GCE A LEVEL MARKING SCHEME

AUTUMN 2021

A LEVEL
GEOGRAPHY – COMPONENT 1
A110U10-1

INTRODUCTION

This marking scheme was used by WJEC for the 2021 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.

GCE A LEVEL GEOGRAPHY – COMPONENT 1

AUTUMN 2021 MARK SCHEME

Section A: Changing Landscapes

Either: Coastal Landscapes

1. (a) (i) Use **Figure 1** to describe the global pattern of sandy coastlines.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative content

- Uneven distribution around the globe
- Highest % around the tropics
- Highest figure is located at 27/28°S – 87% approx.
- Africa is the continent with the highest %
- Lowest % in equatorial areas and northern regions
- East Indies has low %.

Accept other valid descriptive comments.

Award the marks as follows:	
Band	**AO3 (5 marks)**
3	**4-5 marks** Well-developed description of the distribution of sandy coastlines. Reference to overall pattern. Wide use of the resource to support the description of the distribution of sandy coastlines.
2	**2-3 marks** Partial description of the distribution of sandy coastlines. Series of isolated comments. Partial use of the resource to support the description of the distribution of sandy coastlines.
1	**1 mark** Limited statements with no use of the resource.
	0 marks Response not creditworthy or not attempted.

1. (a) (ii) Suggest **one** reason why northern Europe has a low percentage of sandy coastlines.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
			2				**2**

Award 1 mark for suggestion and 1 mark for development referring to why northern Europe has large number of non-sandy coastlines.

Indicative content

- Higher levels of wave energy – finer sediment is eroded and transported away from coast e.g. offshore
- Resistant regional geology – rocks may be difficult to erode to produce sediment
- Narrow coastal shelf – limited absorption of wave energy
- Glacial action – removed finer grain sediments
- Lack of input from sub-aerial processes.

1. (b) Explain how wind action contributes to the formation of sand dune systems.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	6						**6**

Indicative content

Candidates should clearly identify the link between wind action and formation of dunes.

Possible approaches may include:
- drying out of surface of beach
- erosion of sand from the beach
- transport of sand by saltation
- shelter from strength of wind by obstacles and vegetation
- deposition of sand in lee of obstacles
- orientation of dunes perpendicular to constructive winds.

Credit other valid approaches.

Award the marks as follows:	
Band	**AO1 (6 marks)**
3	**5-6 marks** Demonstrates detailed and accurate knowledge of wind action. Demonstrates detailed and accurate understanding of how wind action is linked to formation of sand dunes. Demonstrates accurate knowledge and understanding using appropriate, and well-developed examples. Well-annotated sketches / diagrams / maps may also be used and should be credited.
2	**3-4 marks** Demonstrates partial knowledge of wind action. Demonstrates partial understanding of how wind action is linked to formation of sand dunes. Demonstrates mostly accurate knowledge and understanding using appropriate, and well-developed examples. Generalised sketches / diagrams / maps may also be used and should be credited.
1	**1-2 marks** Demonstrates limited knowledge of wind action. Demonstrates limited understanding of how wind action is linked to formation of sand dunes. Demonstrates limited knowledge and understanding using appropriate examples. Basic sketches / diagrams / maps may also be used and should be credited.
	0 marks Response not creditworthy or not attempted.

2. (a) (i) Use **Figures 2 and 3** to analyse the relationship between rock hardness and the annual rate of erosion.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative content

- Negative correlation/as hardness decreases the rate of erosion increases
- Recognition and description of anomalies
- Identification of r_s value
- Valid comment on strength of correlation.

Accept other valid analytical comments.

Award the marks as follows:	
Band	**AO3 (5 marks)**
3	**4-5 marks** Well-developed analysis of the link between rate of erosion and rock hardness. Reference to overall pattern and significance. Use of all elements of the resource to support the analysis of the link between rate of erosion and rock hardness.
2	**2-3 marks** Partial analysis of the link between rate of erosion and rock hardness. Series of isolated comments. Partial use of the resource to support the analysis of the link between rate of erosion and rock hardness.
1	**1 mark** Limited statements with no use of the resource.
	0 marks Response not creditworthy or not attempted.

2. (a) (ii). Suggest how variations in rock hardness shown in **Figure 2** can influence the rate of erosion.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
			6				**6**

Indicative content

Candidates should show understanding of how rock hardness could affect the rate of rock erosion.

