



GCE A LEVEL MARKING SCHEME

SUMMER 2018

**A LEVEL (NEW)
GEOGRAPHY - COMPONENT 1
A110U10-1**

INTRODUCTION

This marking scheme was used by WJEC for the 2018 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

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|---|-----|--------|--------|--------|-----|--|--------------|
| 1. (a) (i) Use Figure 1 to analyse the economic impacts of high energy storm events. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | | | 5 | | 5 |
| <p>Indicative content</p> <ul style="list-style-type: none"> • Expensive overall • Variation in expense with location • Variation of expense with what is damaged • Replacement of track most expensive • Damage to housing shown on photo • Losses to tourist industry • Loss of stock/custom in Looe • Use of data to support analysis <p>Marking guidance</p> <p>Well-developed analysis may include reference to scale, extent or importance of the impacts identified.</p> | | | | | | | |

| | |
|-----------------------------|--|
| Award the marks as follows: | |
| Band | AO3 (5 marks) |
| 3 | <p>4-5 marks</p> <p>Well-developed analysis of the economic impacts of the high-energy storm events.</p> <p>Wide use of the resource to support the analysis of the economic impacts.</p> |
| 2 | <p>2-3 marks</p> <p>Partial analysis of the economic impacts of the high-energy storm events.</p> <p>Partial use of the resource to support the analysis of the economic impacts.</p> |
| 1 | <p>1 mark</p> <p>Limited statements with no use of the resource.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 1. (a) (ii) Suggest one social impact that could have resulted from the high energy storm events shown in Figure 1 . | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for suggestion and 1 mark for development | | | 2 | | | | 2 |
| <p>Indicative content</p> <ul style="list-style-type: none"> <input type="checkbox"/> mental health issues <input type="checkbox"/> disease <input type="checkbox"/> loss of amenities such as electricity <input type="checkbox"/> trauma <input type="checkbox"/> loss of treasured family possessions <input type="checkbox"/> political issues <input type="checkbox"/> homelessness <input type="checkbox"/> increase in unemployment due to businesses being closed | | | | | | | |

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|--|-----|--------|--------|--------|-------|--|--------------|
| 1. (b) Outline one positive impact of coastal processes on human activity. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3.1 | | Total |
| | 6 | | | | | | 6 |
| <p>Indicative content</p> <p>Candidates should clearly identify the impact and develop the link between coastal processes and the impact.</p> <p>Possible approaches may include:</p> <ul style="list-style-type: none"> • the development of dramatic scenery by erosional processes may attract tourists and lead to the development of a tourist industry • the accumulation of sediment to form beaches may attract tourists and lead to the development of a tourist industry • the development of coral reefs and mangrove coastlines may attract tourists and lead to the development of a tourist industry • the transport and deposition of sediment may provide opportunities for the extraction of sand and gravel • the movement of sediment may keep harbours clear and accessible • the development of bays by erosion can provide shelter for shipping <p>Credit other valid approaches.</p> | | | | | | | |

Award the marks as follows:

| Band | AO1 (6 marks) |
|-------------|--|
| 3 | <p style="text-align: center;">5-6 marks</p> <p>Demonstrates detailed and accurate knowledge of appropriate coastal processes.</p> <p>Demonstrates detailed and accurate understanding of how coastal processes are linked to one positive impact on human activity.</p> <p>Demonstrates accurate knowledge and understanding using appropriate, and well developed examples.</p> <p>Well annotated sketches / diagrams / maps may also be used and should be credited.</p> |
| 2 | <p style="text-align: center;">3-4 marks</p> <p>Demonstrates partial knowledge of appropriate coastal processes.</p> <p>Demonstrates partial understanding of how coastal processes are linked to one positive impact on human activity.</p> <p>Demonstrates mostly accurate knowledge and understanding using appropriate, and well developed examples.</p> <p>Generalised sketches / diagrams / maps may also be used and should be credited.</p> |
| 1 | <p style="text-align: center;">1-2 marks</p> <p>Demonstrates limited knowledge of appropriate coastal processes.</p> <p>Demonstrates limited understanding of how coastal processes are linked to one positive impact on human activity.</p> <p>Demonstrates limited knowledge and understanding using appropriate examples.</p> <p>Basic sketches / diagrams / maps may also be used and should be credited.</p> |
| | <p style="text-align: center;">0 marks</p> <p>Response not creditworthy or not attempted.</p> |

