GCE AS MARKING SCHEME

SUMMER 2017

AS (NEW)
GEOGRAPHY - UNIT 1
2110U10-1

INTRODUCTION

This marking scheme was used by WJEC for the 2017 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.

Section A: Changing Landscapes

Either: Coastal Landscapes

		AO1	AO2.1a	AO2.1b	AO2.1c	AO3		Total
1. (a) (i)	Use **Figure 1** to suggest how mass movement is influencing the development of this coastal landscape. Content: 1.1.5							
						5		**5**

Indicative Content

The development of the coastal landscape can be seen from both an erosional and depositional viewpoint. Aspects of the photograph addressed can be development of shape, position and process.

Answers could address the following but credit other valid responses:

- scars on the cliff face
- crenelated cliff top indicating retreat
- debris fan at foot of the cliff
- debris protects base of cliff from erosion
- provision of sediment to form beaches
- provision of sediment as erosional tools
- the impact of mass movement on economic and/or social activity

Award 1 mark for a valid suggestion using the resource with 1 or max. 2 marks for development of any given suggestion.

		AO1	AO2.1a	AO2.1b	AO2.1c	AO3		Total
1. (a) (ii)	Explain why wave fetch may affect the erosion of this coastal landscape. Content: 1.1.4							
			3					**3**

Indicative Content

Looking for how fetch controls the processes operating at the coast. Credit comments such as:

- definition of fetch [1 max]
- fetch controls the size of the waves
- larger waves have more power
- able to erode more effectively

Credit other valid comments including examples of influence of fetch directly related to the resource.

1. (b) Explain why wind is important in the formation of coastal sand dunes. Content: 1.1.7	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	5	3					**8**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

AO1
AO1 content encompasses knowledge and understanding of how aeolian processes form coastal sand dunes. This may include:

- erosion of sediment from beach
- transportation of sediment
- description of suspension, saltation and traction with link to grain size
- deposition where wind speed falls behind obstacles
- growth of embryo dunes
- fixation of dunes
- movement of sand within dunes - blowouts

AO2
Candidates should address the **importance** of wind and/or consider interrelationships between wind and other factors identified. This may include:

- the relative importance of wind
- the role of biotic factors
- the role of physical objects at the strand line
- the changing role of wind with distance inland
- the changing role of wind within the dune system – blowouts

Award the marks as follows:		
	AO1 (5 marks)	**AO2.1a (3 marks)**
Band	*Demonstrates knowledge and understanding of the role of wind in the formation of coastal sand dunes.*	*Applies AO2.1a to explain the importance of wind and/or the interrelationships with other factors.*
3	4-5 marks Demonstrates accurate knowledge and understanding of aeolian processes. Well-developed knowledge and understanding of link between aeolian processes and the formation of sand dunes. Demonstrates accurate knowledge and understanding through the use of appropriate and well-developed examples. Well annotated sketches / diagrams / maps may also be used and should be credited.	3 marks Applies knowledge and understanding to construct well-developed and structured explanation of importance of wind processes. Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	2-3 marks Demonstrates mostly accurate knowledge and understanding of aeolian processes. Demonstrates mostly accurate knowledge and understanding of link between aeolian processes and the formation of sand dunes. Demonstrates mostly accurate knowledge and understanding through the use of mostly appropriate examples which may not be fully developed. Adequate sketches / diagrams / maps may also be used and should be credited.	2 marks Applies knowledge and understanding to construct a partial explanation of importance of wind processes, with some structure. Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1 mark Demonstrates limited knowledge and understanding of aeolian processes. Demonstrates limited link between aeolian processes and the formation of sand dunes. Demonstrates limited knowledge and understanding through the use of examples which are undeveloped. Basic sketches / diagrams / maps may be seen and can be credited.	1 mark Applies knowledge and understanding to construct a limited explanation of importance of wind processes, which lacks structure. Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
	Response not creditworthy or not attempted.	Response not creditworthy or not attempted.