Possible approaches may include knowledge and understanding of:

- what makes a rock hard/soft such as mineral composition, chemical characteristics, cohesion and particle size
- how hardness may influence the preparation of the rock for erosion via weathering – hardness may influence the type and amount of weathering which may decrease/increase rates of erosion
- how hardness may influence the operation of the processes of erosion. Harder rock decrease the effectiveness of abrasion, hydrualic action and solution.

Credit other valid approaches.

Award the marks as follows:	
Band	**AO2.1b (6 marks)**
3	**5-6 marks** Well-developed discussion that identifies the characteristics of rock hardness and explains how they affect rates of rock erosion with particular reference to Figure 2. Well-annotated sketches / diagrams / maps may also be used and should be credited.
2	**3-4 marks** Partial discussion that identifies the characteristics of rock hardness and partially explains how they affect rates of rock erosion with partial reference to Figure 2. Generalised sketches / diagrams / maps may also be used and should be credited.
1	**1-2 marks** Limited discussion that identifies the characteristics of rock hardness and how they affect rates of rock erosion with limited reference to Figure 2. Basic sketches / diagrams / maps may also be used and should be credited.
	0 marks Response not creditworthy or not attempted.

2. (b) State what is meant by wave refraction.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
Award 1 mark per point	2						**2**

Indicative content

- Bending of a wave-front
- Travels at different speeds/over water of different depths.

3. Examine how a systems approach aids understanding of coastal landscape change.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	10			5			**15**

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 the operation of the systems approach to the study of coastal landscapes. By using systems candidates may identify, describe, and explain cycles and patterns. Answers may refer to stores, flow, cycles, and pattern and so possibly predict significant alterations in the larger coastal system. Answers can focus on the physical processes that relate to landscape change. Alternatively, candidates may examine how a systems analysis of human processes and management aids in the understanding of coastal landscape change.

The content may include knowledge and understanding of:
- the inputs, outputs, stores and transfer of enery and materials in coastal systems
- sediment budgets in coastal systems
- sediment cells
- the concept of equilibrium
- system feedbacks
- human intervention and management
- coastal landscape change over time.

AO2
AO2.1c content encompasses the application of knowledge and understanding to evaluate the value of a systems approach to the study of coastal landscapes. This can take the form of a theoretical analysis of systems or an analysis of the value of systems in the explanation of coastal change.

Candidates may reach the conclusion that systems are valuable in the study of coastal landscapes but a conlcusion is not necessary in order to reach the top of Band 3. The content may include an examination of how a systems approach:
- can explain coastal change and coastal management
- allows simplification of complex landforms and land forming processes
- enables prediction of change
- oversimplifies and gives incomplete picture
- contains variables chosen by people so some important elements may be missed.

Award the marks as follows:		
	AO1 (10 marks)	**AO2.1c (5 marks)**
Band	*Demonstrates knowledge and understanding the operation of a systems approach in the study of coastal landscape change.*	*Applies knowledge and understanding to appraise the value of a systems approach in understanding coastal landscape change.*
3	**7-10 marks** Demonstrates detailed and accurate knowledge and understanding that is relevant to the question. Demonstrates detailed and accurate knowledge and understanding of the operation of a systems approach in the study of coastal landscape change. Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples. Well-annotated sketches / diagrams may be used and should be credited.	**4-5 marks** Applies knowledge and understanding to construct a well-developed discussion that is supported by evidence. Applies knowledge and understanding to produce a thorough and coherent examination of the value of a systems approach in understanding coastal landscape change.
2	**4-6 marks** Demonstrates accurate knowledge and understanding that is relevant to the question. Demonstrates accurate knowledge and understanding of the operation of a systems approach in the study of coastal landscape change. Demonstrates accurate knowledge and understanding using examples. Sketches / diagrams may be used and should be credited.	**2-3 marks** Applies knowledge and understanding to construct a partial discussion that is supported by some evidence. Applies knowledge and understanding to produce a partial examination of the value of a systems approach in understanding coastal landscape change.
1	**1-3 marks** Demonstrates limited knowledge and understanding that is relevant to the question. Demonstrates limited knowledge and understanding of the operation of a systems approach in the study of coastal landscape change. Demonstrates limited knowledge and understanding using limited examples. Basic sketches / diagrams may be used and should be credited.	**1 mark** Applies knowledge and understanding to construct a limited discussion. Applies knowledge and understanding to produce a limited examination of the value of a systems approach in understanding coastal landscape change.
	0 marks Response not creditworthy or not attempted.	**0 marks** Response not creditworthy or not attempted.