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|--|-----|--------|--------|--------|-----|--|--------------|
| 2. (a) (i) Calculate the values of the highlighted cells A, B and C in Figure 2 . Write the values for A, B and C in your answer booklet. Give your answer to 2 decimal places. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for each valid point | | | | | 3 | | 3 |
| 2. (a) (ii) Use Figure 3 to interpret the result of the Chi-square test. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for each valid point | | | | | 2 | | 2 |
| Indicative content | | | | | | | |
| (a) (i) A = 4.84 B = 5.63 C = 11.01 | | | | | | | |
| (b) (ii) differs significantly/accepted at 95% level/rejected at 99% level | | | | | | | |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 2. (b) Suggest two reasons why the rate of deposition varies along a coastline. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | 6 | | | | 6 |
| Indicative content | | | | | | | |
| Candidates should show understanding of how the identified reasons can lead to more deposition occurring in one place than another. Focus is on differences in deposition rather than comparison of deposition and erosion. | | | | | | | |
| Possible approaches may include: | | | | | | | |
| <ul style="list-style-type: none"> examination of wave types to show how more constructive wave action can increase deposition examination of supply of sediment – some places have greater inputs of sediment from rivers, cliffs etc examination of coastal configuration – more deposition taking place in heads of bays, spit formation examination of currents – absence of strong currents can lead to build up of sediment examination of the role of vegetation – increased deposition aided by plants in marshes and dunes examination of how human intervention e.g. building of groynes or dredging could affect depositional rates | | | | | | | |
| Credit other valid approaches. | | | | | | | |

| Award the marks as follows: | |
|-----------------------------|---|
| Band | AO2.1b (6 marks) |
| 3 | <p style="text-align: center;">5-6 marks</p> <p>Well developed examination that develops the link between two reasons and the deposition of more sediment.</p> <p>Demonstrates accurate knowledge and understanding using appropriate, and well developed examples.</p> <p>Well annotated sketches / diagrams / maps may also be used and should be credited.</p> |
| 2 | <p style="text-align: center;">3-4 marks</p> <p>Partial examination that develops the link between two reasons and the deposition of more sediment.</p> <p>Partial knowledge and understanding using appropriate, and well developed examples.</p> <p>Generalised sketches / diagrams / maps may also be used and should be credited.</p> <p>Max. if only one reason given and well developed.</p> |
| 1 | <p style="text-align: center;">1-2 marks</p> <p>Limited examination that develops the link between two reasons and the deposition of more sediment.</p> <p>Limited knowledge and understanding using appropriate, and well developed examples.</p> <p>Basic sketches / diagrams / maps may also be used and should be credited.</p> |
| | <p style="text-align: center;">0 marks</p> <p>Response not creditworthy or not attempted.</p> |

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|--|-----|--------|--------|--------|-------|-------|--------------|
| 2. (c) Outline how coastal sediment is transported by traction. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3.1 | AO3.2 | Total |
| Award 1 mark per point | 2 | | | | | | 2 |
| <p>Indicative content</p> <ul style="list-style-type: none"> • rolling • large particles • along sea bed | | | | | | | |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 3. Examine the relative importance of geology in the development of one or more landforms of coastal erosion. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 10 | | | 5 | | | 15 |

This question requires candidates to demonstrate their ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

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 factors that influence the development of selected landforms with particular reference to geology. The content will depend upon the landform(s) chosen and may include:

- knowledge and understanding of how lithological factors influence the development of the selected landform(s) – this may include reference to mineral composition, solubility and hardness
- knowledge and understanding of how structural geology influences the development of the selected landform(s) – this may include reference to mineral composition, solubility and hardness. These characteristics may be linked with the processes that are part of the development of the landform such as weathering, marine erosion and mass movement
- knowledge and understanding of the characteristics of the chosen landform(s) and how these are related to the development through weathering, mass movement and erosional processes
- knowledge and understanding of other processes that are part of the development of the landform such as weathering, marine erosion and mass movement

AO2

AO2.1c content encompasses the application of knowledge and understanding to evaluate the relative importance of geology in the development of selected erosional landforms. A conclusion may be drawn in the context of the landform(s). Candidates may reach the conclusion that geology plays a variable part in the development of the landform(s) but a conclusion is not necessary in order to reach the top of Band 3. The content may vary according to the landform but may include an examination of:

- the importance of factors such as wave characteristics (such as fetch, wave type and wave orientation)
- the importance of erosional processes or sub-aerial processes
- the importance of time scales in the continuing development of the landform
- the importance of human intervention such as management strategies and sea level rise