2. (a) (i) Use **Figure 2** to describe variations in the percentage of properties at risk from coastal erosion and flooding. Skills: 3.6	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative Content

Answers could address the following but credit other valid responses:

- greatest in Newport
- concentration in South East Wales
- cluster in North Wales
- South West Wales has limited number
- West coast has limited number
- least in Bridgend

Award 1 mark for a valid suggestion using the resource with 1 or max. 2 marks for development of any given suggestion.

2 (a) (ii) Suggest **one** social loss associated with coastal erosion. Content: 1.1.9	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
			3				**3**

Indicative Content

Allow 1 mark for identification of a valid **social** loss such as homelessness, loss of possessions, trauma, injury etc.

Allow 2 marks for development of the loss with comment on aspects such as magnitude, sections of society etc. or development of example.

2. (b) Examine the success of **one** management strategy used to manage the impacts of coastal processes on human activity. Content: 1.1.9	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	5			3			**8**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

AO1
AO1 content encompasses knowledge and understating of one management strategy. The content will depend upon the management strategy chosen but there are a number of threads that are worthy of credit:

- the reasons for the strategy such as high rates of erosion or deposition of sediment in inappropriate places
- the characteristics of the strategy such as physical structure or operation
- how the strategy modifies process
- geographical context

AO2
Candidates should demonstrate application of knowledge and understanding through an examination of the extent to which one coastal management strategy has been successful. This may include:

- the extent to which the strategy has modified erosion or deposition issues
- the extent to which the strategy has reduced impacts on human activity
- the impact on the aesthetics of the coast
- the impact of the strategy on processes operating in adjacent parts of the coastal system
- the cost and benefits of the selected strategy

Award the marks as follows:		
	AO1 (5 marks)	**AO2.1c (3 marks)**
Band	*Demonstrates knowledge and understanding of one coastal management strategy.*	*Applies AO2.1c to examine the success of the strategy.*
3	4-5 marks Demonstrates accurate knowledge and understanding of one coastal management strategy. Demonstrates accurate knowledge and understanding through the use of appropriate, and well developed examples. Well annotated sketches / diagrams / maps may also be used and should be credited.	3 marks Applies knowledge and understanding to construct well-developed and structured assessment of success of the strategy. Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	2-3 marks Demonstrates mostly accurate knowledge and understanding of one coastal management strategy. Demonstrates mostly accurate knowledge and understanding through the use of mostly appropriate examples which may not be fully developed. Generalised sketches / diagrams / maps may also be used and should be credited.	2 marks Applies knowledge and understanding to construct a partial assessment of the success of the strategy, with some structure. Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1 mark Demonstrates limited knowledge and understanding of one coastal management strategy. Demonstrates limited knowledge and understanding through the use of examples which are undeveloped. Basic sketches / diagrams / maps may be seen and can be credited.	1 mark Applies knowledge and understanding to construct a limited assessment of the success of the strategy, which lacks structure. Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
0	Response not creditworthy or not attempted.	Response not creditworthy or not attempted.

Or: Glaciated Landscapes

3. (a) (i)	Use **Figure 3** to suggest how this glacial landscape has been modified since the ice retreated. Content: 1.2.8, 1.2.9	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
						5		**5**

Indicative Content

The resource shows features that have been produced by a variety of processes at different stages. There are scree slopes, a river now running in the valley and possible evidence of periglacial processes. Answers could address the following but credit other valid responses:

- scree slope development as a result of freeze thaw weathering
- fluvial erosion on the meanders
- fluvial deposition on a narrow 'flood plain'
- possible solifluction lobes
- infilling of lake
- human modification of the **landscape**

Award 1 mark for a valid suggestion using the resource with 1 or max. 2 marks for development of any given suggestion.

3. (a) (ii)	Suggest **one** way in which ice thickness could have affected glacial erosion in this landscape. Content: 1.2.5	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
				3				**3**

Indicative Content

Answers could address one of the following but credit other valid responses:

- thicker ice provides more pressure
- speed of flow
- increases abrasion
- weight can crush weaker rocks

Award 1 mark for identification of factor + 2 for development to explain how ice thickness could have affected glacial erosion.