4. Assess the relative importance of sub-aerial processes in the formation of **one or more** landforms of coastal erosion.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	10			5			**15**

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 the processes that form one or more landforms of coastal erosion. The content will depend upon the landforms chosen and may include knowledge and understanding of:

- the characteristics of one or more landforms of coastal erosion
- sub-aerial processes operating in coastal environments – weathering and mass movement.
- the link between sub-aerial processes operating in coastal environments and the characteristics of one or more coastal landforms
- the processes of marine erosion operating in coastal environments – hydraulic action, abrasion, and corrosion
- the link between marine erosional processes operating in coastal environments and the characteristics of one or more coastal landforms
- the link between aeolian and/or marine transport processes and the characteristics of one or more coastal landforms
- other factors such as geology, energy, time scales, human activity etc. and their link to the characteristics of one or more coastal landforms.

AO2
AO2.1c content encompasses the application of knowledge and understanding to assess the importance of sub-aerial processes in the formation of one or more landforms of coastal erosion. A conclusion may be drawn but is not necessary in order to reach the top of Band 3. The content may vary according to the landform but may include an assessment of:

- the extent to which sub-aerial processes are important in the formation of one or more landforms of coastal erosion
- the extent to which other processes and factors are important in the formation of one or more landforms of coastal erosion
- spatial variations in the importance of sub-aerial and other processes/factors
- temporal variations in the importance of sub-aerial and other processes/factors.

Award the marks as follows:		
	AO1 (10 marks)	**AO2.1c (5 marks)**
Band	*Demonstrates knowledge and understanding of the importance of sub-aerial processes and other processes/factors in the formation of one or more landforms of coastal erosion.*	*Applies knowledge and understanding to assess the importance of sub-aerial processes in the formation of one or more landforms of coastal erosion.*
3	**7-10 marks** Demonstrates detailed and accurate knowledge and understanding of the role of sub-aerial processes in the formation of one or more landforms of coastal erosion. Demonstrates detailed and accurate knowledge and understanding of the role of other processes/factors in the formation of one or more landforms of coastal erosion. Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples. Well-annotated sketches / diagrams may be used and should be credited.	**4-5 marks** Applies knowledge and understanding to construct a well-developed discussion that is supported by evidence. Applies knowledge and understanding to produce a thorough and coherent assessment of the relative importance of sub-aerial processes in the development of coastal landforms.
2	**4-6 marks** Demonstrates partial knowledge and understanding of the role of sub-aerial processes in the formation of one or more landforms of coastal erosion. Demonstrates partial knowledge and understanding of the role of other processes/factors in the formation of one or more landforms of coastal erosion. Demonstrates accurate knowledge and understanding using examples. Sketches / diagrams may be used and should be credited.	**2-3 marks** Applies knowledge and understanding to construct a partial discussion that is supported by some evidence. Applies knowledge and understanding to produce a partial assessment of the relative importance of sub-aerial processes in the development of coastal landforms.
1	**1-3 marks** Demonstrates limited knowledge and understanding of the role of sub-aerial processes in the formation of one or more landforms of coastal erosion. Demonstrates limited knowledge and understanding of the role of other processes/factors in the formation of one or more landforms of coastal erosion. Demonstrates limited knowledge and understanding using limited examples Basic sketches / diagrams may be used and should be credited.	**1 mark** Applies knowledge and understanding to construct a limited discussion. Applies knowledge and understanding to produce a limited assessment of the relative importance of sub-aerial processes in the development of coastal landforms.
	0 marks Response not creditworthy or not attempted.	**0 marks** Response not creditworthy or not attempted.

Or: Glaciated Landscapes

5. (a) (i) Use **Figure 4** to describe the global pattern of ice masses.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative content

- Uneven distribution
- Largest amount in Antarctica
- Smallest amount in Africa/New Zealand
- Mainly in polar regions/higher latitudes
- Large amounts in mountainous areas e.g. Himalayas/Andes (Central and southern Asia)
- Small amounts in Central Europe/Caucasus/Northern Asia.