| Award the marks as follows: | | |
|-----------------------------|---|--|
| | AO1 (10 marks) | AO2.1c (5 marks) |
| Band | <i>Demonstrates knowledge and understanding of the impact of geology and other factors on the development of coastal erosional landforms.</i> | <i>Applies knowledge and understanding to appraise through an examination of the relative importance of geology in the development of coastal erosional landforms.</i> |
| 3 | <p>7-10 marks</p> <p>Demonstrates detailed and accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates detailed and accurate knowledge and understanding of the impact of geology and other factors on landform development.</p> <p>Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples.</p> <p>Well annotated sketches / diagrams may be used and should be credited.</p> | <p>4-5 marks</p> <p>Applies knowledge and understanding to construct well-developed examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a thorough and coherent examination of the relative importance of geology and other factors in the development of erosional landforms.</p> |
| 2 | <p>4-6 marks</p> <p>Demonstrates accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates accurate knowledge and understanding of the impact of geology and other factors on landform development.</p> <p>Demonstrates accurate knowledge and understanding using examples</p> <p>Sketches / diagrams may be used and should be credited.</p> | <p>2-3 marks</p> <p>Applies knowledge and understanding to construct a partial examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a partial examination of the relative importance of geology and other factors in the development of erosional landforms.</p> |
| 1 | <p>1-3 marks</p> <p>Demonstrates limited knowledge and understanding that is relevant to the question.</p> <p>Demonstrates limited knowledge and understanding of the impact of geology and other factors on landform development.</p> <p>Demonstrates limited knowledge and understanding using limited examples</p> <p>Basic sketches / diagrams may be used and should be credited.</p> | <p>1 mark</p> <p>Applies knowledge and understanding to construct a limited examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a limited examination of the relative importance of geology and other factors in the development of erosional landforms.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

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|---|-----|--------|--------|--------|-----|--|--------------|
| 4. Examine the strengths and weaknesses of one strategy used to manage the impacts of human activity on coastal landscape systems. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 10 | | | 5 | | | 15 |

This question requires candidates to demonstrate their ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

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 one management strategy. The content will depend upon the strategy chosen and may include:

- knowledge and understanding of the reasons why a management strategy is required such as erosion of coastal dunes by tourists, destruction of coral reefs, erosion as a consequence of the use of groynes knowledge and understanding of the characteristics of the management strategy which could include physical structures and operations
- knowledge and understanding of the operation of the management strategy
- knowledge and understanding of the strategy to demonstrate how the management strategy modifies coastal processes
- A geographical context for the management strategy

AO2

AO2.1c content encompasses the application of knowledge and understanding to evaluate the success of the strategy. A conclusion may be drawn in the context of the strategy chosen but a conclusion is not necessary in order to reach the top of Band 3. The content may vary according to the landform but may include an examination of:

- the extent to which modification of processes operating in a coastal environment has been successful
- whether the reduction of impacts of human activity has been successful
- whether there has been improvement or reduction in the aesthetic character of the coast
- the extent to which there has been an improvement of the coast as an amenity
- the extent to which there has been a changing focus of coastal erosion as sediment is trapped by groynes
- geographical variations in success
- temporal variations in success

| Award the marks as follows: | | |
|-----------------------------|--|--|
| | AO1 (10 marks) | AO2.1c (5 marks) |
| Band | <i>Demonstrates knowledge and understanding of need for, character and operation of the selected management strategy.</i> | <i>Applies knowledge and understanding to appraise through examining the strengths and weaknesses of the selected management strategy.</i> |
| 3 | <p>7-10 marks</p> <p>Demonstrates detailed and accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates detailed and accurate knowledge and understanding of the selected management strategy.</p> <p>Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples.</p> <p>Well annotated sketches / diagrams may be used and should be credited.</p> | <p>4-5 marks</p> <p>Applies knowledge and understanding to construct well-developed examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a thorough and coherent examination of the success of the management strategy.</p> |
| 2 | <p>4-6 marks</p> <p>Demonstrates partial knowledge and understanding that is relevant to the question.</p> <p>Demonstrates partial knowledge and understanding of the selected management strategy.</p> <p>Demonstrates accurate knowledge and understanding using examples</p> <p>Sketches / diagrams may be used and should be credited.</p> | <p>2-3 marks</p> <p>Applies knowledge and understanding to construct a partial examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a partial examination of the success of the management strategy.</p> |
| 1 | <p>1-3 marks</p> <p>Demonstrates limited knowledge and understanding that is relevant to the question.</p> <p>Demonstrates limited knowledge and understanding of the selected management strategy.</p> <p>Demonstrates limited knowledge and understanding using limited examples</p> <p>Basic sketches / diagrams may be used and should be credited.</p> | <p>1 mark</p> <p>Applies knowledge and understanding to construct a limited examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a limited examination of the success of the management strategy.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

Or: Glaciated Landscapes

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|--|-----|--------|--------|--------|----------|--|--------------|
| 5. (a) (i) Use Figure 4 to analyse the social impacts of glacial lake outburst floods (GLOF). | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | | | 5 | | 5 |
| <p>Indicative content</p> <p>Social</p> <ul style="list-style-type: none"> • impacts on ability to travel – bridges destroyed, unable to cross river • impacts on residences – houses destroyed • impacts on amenities – electricity supplies damaged • psychological damage/trauma from losing homes and belongings <p>Marking guidance</p> <p>Well-developed analysis may include reference to scale, extent or importance of the impacts identified.</p> | | | | | | | |