3. (b) Compare **two** processes of glacial erosion. Content: 1.2.5	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	5	3					**8**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

AO1
AO1 content encompasses a knowledge and understanding of processes glacial erosion. Candidates may choose a combination of plucking, abrasion and sub glacial fluvial erosion.

Plucking
- joints in rocks
- meltwater seeps into joints
- freezes
- blocks ripped out by moving glacier
- jagged remains

Abrasion
- debris at base of glacier
- weight of glacier
- scours bedrock
- striations and polishing of rock

Sub glacial fluvial
- sediment from erosion by ice and weathering
- meltwater flowing under pressure
- abrasion of bedrock

AO2
Candidates should demonstrate application of knowledge and understanding through comparison(s) which may include:
- operation of process
- speed
- magnitude
- outcomes of process

Award the marks as follows:		
	AO1 (5 marks)	**AO2.1a (3 marks)**
Band	*Demonstrates knowledge and understanding of two processes of glacial erosion.*	*Applies AO2.1a to compare the characteristics of two erosional processes.*
3	4-5 marks Demonstrates accurate knowledge and understanding of two processes of glacial erosion. Well annotated sketches / diagrams / maps may also be used and should be credited.	3 marks Applies knowledge and understanding to construct well-developed and structured comparison(s). Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	2-3 marks Demonstrates mostly accurate knowledge and understanding of two processes of glacial erosion. Demonstrates accurate knowledge and understanding of one process of glacial erosion. Generalised sketches / diagrams / maps may also be used and should be credited.	2 marks Applies knowledge and understanding to construct a partial comparison(s). Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1 mark Demonstrates limited knowledge and understanding of two processes of glacial erosion. Basic sketches / diagrams / maps may be seen and can be credited.	1 mark Applies knowledge and understanding to construct a limited comparison(s). Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
0	Response not creditworthy or not attempted.	Response not creditworthy or not attempted.

4. (a) (i) Use **Figure 4** to describe the trends in the global glacial budget. Skills: 3.6	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative Content

The resource shows a number of distinctive features. Answers could address the following but credit other valid responses:

- overall decrease
- fluctuation in annual mass balance
- largest decline in 2006
- smallest in 1993
- few years with positive balance
- none since 1989

Award 1 mark for a valid suggestion using the resource with 1 or max. 2 marks for development of any given suggestion.

4. (a) (ii) Explain why there are seasonal variations in ablation within the glacial budget. Content: 1.2.2	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
		3					**3**

Indicative Content

Answers could address the following but credit other valid responses:

- explanation of input/output balance affecting glacial budget
- decrease in inputs from snowfall
- melting increase due to increase in temperature
- increase inputs
- less melting due to lower temperatures

Allow 1 mark for each point made + up to 2 max. for development of point.

4. (b) Examine the formation and characteristics of **one** fluvioglacial landform. Content: 1.2.6	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	5			3			**8**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

AO1
The content will depend upon the chosen landform but expect sandur, varves, kettle holes, eskers, cames and came terraces. With each, expect reference to:

- shape of the landform
- magnitude of the landform
- sediment characteristics
- process of formation
- impact of meltwater/ice
- seasonal variation

AO2
Candidates should demonstrate application of knowledge and understanding through and examination of the **linkage** between process and form. This discussion may refer to:

- links between process and particular characteristics
- the relative importance of ice and water
- variations in the characteristics of the selected landform

Award the marks as follows:		
	AO1 (5 marks)	**AO2.1c (3 marks)**
Band	*Demonstrates knowledge and understanding of the characteristics and formation of one landform.*	*Applies AO2.1c to examine the links between the characteristics and formation of one landform.*
3	4-5 marks Demonstrates accurate knowledge and understanding of one fluvioglacial landform. Demonstrates accurate knowledge and understanding through the use of appropriate, and well developed examples. Well annotated sketches / diagrams / maps may also be used and should be credited.	3 marks Applies knowledge and understanding to construct well-developed and structured examination of the characteristics and formation of one fluvioglacial landform. Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	2-3 marks Demonstrates mostly accurate knowledge and understanding of one fluvioglacial landform. Demonstrates mostly accurate knowledge and understanding through the use of mostly appropriate examples which may not be fully developed. Generalised sketches / diagrams / maps may also be used and should be credited.	2 marks Applies knowledge and understanding to construct a partial examination of the characteristics and formation of one fluvioglacial landform. Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1 mark Demonstrates limited knowledge and understanding of one fluvioglacial landform. Demonstrates limited knowledge and understanding through the use of examples which are undeveloped. Basic sketches / diagrams / maps may be seen and can be credited.	1 mark Applies knowledge and understanding to construct a limited examination of the characteristics and formation of one fluvioglacial landform. Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
0	Response not creditworthy or not attempted.	Response not creditworthy or not attempted.