Award the marks as follows:	
Band	**AO3 (5 marks)**
3	**4-5 marks** Well-developed description of the global distribution of total ice volume. Reference to overall global pattern. Wide use of the resource to support the description of the global distribution of total ice volume.
2	**2-3 marks** Partial description of the global distribution of total ice volume. Series of isolated comments. Partial use of the resource to support the description of the global distribution of total ice volume.
1	**1 mark** Limited statements with no use of the resource.
	0 marks Response not creditworthy or not attempted.

5. (a) (ii) Suggest **one** reason for the existence of ice masses within the tropics	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
Award 1 mark for suggestion and 1 mark for development			2				**2**

Indicative content

- High altitude
- Low temperatures/above snowline/high snowfall in winter/cool summers
- More snow accumulates in winter than melts in summer.

5. (b) Explain how **one** human activity can result in permafrost degradation.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	6						**6**

Indicative content

Candidates should identify a valid activity with an explanation of how it degrades permafrost – this may include melting of surface layer of permafrost and links to disruption of its structures.

Possible approaches may include an explanation of:
- how buildings and settlement may degrade permafrost
- how infrastucture development may degrade permafrost
- how climate change may degrade permafrost.

Explanations will likely raise the following development points:
Heat generated by structures, heat absorption by dark surfaces, transfer to ground, melting of surface layers, disruption of freezing in winter, impacts on surface layer such as mass movement.

Warming of tundra areas, melting of permafrost, changes in distribution of types of permafrost, impact on surface layer.

Award the marks as follows:	
Band	**AO1 (6 marks)**
3	**5-6 marks** Well-developed outline of valid human activity and explanation of how it degrades permafrost. Demonstrates accurate knowledge and understanding using appropriate, and well-developed examples. Well-annotated sketches / diagrams / maps may also be used and should be credited.
2	**3-4 marks** Partial outline of valid human activity and explanation of how it degrades permafrost. Partial knowledge and understanding using appropriate, and well-developed examples. Generalised sketches / diagrams / maps may also be used and should be credited.
1	**1-2 marks** Limited outline of valid human activity and explanation of how it degrades permafrost. Limited knowledge and understanding using limited examples. Basic sketches / diagrams / maps may also be used and should be credited.
	0 marks Response not creditworthy or not attempted.

6. (a) (i) Use **Figures 5 and 6** to analyse the relationship between altitude and supraglacial debris thickness.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative content

- Negative correlation/debris thickness decreases with height
- Recogntion and description of anomalies
- Identification of r_s value
- Valid comment on strength of correlation.

Accept other valid analytical comments.

Award the marks as follows:	
Band	**AO3 (5 marks)**
3	**4-5 marks** Well-developed analysis of the link between altitude and supraglacial debris thickness. Reference to overall pattern and significance. Use of all elements the resource to support the analysis of the link between altitude and supraglacial debris thickness.
2	**2-3 marks** Partial analysis of the link between altitude and supraglacial debris thickness. Series of isolated comments. Partial use of the resource to support the analysis of the link between altitude and supraglacial debris thickness.
1	**1 mark** Limited statements with no use of the resource.
	0 marks Response not creditworthy or not attempted.

6. (a) (ii) Suggest reasons for variations in the thickness of supraglacial debris shown in **Figure 5**.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
			6				**6**

Indicative content

Candidates should show understanding of the reason(s) why thickness of supraglacial debris can vary.

Possible approaches may include:
- increased input from slopes above the ice with decreasing altitude
- more freeze thaw cycles at lower altitudes
- variations in geological characteristics with altitude – more prone to weathering and erosion/more lines of relative weakness
- confluence of glaciers at lower altitudes giving two separate supplies of debris
- concentration of crevices that take debris to englacial/subglacial locations.

Credit other valid approaches.

Award the marks as follows:

Band	AO2.1b (6 marks)
3	**5-6 marks** Well-developed examination that explains variations in the thickness of supraglacial debris. Demonstrates accurate knowledge and understanding using appropriate, and well-developed examples. Well-annotated sketches / diagrams / maps may also be used and should be credited.
2	**3-4 marks** Partial examination that explains variations in the thickness of supraglacial debris. Partial knowledge and understanding using appropriate examples. Generalised sketches / diagrams / maps may also be used and should be credited. Max. if only one reason given and well-developed.
1	**1-2 marks** Limited examination that explains variations in the thickness of supraglacial debris. Limited knowledge and understanding using limited examples. Basic sketches / diagrams / maps may also be used and should be credited.
	0 marks Response not creditworthy or not attempted.