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|-----------------------------|---|
| Award the marks as follows: | |
| Band | AO3 (5 marks) |
| 3 | <p align="center">4-5 marks</p> <p>Well-developed analysis of the social impacts of the GLOF.</p> <p>Wide use of the resource to support the analysis of the social impacts.</p> |
| 2 | <p align="center">2-3 marks</p> <p>Partial analysis of the social impacts of the GLOF.</p> <p>Partial use of the resource to support the analysis of the social impacts.</p> |
| 1 | <p align="center">1 mark</p> <p>Limited statements with no use of the resource.</p> |
| 0 | Response not creditworthy or not attempted. |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 5. (a) (ii) Suggest one economic impact that could have resulted from the glacial lake outburst flood shown in Figure 4 . | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for suggestion and 1 mark for development | | | 2 | | | | 2 |
| <p>Indicative content</p> <ul style="list-style-type: none"> • loss of bridge costs money to repair • decrease in economic activity as trade curtailed • loss of crops • loss of housing and costs of repair • loss of revenue from HEP production | | | | | | | |

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|--|-----|--------|--------|--------|-----|--|--------------|
| 5. (b) Outline how one human activity can impact on glacial landscapes. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 6 | | | | | | 6 |

Indicative content

Candidates should clearly identify the human activity and develop the link between human activity and the impact on process and/or landform and/or landscapes. Reference to separate or the same activities for process and landform are acceptable.

AO1

Possible approaches may include:

- sand and gravel extraction can produce altered glacial landscapes
- damming of valleys for reservoirs can flood valleys

Credit other valid approaches including the impacts of anthropogenic climate change on glacial processes, landforms and landscapes.

Award the marks as follows:

| Band | AO1 (6 marks) |
|----------------|---|
| 3 | 5-6 marks |
| | Well developed outline of the human activity that demonstrates knowledge of how the activity can impact upon process and/or landform and/or landscapes. |
| | 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 | Demonstrates accurate knowledge and understanding using appropriate, and well developed examples. |
| | Well annotated sketches / diagrams / maps may also be used and should be credited. |
| | 3-4 marks |
| | Partial outline of the human activity that demonstrates knowledge of how the activity can impact upon process and/or landform and/or landscapes. |
| 1 | Partial knowledge and understanding using appropriate, and well developed examples. |
| | Generalised sketches / diagrams / maps may also be used and should be credited. |
| | Max. if only one element given and well developed. |
| 0 marks | Limited outline of the human activity that demonstrates knowledge of how the activity can impact upon process and/or landform and/or landscapes. |
| | Limited knowledge and understanding using limited examples. |
| | Basic sketches / diagrams / maps may also be used and should be credited. |
| | Response not creditworthy or not attempted. |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 6. (a) (i) Calculate the values of the highlighted cells A, B and C in Figure 5 . Write the values for A, B and C in your answer booklet. Give your answer to 2 decimal places. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for each valid point | | | | | 3 | | 3 |
| 6. (a) (ii) Use Figure 6 to interpret the result of the Chi-square test. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for each valid point | | | | | 2 | | 2 |
| Indicative content | | | | | | | |
| (a) (i) A = 29.16 B = 1.02 C = 10.79 | | | | | | | |
| (ii) differs significantly/accepted at 95% level/rejected at 99% level | | | | | | | |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 6. (b) Suggest two factors that influence the rate of glacial erosion. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | 6 | | | | 6 |
| Indicative content | | | | | | | |
| Candidates should show understanding of how the identified factors can influence the rate of glacial erosion. | | | | | | | |
| Possible approaches may include: | | | | | | | |
| <ul style="list-style-type: none"> • examination of role of geology – hardness of rock/level of jointing • speed of glacier • type/amount of debris carried by glacier • warm based/cold based glaciers • ice thickness | | | | | | | |
| Credit other valid approaches. | | | | | | | |

| Award the marks as follows: | |
|-----------------------------|---|
| Band | AO2.1b (6 marks) |
| 3 | <p>5-6 marks</p> <p>Well developed examination that develops the link between two factors and the rate of glacial erosion.</p> <p>Demonstrates accurate knowledge and understanding using appropriate, and well developed examples.</p> <p>Well annotated sketches / diagrams / maps may also be used and should be credited.</p> |
| 2 | <p>3-4 marks</p> <p>Partial examination that develops the link between two factors and the rate of glacial erosion.</p> <p>Partial knowledge and understanding using appropriate examples.</p> <p>Generalised sketches / diagrams / maps may also be used and should be credited.</p> <p>Max. if only one reason given and well developed.</p> |
| 1 | <p>1-2 marks</p> <p>Limited examination that develops the link between two factors and the rate of glacial erosion.</p> <p>Limited knowledge and understanding using limited examples.</p> <p>Basic sketches / diagrams / maps may also be used and should be credited.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