Section B: Tectonic Hazards

5. (a) (i) Use **Figure 5** to describe the distribution of high and very high earthquake hazard risk in South East Asia. Skills: 3.1	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative Content

Answers could address the following but credit other valid responses:

- very high has highest concentration in Myanmar
- some very high in Philippines
- high in Indonesia
- linear pattern
- NW to SE trend
- distribution linked to location of tectonic margins

Award 1 mark for a valid suggestion using the resource with 1 or max. 2 marks for development of any given suggestion.

(a) (ii) Examine the relationship between the location of tectonic margins and the level of earthquake hazard risk in South East Asia. Content: 1.3.1	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
				9			**9**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

The question is asking candidates to apply their wider geographical knowledge to explain variations in the level of seismic risk. There are a number of tectonic margins/boundaries shown on the map and there could be reference to:

- description of variations in earthquake hazard risk
- processes operating at destructive boundaries that may lead to the production of earthquakes
- processes operating at the convergence of two plates that may lead to the production of earthquakes
- processes operating at transform boundaries that may lead to the production of earthquakes
- areas away from boundaries do not suffer as much from earthquakes

Award the marks as follows:		
AO2.1c (9 marks)		
Band	Marks	*Demonstrates knowledge and understanding of tectonic process and applies AO2.1c to suggest reasons for variations in earthquake hazard risk.*
3	7-9 marks	Applies knowledge and understanding to construct well-developed and structured discussion of tectonic processes and the link between process and variations in earthquake hazard risk. Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	4-6 marks	Applies knowledge and understanding to construct a partial discussion of tectonic processes and the link between process and variations in earthquake hazard risk. Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1-3 marks	Applies knowledge and understanding to construct a limited discussion of tectonic processes and the link between process and variations in earthquake hazard risk. Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
0	0 marks	Response not creditworthy or not attempted.

5 (b) Outline how earthquakes produce (i) liquefaction and (ii) landslides. Content: 1.3.3	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	8						**8**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

Liquefaction
- during an earthquake, the soil layers are shaken
- water that is absorbed into the soil layers begins to travel through the layers
- the water also tends to travel toward the top
- because it is less dense than most soil types.
- soil to turn into a semi-solid material.
- loses strength

Landslides
- vibration caused by earthquake waves
- steep slopes
- movement of unconsolidated material to cause rockfall
- shaking overcomes cohesion in soil
- water from liquefaction acts as lubricant that causes flows

Award the marks as follows:		
AO1 (8 marks)		
Band	Marks	*Demonstrates knowledge and understanding of how seismic processes can lead to both liquefaction and landslides.*
3	6-8 marks	Demonstrates accurate knowledge and understanding of processes that lead to the production of both hazards. Demonstrates accurate knowledge and understanding through the use of appropriate, and well developed examples. Well annotated sketches / diagrams / maps may also be used and should be credited.
2	4-5 marks	Demonstrates mostly accurate knowledge and understanding of processes that lead to the production of both hazards **OR** demonstrates accurate knowledge and understanding of processes that lead to the production of one hazard. Demonstrates mostly accurate knowledge and understanding through the use of mostly appropriate examples which may not be fully developed. Generalised sketches / diagrams / maps may also be used and should be credited.
1	1-3 marks	Demonstrates limited knowledge and understanding of processes that lead to the production of both hazards. Demonstrates limited knowledge and understanding through the use of examples which are undeveloped. Basic sketches / diagrams / maps may be seen and can be credited.
0	0 marks	Response not creditworthy or not attempted.