6. (b) Outline **one** characteristic of ablation till.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
Award 1 mark for valid characteristic and 1 mark for basic explanation	2						**2**

Indicative content

- Clasts angular – not eroded at base of glacier
- Clasts not striated – not abraded
- Poorly consolidated – no pressure from weight of glacial ice
- Lithology is variable – transported across variable geology.

7. Examine how a systems approach aids understanding of glacial landscape change.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	10			5			**15**

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 the operation of the systems approach to the study of glacial landscapes. By using systems, candidates may identify, describe, and explain cycles and patterns. Answers may refer to stores, flow, cycles, and pattern and so possibly predict significant alterations in the larger glacial system. Answers can focus on the physical processes that relate to landscape change. Alternatively, candidates may examine how a systems analysis of human processes and management aids in the understanding of glacial landscape change.

The content may include knowledge and understanding of:
- the inputs, outputs, stores and transfer of enery and materials in glacial systems
- sediment budgets in glacial systems
- sediment cells
- the concept of equilibrium
- system feedbacks
- human intervention and management
- glacial landscape change over time.

AO2
AO2.1c content encompasses the application of knowledge and understanding to evaluate the value of a systems approach to the study of coastal landscapes. This can take the form of a theoretical analysis of systems or an analysis of the value of systems in the explanation of glacial change.

Candidates may reach the conclusion that systems are valuable in the study of glacial landscapes but a conclusion is not necessary in order to reach the top of Band 3. The content may include an examination of how a systems approach:
- can explain glacial landscape change and the management of glacial landscapes
- allows simplification of complex landforms and land forming processes
- enables prediction of change
- oversimplifies and gives incomplete picture
- contains variables chosen by people so some important elements may be missed.

Award the marks as follows:		
	AO1 (10 marks)	**AO2.1c (5 marks)**
Band	*Demonstrates knowledge and understanding of the operation of a systems approach in the study of glacial landscapes*.	*Applies knowledge and understanding to appraise through an examination of the value of a systems approach in understanding glacial landscape change.*
3	**7-10 marks** Demonstrates detailed and accurate knowledge and understanding that is relevant to the question. Demonstrates detailed and accurate knowledge and understanding of the operation of a systems approach in the study of glacial landscapes. Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples. Well-annotated sketches / diagrams may be used and should be credited.	**4-5 marks** Applies knowledge and understanding to construct a well-developed discussion that is supported by evidence. Applies knowledge and understanding to produce a thorough and coherent examination of the value of a systems approach in understanding glacial landscape change.
2	**4-6 marks** Demonstrates partial knowledge and understanding that is relevant to the question. Demonstrates partial knowledge and understanding of the operation of a systems approach in the study of glacial landscapes. Demonstrates accurate knowledge and understanding using examples. Sketches / diagrams may be used and should be credited.	**2-3 marks** Applies knowledge and understanding to construct a partial discussion that is supported by some evidence. Applies knowledge and understanding to produce a partial examination of the value of a systems approach in understanding glacial landscape change.
1	**1-3 marks** Demonstrates limited knowledge and understanding that is relevant to the question. Demonstrates limited knowledge and understanding of the operation of a systems approach in the study of glacial landscapes. Demonstrates limited knowledge and understanding using limited examples. Basic sketches / diagrams may be used and should be credited.	**1 mark** Applies knowledge and understanding to construct a limited discussion. Applies knowledge and understanding to produce a limited examination of the value of a systems approach in understanding glacial landscape change.
	0 marks Response not creditworthy or not attempted.	**0 marks** Response not creditworthy or not attempted.

8. Assess the relative importance of post-glacial processes in the development of **one or more** glacial landforms.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	10			5			**15**

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 the post-glacial processes that modify glacial landforms. The content will depend upon landforms and examples chosen and may include knowledge and understanding of:

- post glacial freeze-thaw weathering and scree slope development
- fluvial modification of glacial landforms – undercutting of slopes, reworking of glacial deposits
- infilling of ribbon lakes/kettle holes
- modification of landforms by periglacial processes at the end of glaciation – solifluction lobes, frost creep in active layer altering slope angles, rockfall/avalanches on steep slopes, frost shattering and blockfields
- aeolian redistribution of sediment
- human modification – extraction of sediments, flooding of valleys.