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|---|-----|--------|--------|--------|-----|--|--------------|
| 6. (c) Outline how glaciers erode by plucking. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for each valid point | 2 | | | | | | 2 |
| <p>Indicative content</p> <ul style="list-style-type: none"> • large downwards pressure from the weight of glacier. • friction between the basal ice of the glacier and the rock below causes melting. • water refreezes to obstacles • then 'plucked' from the bedrock and entrained in ice | | | | | | | |

| | | | | | | | |
|---|-----|--------|--------|--------|-----|--|--------------|
| 7. Examine the relative importance of glacial transport in the development of one or more landforms of glacial deposition. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| Award 1 mark for each valid point | 10 | | | 5 | | | 15 |

This question requires candidates to demonstrate their ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

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 glacial transport processes. The content will depend upon the strategy chosen and may include:

- knowledge and understanding of processes of glacial transport - supraglacial, englacial, sub glacial and proglacial
- knowledge and understanding of the characteristics of the selected landform(s)
- knowledge and understanding of the how the glacial processes have determined the characteristics of the selected landform(s)
- knowledge and understanding of other factors that may influence the development of the selected landform(s)
- a geographical context for the landforms

AO2

AO2.1c content encompasses the application of knowledge and understanding to evaluate the relative importance of glacial transport processes on the development of the selected landform(s). A conclusion may be drawn in the context of the landform(s) chosen. Candidates may reach the conclusion that transport processes play a variable part in the development of the landform(s) but a conclusion is not necessary in order to reach the top of Band 3. The content may vary according to the landform but may include and examination of:

- the relative importance of glacial transport
- the relative importance of other glacial processes such as erosion and deposition
- post glacial modification
- spatial variations in the importance of glacial transport processes
- temporal variations in the importance of different factors

| Award the marks as follows: | | |
|-----------------------------|---|---|
| | AO1 (10 marks) | AO2.1c (5 marks) |
| Band | <i>Demonstrates knowledge and understanding of the impact of glacial transport and other processes on selected landform(s).</i> | <i>Applies knowledge and understanding to appraise through an examination of the relative importance of glacial transport process on selected landform(s).</i> |
| 3 | <p>7-10 marks</p> <p>Demonstrates detailed and accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates detailed and accurate knowledge and understanding of the impact of glacial transport processes and other factors on landform development.</p> <p>Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples.</p> <p>Well annotated sketches / diagrams may be used and should be credited.</p> | <p>4-5 marks</p> <p>Applies knowledge and understanding to construct well-developed examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a thorough and coherent examination of the relative importance of glacial transport processes and other factors in the development of depositional landforms.</p> |
| 2 | <p>4-6 marks</p> <p>Demonstrates partial knowledge and understanding that is relevant to the question.</p> <p>Demonstrates partial knowledge and understanding of the impact of glacial transport processes and other factors on landform development.</p> <p>Demonstrates accurate knowledge and understanding using examples Sketches / diagrams may be used and should be credited.</p> | <p>2-3 marks</p> <p>Applies knowledge and understanding to construct a partial examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a partial examination of the relative importance of glacial transport processes and other factors in the development of depositional landforms.</p> |
| 1 | <p>1-3 marks</p> <p>Demonstrates limited knowledge and understanding that is relevant to the question.</p> <p>Demonstrates limited knowledge and understanding of the impact of glacial transport processes and other factors on landform development.</p> <p>Demonstrates limited knowledge and understanding using limited examples Basic sketches / diagrams may be used and should be credited.</p> | <p>1 mark</p> <p>Applies knowledge and understanding to construct a limited examination that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a limited examination of the relative importance of glacial transport processes and other factors in the development of depositional landforms.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

| | | | | | | | |
|---|-----|--------|--------|--------|-----|--|--------------|
| 8. Examine the strengths and weaknesses of one strategy used to manage glacial environments. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 10 | | | 5 | | | 15 |

This question requires candidates to demonstrate their ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

Indicative content

The indicative content is not prescriptive and candidates are not expected to cover all points for full marks. Credit a strategy that may have several structural elements. Credit other valid points not contained in the indicative content.

AO1

AO1 content encompasses knowledge and understanding of one strategy used to manage glacial environments. The content will depend upon strategy chosen and may include:

- knowledge and understanding of strategies used to manage avalanches – prediction, explosions, snow fences, land use zoning, reforestation, risk assessment
- knowledge and understanding of strategies to manage glacial floods from failure of ice dams, moraine dams, jokulhlaups – evacuation, rescue, land use planning, remote sensing, risk assessment
- knowledge and understanding of strategies to manage periglacial environments
- knowledge and understanding of strategies used to control climate change
- knowledge and understanding of strategies used to manage the use of glaciated areas – national parks, control of visitor numbers
- a geographical context for the strategy

AO2

AO2.1c content encompasses the application of knowledge and understanding to explain the strengths and weaknesses of the strategy chosen. A conclusion may be drawn in the context of relative strengths and weaknesses but a conclusion is not necessary in order to reach the top end of Band 3.

