Level 1	• Information is randomly organised and lacks clarity. • Statements are brief and bald and the language is simplistic with limited use of geographical vocabulary. • Spelling, punctuation and grammar are weak with errors that may be intrusive.

Assessment Objectives Grid for Geography - G1

Summer 2016

	Knowledge and Understanding	Application	Skills	Total	Key Question
Question 1					
(a)	**0**	**2**	**3**	**5**	**1.4**
(b)	**8**	**2**		**10**	**1.4**
(c)	**7**	**3**		**10**	**1.3**
	15	**7**	**3**	**25**	
Question 2					
(a)	**0**	**2**	**3**	**5**	**2.2**
(b)	**8**	**2**		**10**	**2.3**
(c)	**7**	**3**		**10**	**2.3**
	15	**7**	**3**	**25**	
Question 3					
(a)	**1**	**1**	**5**	**7**	**2.5**
(b)	**2**	**1**	**5**	**8**	
(c)	**3**	**2**	**5**	**10**	
	6	**4**	**15**	**25**	
	36 (48%)	**18 24%)**	**21 (28%)**		

Using the mark bands

The aim is to find the descriptor that conveys most accurately the level attained by the candidate, using the best-fit model. A best-fit approach means that marks should be awarded for a response that most fairly matches different aspects of the descriptor.

GCE GEOGRAPHY G1

MARK SCHEME

SUMMER 2016

Q.1 (a) Use *Figure 1* to describe differences in the vulnerability of major coastal cities of Asia to climate change. [5]

The question asks for differences and credit should be given to responses that address this part of the demand. With exposure there are some cities that have high risk (M.D,S,H.K) whilst others are relatively low risk (KL, PP). With adaptive capacity there is a clear division between those with high adaptive capacity (HK,S,KL) and those with low capacity (PP,D,M).

Some comments may look at differences between the two elements of vulnerability for different cities –

Phnom Penh is not threatened so much (1) and is least prepared (1) whilst Hong Kong is more threatened (1) but is the most prepared (1) with a score of 1 (1).

The most threatened is Manila (1) but the most vulnerable is Dhaka and/or Phnom Penh (1). Manila is most exposed to vulnerability (1)

Hong Kong has the greatest ability to adapt to climate change (1). Ten times greater than Dhaka (1)

Allow other valid description of differences. Award 1 mark for a comment that identifies a difference with a further 1 mark for use of data to back it up.

Hong Kong has a score of 7 for exposure to vulnerability (0) – No differences.

(b) Compare the impacts of climate change in *two* regions that you have studied. [10]

Many candidates will approach this question with a comparison of the impacts of climate change on rich and poor countries. Comment may be made on the differences in the scale and type of impact with reference made to the variations in economic, demographic, social and environmental impact. This could be done by a comparison of two countries/regions or by a comparison between a LEDC and a MEDC. There may be reference to explanation which should be given credit. This could refer to the different financial capabilities of different regions/countries to prepare for, and mitigate against, the impacts of climate change.

Another valid approach would be to compare two regions that are similar in development – Alaska and Florida, Bangladesh and Tuvalu (based on life expectancy). Comment may be made on the differences in the scale and type of impact with reference made to the variations in economic, demographic, social and environmental impact.

Other candidates may take a different basis for comparison such as a coastal and inland regions, upland and lowland regions, populated or unpopulated regions, different climatic regions etc. These approaches are valid in the context of the question as long as they compare the impacts. Candidates may provide a rational explanation that links effectively to the variation of impacts.

Accept answers that approach the question from a physical viewpoint such as variations in rainfall, examination of impacts on biomes.

Level 3 8-10 marks	Good knowledge of regional variations in the impacts of climate change. Good understanding of the nature of variations in the impacts of climate change with comparison. Good development of examples.
Level 2 4-7 marks	Some knowledge of regional variations in the impacts of climate change. Some understanding of nature of variation in impacts of climate change. Examples are evident. Maximum level if only **one** region is examined or if there is a straight description with no attempt at comparison.
Level 1 0-3 marks	Basic knowledge of regional variations in the impacts of climate change. Basic understanding of how the impacts of climate change vary. Little use of examples.

(c) Outline the relative importance of humans in causing recent climate change. [10]

There are two elements to this question:

1. Human activities and the processes leading to climate change.
2. The relative importance of humans in climate change. Some candidates may focus more on one element than the other which is acceptable but both are needed for Level 3.