AO2
AO2.1c content encompasses the application of knowledge and understanding to assess the relative importance of post-glacial processes in the development of one or more glacial landforms. A conclusion may be drawn in the context of relative importance but a conclusion is not necessary in order to reach the top end of Band 3. The content may vary but may include an assessment of:

- the relative importance of post-glacial proceses relative to other (probably glacial) processes
- the relative importance of different post-glacial processes
- spatial variations in post-glacial development of glacial landforms
- temporal variations in post-glacial development of glacial landforms – decreasing or increasing over time.

Award the marks as follows:		
	AO1 (10 marks)	**AO2.1c (5 marks)**
Band	*Demonstrates knowledge and understanding of the post-glacial (and other) processes that modify and develop glacial landforms.*	*Applies knowledge and understanding to assess the relative importance of post-glacial processes in the development of **one or more** glacial landforms.*
3	**7-10 marks** Demonstrates detailed and accurate knowledge and understanding of the post-glacial processes that modify and develop glacial landforms Demonstrates detailed and accurate knowledge and understanding of how post-glacial processes modify the characteristics of glacial landforms. Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples. Well-annotated sketches / diagrams may be used and should be credited.	**4-5 marks** Applies knowledge and understanding to construct a well-developed discussion that is supported by evidence. Applies knowledge and understanding to produce a thorough and coherent assessment of the relative importance of post-glacial processes in the development of glacial landforms.
2	**4-6 marks** Demonstrates partial knowledge and understanding of the post-glacial processes that modify and develop glacial landforms. Demonstrates partial knowledge and understanding of how post-glacial processes modify the characteristics of glacial landforms. Demonstrates accurate knowledge and understanding using examples. Sketches / diagrams may be used and should be credited.	**2-3 marks** Applies knowledge and understanding to construct a partial discussion that is supported by some evidence. Applies knowledge and understanding to produce a partial assessment of the relative importance of post-glacial processes in the development of glacial landforms.
1	**1-3 marks** Demonstrates limited knowledge and understanding of the post-glacial processes that modify and develop glacial landforms. Demonstrates limitedknowledge and understanding of how post-glacial processes modify the characteristics of glacial landforms. Demonstrates limited knowledge and understanding using limited examples. Basic sketches / diagrams may be used and should be credited.	**1 mark** Applies knowledge and understanding to construct a limited discussion. Applies knowledge and understanding to produce a limited assessment of the relative importance of post-glacial processes in the development of glacial landforms.
	0 marks Response not creditworthy or not attempted.	**0 marks** Response not creditworthy or not attempted.

Section B: Changing Places

9. (a) Use **Figure 7** in the **Resource Folder** to describe the distribution and characteristics of tourist and leisure activities.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative content

- Concentrated on coast
- Clustered around settlements
- Few activities inland e.g. horse riding
- Credit use of grid references to aid descriptions
- Activities are mainly outdoor activities
- Activities are mainly water based activities
- Some activities are associated with culture
- Some activities are associated with hospitality.

Credit other valid approaches.

Award the marks as follows:	
Band	**AO3 (5 marks)**
3	**4-5 marks** Well-developed description of distribution and characteristics. Reference to overall pattern. Wide use of the resource to support the description.
2	**2-3 marks** Partial description of distribution and characteristics. Series of isolated comments. Partial use of the resource to support the description.
1	**1 mark** Limited statements with no use of the resource.
	0 marks Response not creditworthy or not attempted.

9. (b) With reference to **Figure 7** suggest how the regeneration of rural areas through recreation may present challenges for communities.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
			8				**8**

Indicative content

Candidates should briefly display an understanding of what constitutes regeneration and the possible challenges it may bring for rural communities.

Possible approaches may include an identification of some of the following challenges:

- increase in number of second homes - housing for locals decreases
- influx of different demographic to villages – age/social class
- impacts on services
- impacts on language/weakening of local culture
- seasonal work rather than sustainable employment
- recreation subject to economic shock
- local price inflation
- congestion
- habitat destruction
- commodification of local culture.