The content may vary but may include an examination of:

- whether strengths or weaknesses are most important
- the spatial extent of strengths and weaknesses
- temporal variations in the importance of strengths and weaknesses
- economic, social and environmental aspects of strengths and weaknesses

| Award the marks as follows: | | |
|-----------------------------|---|---|
| | AO1 (10 marks) | AO2.1c (5 marks) |
| Band | <i>Demonstrates knowledge and understanding of one strategy used to manage glacial landscapes.</i> | <i>Applies knowledge and understanding to appraise through an examination of strengths and weaknesses.</i> |
| 3 | <p>7-10 marks</p> <p>Demonstrates detailed and accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates detailed and accurate knowledge and understanding of one strategy use to manage glacial landscapes.</p> <p>Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well developed examples.</p> <p>Well annotated sketches / diagrams may be used and should be credited.</p> | <p>4-5 marks</p> <p>Applies knowledge and understanding to construct well-developed examination that is supported by evidence.</p> |
| 2 | <p>4-6 marks</p> <p>Demonstrates partial knowledge and understanding that is relevant to the question.</p> <p>Demonstrates partial knowledge and understanding of one strategy use to manage glacial landscapes.</p> <p>Demonstrates accurate knowledge and understanding using examples.</p> <p>Sketches / diagrams may be used and should be credited.</p> | <p>2-3 marks</p> <p>Applies knowledge and understanding to construct a partial examination that is supported by some evidence.</p> |
| 1 | <p>1-3 marks</p> <p>Demonstrates limited knowledge and understanding that is relevant to the question.</p> <p>Demonstrates limited knowledge and understanding of one strategy use to manage glacial landscapes.</p> <p>Demonstrates limited knowledge and understanding using limited examples.</p> <p>Basic sketches / diagrams may be used and should be credited.</p> | <p>1 mark</p> <p>Applies knowledge and understanding to construct a limited examination.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

Section B: Changing Places

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 9. (a) Use Figures 7a and 7b to describe changes in the distribution of vacant buildings. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | | | 5 | | 5 |
| <p>Indicative content</p> <ul style="list-style-type: none"> • fewer vacant buildings throughout the area • central section has most decrease • some become vacant in northern section • become more dispersed • concentrated in two sections in Figure 6b <p>Credit other valid approaches.</p> | | | | | | | |

| | |
|-----------------------------|--|
| Award the marks as follows: | |
| Band | AO3 (5 marks) |
| 3 | 4-5 marks Well-developed description of changes in the distribution of vacant buildings. Wide use of the resource to support the description. |
| 2 | 2-3 marks Partial description of changes in the distribution of vacant buildings. 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) Explain how the re-imaging of urban places may impact upon individuals and businesses. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 8 | | | | | | 8 |

Indicative content

Candidates should clearly identify and develop possible impacts for both individuals and businesses. Content may be stimulated by the resource and focus on the re-imaging of former industrial areas within towns and cities. Candidates could also examine the impacts in other parts of urban areas such as CBDs or changes to residential areas. There may be some information that gives information on the re-imaging for context but the focus is on the impacts for individuals and businesses

Possible approaches may include:

Individuals

- impacts on the physical structure give more pleasant environment for retail, leisure and residence
- impacts on physical structure may preserve or lead to the loss of cultural and architectural heritage
- impacts on improved accessibility and movement via pedestrianisation
- improved access to public space
- improved services – retail, transport leading to increased job opportunities

Businesses

- improved physical structures attract more custom
- changing function brings the area up to date with modern economy
- physical structures more appropriate for modern business
- reduction in vacant properties enhances the environment of the area

Credit other valid approaches including identification of negative impacts where appropriate.

Award the marks as follows:

| Band | AO1 (8 marks) |
|-------------|---|
| 3 | <p style="text-align: center;">6-8 marks</p> <p>Clear understanding of the nature of selected re-imaging.</p> <p>Well developed explanation of the impacts of re-imaging for both groups.</p> <p>Demonstrates accurate knowledge and understanding using appropriate, and well developed examples.</p> <p>Well annotated sketches / diagrams / maps may also be used and should be credited.</p> |
| 2 | <p style="text-align: center;">3-5 marks</p> <p>Partial understanding of the nature of selected re-imaging.</p> <p>Partial explanation of the impacts of re-imaging for both groups.</p> <p>Partial knowledge and understanding using appropriate examples.</p> <p>Generalised sketches / diagrams / maps may also be used and should be credited.</p> <p>Max. if only one group given and well developed.</p> |
| 1 | <p style="text-align: center;">1-2 marks</p> <p>Limited understanding of the nature of selected re-imaging.</p> <p>Limited explanation of the impacts of re-imaging for both groups.</p> <p>Limited knowledge and understanding using limited examples.</p> <p>Basic sketches / diagrams / maps may also be used and should be credited.</p> |
| | <p style="text-align: center;">0 marks</p> <p>Response not creditworthy or not attempted.</p> |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 10. (a) Describe changes in the employment structure of the country shown in Figure 8 . | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | | | 5 | | 5 |