6. (a) (i) Identify the mode for the dead and missing people. Skills: 2.9	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					1		**1**

Award 1 mark for correct answer (Mode = 4).

(a) (ii) Calculate the interquartile range for the dead and missing people. Show your working. Skills: 2.10	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					4		**4**

Award 1 mark for the correct answer (IQR = 11).

Award 3 further marks for correct workings. These could incl. identification of Median = 5 , Lower Quartile = 4 and Upper Quartile = 15. Credit subtraction 15 – 4 = 11. Credit accurate use of formulae and correct rank ordering of data:
1, 2, 4, 4, 4, 5, 10, 14, 15, 17, 59 (or reverse)

Any combination of the above can gain full 3 marks.

6. (b) Suggest possible reasons why there is a variation in the number of destroyed buildings between the selected municipalities of Bohol shown in **Figure 6a**. Content: 1.3.3	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
			10				**10**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

Candidates should apply knowledge of the factors that affect vulnerability could influence variations in the numbers of destroyed buildings.

Destroyed buildings
- comment on the variations shown
- comment on number of buildings
- comment on building density
- comment on earthquake proof buildings
- comment on physical factors e.g. geology, slope, distance from the epicentre

Award the marks as follows:		
AO2.1b (10 marks)		
Band	Marks	*Demonstrates application of knowledge and understanding to link the factors that influence vulnerability to the variations in destroyed buildings as shown in* ***Figure 6a****.*
3	8-10 marks	Applies knowledge and understanding to construct well-developed and structured discussion of factors affecting vulnerability of buildings to destruction. Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	4-7 marks	Applies knowledge and understanding to construct a partial discussion of factors affecting vulnerability of buildings to destruction. Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1-3 marks	Applies knowledge and understanding to construct a limited discussion of factors affecting vulnerability of buildings to destruction. Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
0	0 marks	Response not creditworthy or not attempted.

6. (c) Use **Figures 6a** to **6d** to suggest how the earthquake could have impacted on the economy of Bohol. Content: 1.3.3	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					9		**9**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

The question is asking for an interpretation and analysis **of the resources**. These focus demography, buildings, cultural attractions of the island and the destruction of infrastructure. Answers should use the information to suggest how the earthquake could have effects on the economy of Bohol. Responses may give a description of the changes shown in the resources and **suggest** how these may have impacts on the characteristics of the economy. This may include:

- Loss/death of work force leading to economic slow-down
- Costs of burial
- Costs of rehousing
- Costs of repair of buildings
- Costs of building contents
- Re-direction of government funding to rebuilding leading to less investment in the economy
- destruction of roads and bridges makes commerce difficult
- reduction in the number of tourists attracted
- loss of employment opportunities
- decline of associated services such as hotels
- possible positive long-term impacts e.g. rebuilding leading to improved transport and communication network

Award the marks as follows:		
AO3 (9 marks)		
Band	Marks	*Demonstrates the ability to interpret and analyse the data and evidence in **Figures 6a** to **6d** to show understanding of how earthquakes can impact the economy.*
3	7-9 marks	Demonstrates detailed and accurate interpretation of the resources to outline the impacts of the earthquake on the characteristics of the economy.
2	4-6 marks	Demonstrates accurate interpretation of the resources to outline the impacts of the earthquake on the characteristics of the economy.
1	1-3 marks	Demonstrates limited interpretation of the resources to outline the impacts of the earthquake on the characteristics of the economy.
0	0 marks	Response not creditworthy or not attempted.

7. (a) Suggest why explosive volcanic eruptions are often the most hazardous. Content: 1.3.2	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	5		3				**8**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

AO1
The AO1 knowledge and understanding should focus on the **characteristics** of explosive eruptions. This could include reference to:

- the magnitude of explosive eruptions
- the types of hazard that are produced by explosive eruptions - pyroclastic flows, ash clouds, gas, landslides, tsunamis
- frequency of eruptions

AO2
The AO2 element requires candidates to **suggest why** explosive eruptions are often the most hazardous. This could include reference to:

- the processes that often make explosive eruptions more hazardous e.g. high viscocity of andesitic or rhyolitic magma preventing the release of trapped gases
- the areal extent of the hazards produced e.g. ash clouds or lahars
- an alternative approach i.e. the idea that fissure (effusive) eruptions also produce dangerous hazards such as lava flows
- the magnitude of the impact of the hazard is dependent on the location of the eruption relative to population and potential economic losses
- losses can be dependent on the preparedness of the place where the eruption occurs

Award the marks as follows:		
	AO1 (5 marks)	**AO2.1b (3 marks)**
Band	*Demonstrates knowledge and understanding of the characteristics of explosive eruptions that make them dangerous.*	*Applies AO2.1b to discuss the extent to which explosive eruptions are relatively the most dangerous.*
3	4-5 marks Demonstrates accurate knowledge and understanding of characteristics of explosive eruptions that make them dangerous. Demonstrates accurate knowledge and understanding through the use of appropriate, and well developed examples. Well annotated sketches / diagrams / maps may also be used and should be credited.	3 marks Applies knowledge and understanding to construct well-developed and structured discussion of the relative danger of explosive eruptions. Applies knowledge and understanding to construct well-developed and balanced arguments, supported by appropriate evidence.
2	2-3 marks Demonstrates mostly accurate knowledge and understanding of characteristics of explosive eruptions that make them dangerous. Demonstrates mostly accurate knowledge and understanding through the use of mostly appropriate examples which may not be fully developed. Generalised sketches / diagrams / maps may also be used and should be credited.	2 marks Applies knowledge and understanding to construct a partial discussion of the characteristics and formation of the relative danger of explosive eruptions. Applies knowledge and understanding to construct partially developed and partially balanced arguments, supported by mostly appropriate evidence.
1	1 mark Demonstrates limited knowledge and understanding of characteristics of explosive eruptions that make them dangerous. Demonstrates limited knowledge and understanding through the use of examples which are undeveloped. Basic sketches / diagrams / maps may be seen and can be credited.	1 mark Applies knowledge and understanding to construct a limited discussion of the characteristics and formation of the relative danger of explosive eruptions. Applies knowledge and understanding to construct limited and basic arguments, supported by limited evidence.
0	Response not creditworthy or not attempted.	Response not creditworthy or not attempted.

			AO1	AO2.1a	AO2.1b	AO2.1c	AO3		Total
7.	(b)	Outline **one or more** short-term response(s) to the effects of volcanic hazards. Content: 1.3.5							
			10						**10**

Indicative Content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit other valid points not contained in the indicative content.

AO1
Answers should demonstrate a knowledge and understanding of short-term responses to a volcanic hazard. The content will depend upon the responses selected and the examples used to illustrate but may refer to:

- the activation of warning systems
- monitoring hazards e.g. ash clouds
- modifying hazards e.g. managing lava flows
- evacuation of population
- controlling movements of infrastructure
- rescue operations and provisions provided by emergency services
- relocation of population
- aid distributed to affected area

Responses should show knowledge of the characteristics of the response(s) and an understanding of how they are used to manage the hazard.

Award the marks as follows:		
AO1 (10 marks)		
Band	Marks	*Demonstrates knowledge and understanding of short-term responses to tectonic events.*
3	7-10 marks	Demonstrates detailed and accurate knowledge of short-term responses. Demonstrates detailed and accurate understanding of how short-term responses are used to manage tectonic events. Demonstrates accurate knowledge and understanding through the use of appropriate and well developed examples. Well annotated sketches / diagrams / maps may also be used and should be credited.
2	4-6 marks	Demonstrates accurate knowledge of short-term responses. Demonstrates accurate understanding of how short-term responses are used to manage tectonic events. Demonstrates mostly accurate knowledge and understanding through the use of appropriate and well developed examples. Generalised sketches / diagrams / maps may also be used and should be credited.
1	1-3 marks	Demonstrates limited knowledge of short-term responses. Demonstrates limited understanding of how short-term responses are used to manage tectonic events. Demonstrates limited knowledge and understanding through the use of appropriate and well developed examples. Basic sketches / diagrams / maps may also be used and should be credited.
0	0 marks	Response not creditworthy or not attempted.