Credit other valid approaches

Award the marks as follows:	
Band	**AO2.1b (8 marks)**
3	**6-8 marks** Well-developed outline of challenges related to map. Well-annotated sketches / diagrams / maps may also be used and should be credited.
2	**3-5 marks** Partial outline of challenges related to map. Generalised sketches / diagrams / maps may also be used and should be credited.
1	**1-2 marks** Limited outline of challenges related to map. Basic sketches / diagrams / maps may also be used and should be credited.
	0 marks Response not creditworthy or not attempted.

10. (a) Use **Figures 8a** and **8b** to analyse the extent of income inequality in Miami.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
					5		**5**

Indicative content

- Overall, Miami has greater income inequality than US overall
- Use of data from graph/table – e.g. 50% of households have only 19% of income/top 10% of households have 30% of income
- Two cities have greater income inequality than Miami (Atlanta and New Orleans)
- Pheonix has a more equal income distribution
- Miami among the worst cities for income distribution.

Award the marks as follows:	
Band	**AO3 (5 marks)**
3	**4-5 marks** Well-developed analysis of the income inequality in Miami. Reference to overall pattern. Use of all elements of the resource to support the analysis of income inequality in Miami.
2	**2-3 marks** Partial analysis of the income inequality in Miami. Series of isolated comments. Partial use of the resource to support the analysis of income inequality in Miami.
1	**1 mark** Limited statements with no use of the resource.
	0 marks Response not creditworthy or not attempted.

10. (b) Outline how the demographic characteristics of **one** named place have been shaped by local and global factors.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	8						**8**

Indicative content

Responses should show knowledge and understanding of what constitutes the demographic characteristics of a place. Responses will likely consider factors such as age, gender, income, ethnicity, race, education level, employment type etc. Candidates should also display knowledge and understanding of the local and global factors/processes that have influenced the demographic characteristics of the named place.

Possible approaches include:
- A description of the specific demographic features of the named place.

Local factors
- Role played by demographic evolution in the demographic characteristics
- Role played by migration in the demographic characteristics – rural to urban, urban to rural
- Role played by government in the demographic characteristics –, regeneration schemes
- Role played by external agencies in the demographic characteristics.

Global factors
- Role played by economic change in the demographic characteristics – globalisation, de-industrialisation
- Role played by government in the demographic characteristics – migration controls.

Credit other valid approaches.

Award the marks as follows:	
Band	**AO1 (8 marks)**
3	**6-8 marks** Clear and developed outline of the demographic characteristics of a named place with developed understanding of the factors related to the named place. Demonstrates accurate knowledge and understanding using appropriate, and well-developed examples. Well-annotated sketches / diagrams / maps may also be used and should be credited.
2	**3-5 marks** Partial outline of the demographic characteristics of a named place with partial understanding of the factors related to the named place/developed factors that are generalised. Partial knowledge and understanding using appropriate examples. Generalised sketches / diagrams / maps may also be used and should be credited.
1	**1-2 marks** Limited outline of the demographic characteristics of a named place with limited understanding of the factors related to the named place. Limited knowledge and understanding using limited examples. Basic sketches / diagrams / maps may also be used and should be credited.
	0 marks Response not creditworthy or not attempted.

11. Assess the importance of technology as a driver of economic change in **one or more** places	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	10			5			**15**

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 technology as a driver of economic change. The content will depend upon the places chosen and may include knowledge and understanding of:

- changing economic structures in one or more places
- the changes that have taken place in technology and their impacts on the changing economic characteristics of one or more places – mechanisation, development of IT, decline of employment in primary and secondary industry, growth of tertiary and quaternary industries.
- the impacts of technology on globalisation and the associated impacts on the changing economic characteristics of one or more places – shift of manufacturing to LICs/MICs, imports of agricultural produce, FDI
- other factors that may drive economic change such as the impacts of government policies – investments in infrastructure, regional development.

AO2
AO2.1c content encompasses the application of knowledge and understanding to assess the importance of changing technology in developing economic characteristics of one or more places. A conclusion may be drawn in the context of the level of importance but a conclusion is not necessary in order to reach the top of Band 3. Content may vary according to examples selected but may include an assessment of:

- the importance of technology as a driver of economic change
- the importance of technology in relation to other factors
- the relative importance of different factors over geographical space
- the relative importance of different factors over time.