Indicative content

- growth of tertiary/quaternary
- decline of primary
- decline of secondary
- increased spread of % from 1950-2013
- changing position of secondary and tertiary

Award the marks as follows:

| Band | AO3 (5 marks) |
|-------------|--|
| 3 | 4-5 marks Well-developed description of the changes in employment structure across all sectors. Wide use of the resource to support the changes in employment structure across all sectors. |
| | 2-3 marks Partial description of the changes in employment structure. Partial use of the resource to support the changes in employment structure. |
| 1 | 1 mark Limited statements with no use of the resource. |
| | 0 marks Response not creditworthy or not attempted. |

| | | | | | | | |
|--|-----|--------|--------|--------|-----|--|--------------|
| 10. (b) Suggest how the changing employment structure shown in Figure 8 is influenced by changing technology and globalisation. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | | | 8 | | | | 8 |

Indicative content

Candidates should clearly identify and develop the link between changing technology, the process of globalisation and changing economic structure as seen in **Figure 8** (Clark/Fisher model). There should be knowledge of the identified factors and application to the graph in the resource.

Possible approaches may include:

Technology

- mechanisation decreases the need for labour in the primary sector.
- automation means less labor is needed in factories
- internet boosts growth of services
- changing transport technology aids growth of tourism

Globalisation

- cheap labour has led to manufacturing moving to ELDCs
- changing food habits – growth of use of ‘exotic’ foods decreases demand for home grown food, cheaper food imports
- outsourcing causes decline of manufacture/secondary
- growth of transnational companies
- offshoring causes leveling of tertiary

Credit other valid approaches.

Award the marks as follows:

| Band | AO2.1b (8 marks) |
|------|--|
| 3 | <p style="text-align: center;">6-8 marks</p> <p>Clear understanding of technological change and globalisation.</p> <p>Well developed examination of the link between the two factors and structural economic change shown in Figure 8.</p> <p>Demonstrates accurate knowledge and understanding using appropriate, and well developed examples.</p> <p>Well annotated sketches / diagrams / maps may also be used and should be credited.</p> |
| 2 | <p style="text-align: center;">3-5 marks</p> <p>Partial understanding of technological change and globalisation.</p> <p>Partial examination of the link between the two factors and structural economic change shown in Figure 8.</p> <p>Partial knowledge and understanding using appropriate examples.</p> <p>Generalised sketches / diagrams / maps may also be used and should be credited.</p> <p>Max. top Band 2 if only one factor (technology or globalisation) discussed in a developed way.</p> |
| 1 | <p style="text-align: center;">1-2 marks</p> <p>Limited understanding of technological change and globalisation.</p> <p>Limited examination of the link between the two factors and structural economic change shown in Figure 8.</p> <p>Limited knowledge and understanding using limited examples.</p> <p>Basic sketches / diagrams / maps may also be used and should be credited.</p> |
| | <p style="text-align: center;">0 marks</p> <p>Response not creditworthy or not attempted.</p> |

| | | | | | | | |
|---|-----|--------|--------|--------|-----|--|--------------|
| 11. Assess the severity of the challenges faced by some rural places. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 10 | | | 5 | | | 15 |

This question requires candidates to demonstrate their ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

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 challenges faced by some rural areas. These challenges could be the result of the need for change or the consequences of change.

The content will depend upon human activity chosen and may include:

- knowledge and understanding of the challenges caused by declining employment opportunities in rural areas
- knowledge and understanding of the challenges that are seen by rural communities such as housing, transport and service provision.
- knowledge and understanding of the challenges caused by rebranding of rural areas such as changes to business and the local community
- knowledge and understanding of the challenges that result from counterurbanisation and retirement such as community changes
- a geographical context

AO2

AO2.1c content encompasses the application of knowledge and understanding to discuss the challenges faced by some rural areas. A conclusion may be drawn in the context of the variable challenges faced by some rural areas 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 relative importance of the challenges for one rural area
- the difference in the challenges faced by different rural areas
- the changing nature of the challenges faced by some rural areas
- the spatial variation of the challenges faced by some rural areas
- temporal variations in the importance of different challenges
- the success of strategies to overcome challenges