This question allows candidates to demonstrate knowledge of how humans influence climate change and the relative importance of human activity in that change. Candidates could discuss the factors that have resulted in the enhanced greenhouse effect such as increased production of CO_2, methane and other greenhouse gases, the removal of carbon sinks, intensification of agriculture etc. Answers may detail the operation of the **enhanced** greenhouse effect and link this to human activity. There is also the opportunity to credit comment on the nature of recent climate change such as increased temperatures, shifting climate belts and extreme weather events. Take care not to credit reference to other changes such as sea-level rise, glacier retreat etc. These are symptoms of climate change.

Some candidates may view human activity as strategies to halt recent climate change. The evidence for the reversal of climate change is very limited but some candidates may put up a spirited argument.

To address the relative element of the question candidates can compare human activity with natural processes that cause climate change and give some development of process to support comments. This may refer to short- and long-term changes and the relative importance of humans/natural process.

Some may comment on the relative importance of different human activities e.g. fossil fuel consumption for transport/power versus agriculture.

Other approaches e.g. changes over time may be valid.

Examples **may** include: methods of human activity; changing climate; location; detail of atmospheric processes.

Level 3 8-10 marks	Good knowledge and understanding of human influence on climate change. Good outline of relative importance. Development of examples.
Level 2 4-7 marks	**Either:** some knowledge and understanding of human influence on climate change. Some outline of relative importance. Examples are evident. **Or:** good knowledge and understanding of human influence on climate change but no reference to relative importance.
Level 1 0-3 marks	Basic knowledge and understanding of human influence on climate change. Little use of examples.

Q.2 (a) Use *Figure 2* to describe the impacts of the tsunami. [5]

Answers may make reference to a number of aspects in relation to the physical landscape:

- Destructions of buildings
- Destruction of infrastructure
- Destruction of crops
- Destruction of market gardens
- Boats washed away
- Destruction of marshland
- Destruction of forests
- Depopulation
- Destruction of industry

Allow 1 mark for a valid comment about the impact and an extra 1 mark for evidence from the resource. An extra mark is available for development.

There has been destruction of market gardens (1) as shown in the north-western part of the photograph (1) where greenhouses have been destroyed, leading to the loss of jobs (1).

(b) Outline why some groups have negative perceptions of hazards associated with *either* tectonic activity *or* flooding. [10]

Answers should show an understanding that different groups can see hazards from a negative perspective. The content of responses will vary according to which hazard is chosen – flood, earthquake or volcanic activity. Answers may be organised around or address the economic, social and demographic problems that result from hazards.

- Economic may include costs of damage to buildings and infrastructure, costs of repair, costs of insurance, economic losses due to industrial activity being curtailed, cost of aid etc.
- Social may include loss of housing, loss of health services, social unrest, health/injury issues, trauma, infrastructure destruction etc.
- Demographic may include overall mortality, age/sex specific impacts, migration (temporary and permanent), health issues etc.

Credit other valid impacts.

To gain full credit these impacts need to be linked to specific groups and their negative perception outlined. So economic losses may be linked to government and the negative perception linked to budgetary impacts. The link to groups may cross the categories of impacts so that mortality may be seen as negative because of the trauma caused within families. At a community level there may be issues with loss of housing that could lead to migration. Some answers may look at the challenges that are brought about by the hazards – there may the challenge at an international scale of feeding and housing victims and at a national scale of rebuilding. These challenges can be framed in a negative format.

It is important that candidates recognise the groups that are involved and any answer that is general should not access Level 3. Groups can be recognised in a variety of ways and need not be named specifically – so a group could be simply the local residents, farmers or aid workers.

The command word is 'outline why' and so answers should focus on more than just description for Level 3. Some rationalisation of the perception of the group is needed. Inevitably there will be some element of description and this should be given credit where appropriate. Many answers will focus on particular events or locations but be willing to fully credit comment that may illustrate points from different examples. Where a candidate does both hazards mark both and select the best.

Level 3 **8-10 marks**	Good description and explanation of why perception is negative. Good understanding of the different perceptions of identified groups. Good use of example(s).
Level 2 **4-7 marks**	**Either:** some description and explanation of why perception is negative. Some understanding of the different perception of identified groups. **Or:** good description and explanation of why perception is negative but no mention of identified groups. Some use of an example(s).
Level 1 **0-3 marks**	Basic description and explanation. Basic use of an example(s).