Award the marks as follows:		
	AO1 (10 marks)	**AO2.1c (5 marks)**
Band	*Demonstrates knowledge and understanding of changing technology and other factors driving changes in the economic characteristics of one or more places.*	*Applies knowledge and understanding to assess the importance of technology in driving changes in the economic characteristics of one or more places.*
3	**7-10 marks** Demonstrates detailed and accurate knowledge and understanding of technology and other factors that influence changing economic characteristics. Demonstrates detailed and accurate knowledge and understanding through the use of appropriate and well-developed examples. Well-annotated sketches / diagrams may be used and should be credited.	**4-5 marks** Applies knowledge and understanding to produce a well-developed discussion that is supported by evidence. Applies knowledge and understanding to produce a thorough and coherent assessment of the importance of technology as a driver of changing economic characteristics.
2	**4-6 marks** Demonstrates partial knowledge and understanding of technology and other factors that influence changing economic characteristics. Demonstrates partial knowledge and understanding through the use of appropriate and partially developed examples. Generalised sketches / diagrams may be used and should be credited.	**2-3 marks** Applies knowledge and understanding to produce a partial discussion that is supported by some evidence. Applies knowledge and understanding to produce a partial assessment of the importance of technology as a driver of changing economic characteristics.
1	**1-3 marks** Demonstrates limited knowledge and understanding of technology and other factors that influence changing economic characteristics. Demonstrates limited knowledge and understanding through the use of appropriate and limited examples Basic sketches / diagrams may be used and should be credited.	**1 mark** Applies knowledge and understanding to construct a limited discussion. Applies knowledge and understanding to produce a limited assessment of the importance of technology as a driver of changing economic characteristics.
	0 marks Response not creditworthy or not attempted.	**0 marks** Response not creditworthy or not attempted.

12. Assess the success of the rebranding process in **one or more** urban places.	AO1	AO2.1a	AO2.1b	AO2.1c	AO3		**Total**
	10			5			**15**

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 the processes of rebranding and their level of success in one or more urban places.The content will depend upon examples chosen and may include knowledge and understanding of:

- the reasons for rebranding – economic decline, homelessness, environmental concerns etc.
- the process of rebranding of urban places - re-imaged and regenerated through investment in sport/music stadia, cultural quarters, festivals, industrial heritage, flagship developments, infrastructure improvements, tech hubs
- how re-imaging and regenerating urban places takes place in collaboration with external agencies including governments and corporate bodies and community groups
- how rebranding can be initiated and carried out by community groups within the urban places identified
- the measures that can be used to examine success – employment, environmental improvements, social cohesion and demographic change, housing, education, gender, integration of old and new, clarity of image, crime statistics etc.

AO2
AO2.1c content encompasses the application of knowledge and understanding to assess the success of the rebranding process in one or more urban places. A conclusion may be drawn in the context of the level of success but a conclusion is not necessary in order to reach the top of Band 3. The content may vary but may include an assessment of:

- the success of rebranding using identified and valid measures
- the success as defined by different stakeholders
- the relative success over geographical space
- the relative success over time.

Award the marks as follows:		
	AO1 (10 marks)	**AO2.1c (5 marks)**
Band	*Demonstrates knowledge and understanding of the rebranding process in one or more urban places.*	*Applies knowledge and understanding to appraise through an assessment of the success of the rebranding process in one or more urban places.*
3	**7-10 marks** Demonstrates detailed and accurate knowledge and understanding of the rebranding process in one or more urban places. Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples. Well-annotated sketches / diagrams may be used and should be credited.	**4-5 marks** Applies knowledge and understanding to construct well-developed discussion that is supported by evidence. Applies knowledge and understanding to produce a thorough and coherent assessment of the success of the rebranding process in one or more urban places.
2	**4-6 marks** Demonstrates accurate knowledge and understanding of the rebranding process in one or more urban places. Demonstrates partial knowledge and understanding using some examples. Sketches / diagrams may be used and should be credited.	**2-3 marks** Applies knowledge and understanding to construct a partial discussion that is supported by some evidence. Applies knowledge and understanding to produce a partial assessment of the success of the rebranding process in one or more urban places.
1	**1-3 marks** Demonstrates limited knowledge and understanding of the rebranding process in one or more urban places. Demonstrates limited knowledge and understanding using limited examples. Basic sketches / diagrams may be used and should be credited.	**1 mark** Applies knowledge and understanding to construct a limited discussion. Applies knowledge and understanding to produce a limited assessment of the success of the rebranding process in one or more urban places.
	0 marks Response not creditworthy or attempted.	**0 marks** Response not creditworthy or attempted.