| Award the marks as follows: | | |
|-----------------------------|--|--|
| | AO1 (10 marks) | AO2.1c (5 marks) |
| Band | <i>Demonstrates knowledge and understanding of the challenges caused by rural change.</i> | <i>Applies knowledge and understanding to appraise through an assessment of the severity of challenges caused by rural change.</i> |
| 3 | <p>7-10 marks</p> <p>Demonstrates detailed and accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates detailed and accurate knowledge and understanding of the challenges of rural change.</p> <p>Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples.</p> <p>Well annotated sketches / diagrams may be used and should be credited.</p> | <p>4-5 marks</p> <p>Applies knowledge and understanding to construct well-developed assessment that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a thorough and coherent assessment of the severity of the challenges of rural change.</p> |
| 2 | <p>4-6 marks</p> <p>Demonstrates accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates accurate knowledge and understanding of the impact of the challenges of rural change.</p> <p>Demonstrates accurate knowledge and understanding using examples.</p> <p>Sketches / diagrams may be used and should be credited.</p> | <p>2-3 marks</p> <p>Applies knowledge and understanding to construct a partial assessment that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a partial assessment of the severity of the challenges of rural change.</p> |
| 1 | <p>1-3 marks</p> <p>Demonstrates limited knowledge and understanding that is relevant to the question.</p> <p>Demonstrates limited knowledge and understanding of the challenges of rural change.</p> <p>Demonstrates limited knowledge and understanding using limited examples Basic sketches / diagrams may be used and should be credited.</p> | <p>1 mark</p> <p>Applies knowledge and understanding to construct a limited assessment that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a limited assessment of the severity of the challenges of rural change.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> | <p>0 marks</p> <p>Response not creditworthy or not attempted.</p> |

| | | | | | | | |
|---|-----|--------|--------|--------|-----|--|--------------|
| 12. Assess the relative importance of proximity to universities in the location of one or more quaternary industry clusters. | AO1 | AO2.1a | AO2.1b | AO2.1c | AO3 | | Total |
| | 10 | | | 5 | | | 15 |

This question requires candidates to demonstrate their ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

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 factors that influence the location of quaternary industry. The content will depend upon human activity chosen and may include:

- knowledge and understanding of how universities are a factor in the location of quaternary industry clusters – skilled workers, research facilities, clustering of industries, research production links
- knowledge and understanding of how government support is a factor in the location of quaternary industry clusters – provision of grants, investments in buildings, financial incentives, infrastructure investments.
- knowledge and understanding of how planning regulations are a factor in the location of quaternary industry clusters – favourable use of planning laws
- knowledge and understanding of how infrastructure is a factor in the location of quaternary industry clusters – IT developments such as internet access, international connectivity, motorway access
- knowledge and understanding of how clustering of entrepreneurs and skilled labour are a factor in the location of quaternary industry clusters
- a geographical context

AO2

AO2.1c content encompasses the application of knowledge and understanding to examine the relative importance of universities and research institutions in the location of quaternary industries. A conclusion may be drawn in the context of relative importance 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 relative importance of the various factors
- the relative importance of universities, research institutes and other factors to different quaternary industries
- the relative importance of universities, research institutes and other factors over geographical space
- the relative importance of universities, research institutes and other factors over time

| Award the marks as follows: | | |
|-----------------------------|--|---|
| | AO1 (10 marks) | AO2.1c (5 marks) |
| Band | <i>Demonstrates knowledge and understanding of the factors that influence the location of the quaternary industry.</i> | <i>Applies knowledge and understanding to appraise through an assessment of the relative importance of these factors.</i> |
| 3 | <p>7-10 marks</p> <p>Demonstrates detailed and accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates detailed and accurate knowledge and understanding of the factors that influence the location of quaternary industries.</p> <p>Demonstrates detailed and accurate knowledge and understanding using appropriate, accurate and well-developed examples.</p> <p>Well annotated sketches / diagrams may be used and should be credited.</p> | <p>4-5 marks</p> <p>Applies knowledge and understanding to construct well-developed assessment that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a thorough and coherent assessment of the relative importance of factors that influence the location of quaternary industries.</p> |
| 2 | <p>4-6 marks</p> <p>Demonstrates accurate knowledge and understanding that is relevant to the question.</p> <p>Demonstrates accurate knowledge and understanding of the factors that influence the location of quaternary industries.</p> <p>Demonstrates accurate knowledge and understanding using examples Sketches / diagrams may be used and should be credited.</p> | <p>2-3 marks</p> <p>Applies knowledge and understanding to construct a partial assessment that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a partial assessment of the relative importance of factors that influence the location of quaternary industries.</p> |
| | <p>1-3 marks</p> <p>Demonstrates limited knowledge and understanding that is relevant to the question.</p> <p>Demonstrates limited knowledge and understanding of the factors that influence the location of quaternary industries.</p> <p>Demonstrates limited knowledge and understanding using limited examples Basic sketches / diagrams may be used and should be credited.</p> | <p>1 mark</p> <p>Applies knowledge and understanding to construct a limited assessment that is supported by evidence.</p> <p>Applies knowledge and understanding to produce a limited assessment of the relative importance of factors that influence the location of quaternary industries.</p> |
| | <p>0 marks</p> <p>Response not creditworthy or attempted.</p> | <p>0 marks</p> <p>Response not creditworthy or attempted.</p> |