(c) Outline the strengths and weaknesses of *one* strategy used to manage tectonic hazards. [10]

The requirement is to outline the strengths and weaknesses so expect to see answers that describe the identified strategy and give positive and negative features. Answers should display both knowledge of the strategy and an explanation of how this can manage tectonic hazards. To gain access to Level 3 there needs to be an element of discussion. The strategy used in answers will vary. Accept either generic or detailed strategies for full marks. Generic approaches may address preparation, planning, land-use planning, adaptation, protection, prevention, aid, etc. The management may refer to how the strategy allows people to avoid the hazard, to absorb the impacts of the hazard or to alleviate the impacts of the hazard after it has occurred. Popular strategies that may be used are:

- Earthquakes: building engineering, earthquake preparedness, household seismic safety, seismic retrofit, education for citizens, emergency service training, evacuation for tsunamis, land-use plans, aid and earthquake prediction.

- Volcanoes: early warning systems, evacuation, emergency plans, education for citizens, emergency service training, building engineering, land-use plans and aid.

There will be a great variety of strategies used depending on the hazard selected and the examples that have been studied. Accept approaches that have a case study structure. When looking at the strengths and weaknesses, answers may refer to short term/long term, economic/social/environmental comparison of before and after the implementation, comparison with locations that have not implemented strategies, comparison with locations that have implemented different strategies, variations in the magnitude of the hazard. Do not expect extensive comments in the time allowed.

Max 5 marks for those who just describe strategy.

Level 3 8-10 marks	Good knowledge of the strategy and how it operates to manage hazards. Good outline of the strengths and weaknesses. Good development of examples, located or generic.
Level 2 4-7 marks	Some knowledge of the strategy and how it operates to manage hazards. Some outline of the strengths and weaknesses. Some development of examples, located or generic. Lacks balance – no discussion.
Level 1 0-3 marks	Basic knowledge of the strategy and how it operates to manage hazards. Little use of examples.

Q.3 (a) Use *Figure 3* to describe spatial patterns of river flow.

[7]

A number of variations can be identified:

- Exceptionally high flow in the southern part of UK/England for example on the Medway and Ouse but there are anomalies where exceptionally high flow is found in the north, e.g. the Dee
- Wales/N. Midlands/North/S. Scotland mixture of values
- N. Scotland normal and below normal
- Lowest – Naver and Carron
- There are none that have notably low flow or exceptionally low flow

Answers should refer to patterns of river flow and use information from the resource as support for descriptions. Support can be names of rivers or concentrations in regions.

Level 3 6-7 marks	Good identification and description of patterns of river flow. Good use of data.
Level 2 3-5 marks	Some identification and description of patterns of river flow. Some use of data.
Level 1 0-2 marks	Basic identification and description of patterns of river flow.

(b) Suggest information that would help to investigate why some rivers shown in *Figure 3* recorded exceptionally high flow. Justify your choices. **[8]**

There is a variety of information that candidates may suggest to investigate exceptionally high flow:

- Duration of precipitation
- Intensity of precipitation
- Type of precipitation
- Water balance
- Geology
- The characteristics of the drainage basin
- Vegetation cover
- Urbanisation
- Channelisation

Candidates may examine one or more of these aspects. Justification should come as an outline of why the selected characteristic(s) have an influence on the rate of flow. The depth of justification will depend on the information addressed and breadth vs depth applied.

Level 3 6-8 marks	Valid suggestion(s) with good development. Good justification.
Level 2 3-5 marks	Valid suggestion(s) with some development Some justification. Or one suggestion with good development.
Level 1 0-2 marks	Valid suggestion(s) with basic development. Basic justification.

(c) Outline *two* weaknesses of your investigation into a changing physical environment.

You should state clearly the question that you have investigated. **[10]**

The content of the responses will depend on the topic selected for investigation and the focus on the location of weaknesses within the enquiry approach. The description element of the question invites candidates to examine the nature of the identified weaknesses. The weaknesses could refer to one element in the study process e.g. method of collection. Alternatively there could be comment on the limitation across the study – poor data can impact on presentation and conclusions. Answers may review weaknesses in:

- The planning of the investigation and could look at elements such as the construction of the data collection sheet, the type of data to be collected, the equipment to be used or the lack of a pilot survey.
- The data collection element may look to the sampling method, the number of samples and the actual collection of data.
- The data presentation may look at the appropriateness of the graphs, maps etc. or the ability to construct them with the data collected.
- Data analysis may examine the use of statistics and refer to the number of samples.
- Conclusions may refer to the how the whole data collection/analysis sequence failed to give any pattern etc.

If human investigation is used, max Level 1

Level 3 **8-10 marks**	Good outline of two weaknesses. Good development in the context of the investigation.
Level 2 **4-7 marks**	**Either:** some outline of two weaknesses. Some development in the context of the investigation. **Or:** lacks balance – good outline of one weakness.
Level 1 **0-3 marks**	Basic outline of two weaknesses. Basic development in the context of the investigation.