

INTERNATIONAL AS
GEOGRAPHY
GG01B

Paper 1B Physical Geography 1 Coastal Systems and Landscapes

Mark scheme

January 2020

Version: 1.0 Final

Mark schemes are prepared by the lead assessment writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same, correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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International AS Geography mark scheme

How to mark

Aims

When you are marking your allocation of scripts your main aims should be to:

- recognise and identify the achievements of students
- place students in the appropriate mark band and in the appropriate part of that mark band (high, low, middle) for **each** Assessment Objective
- record your judgements with brief notes, annotations and comments that are relevant to the mark scheme and make it clear to other examiners how you have arrived at the numerical mark awarded for each Assessment Objective
- ensure comparability of assessment for all students, regardless of question or examiner.

Approach

It is important to be **open-minded** and **positive** when marking scripts.

The specification recognises the variety of experiences and knowledge that students will have. It encourages them to study geography in a way that is relevant to them. The questions have been designed to give them opportunities to discuss what they have found out about geography. It is important to assess the quality of **what the student offers**.

Do not mark scripts based on the answer **you** would have written. The mark schemes have been composed to assess **quality of response** and not to identify expected items of knowledge.

Assessment Objectives

This component requires students to:

AO1	Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change, at a variety of scales.
AO2	Apply knowledge and understanding in different contexts to interpret, analyse and evaluate geographical information and issues.
AO3	Use a variety of relevant quantitative, qualitative and fieldwork skills to: <ul style="list-style-type: none"> • investigate geographical questions and issues • interpret, analyse and evaluate data and evidence • construct arguments and draw conclusions.

The marking grids

Do not think of levels equaling grade boundaries.

Depending on the part of the examination, the levels will have different mark ranges assigned to them. This will reflect the different weighting of Assessment Objectives in particular tasks and across the examination as a whole.

Using the grids

Having familiarised yourself with the descriptors and indicative content, read through the answer and annotate it (as instructed below) to identify the qualities that are being looked for and that it shows. You can now check the levels and award a mark.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptors for that level. The descriptors for the level indicate the different qualities that might be seen in the student's answer for that level. If it meets all the descriptors for the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptors and the answer. With practice and familiarity you will find that for better answers you will be able to skip through the lower levels of the mark scheme quickly.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best-fit approach for defining the level and then use the variability of the response to help decide the mark within the level.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark.

It is often best to start in the middle of the level's mark range and then check and adjust. If there is a lot of indicative content fully identifiable in the work you need to give the highest mark in the level. If only some is identifiable or it is only partially fulfilled, then give the lower mark.

The exemplar materials used during standardisation will also help. There will be an answer in the standardising materials that will correspond with each level of the mark scheme. This answer will have been awarded a mark by the lead examiner. You can compare the student's answer with the example to determine if it is of the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the lead examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

In addition to the levels descriptors, question specific indicative content is provided as a guide for examiners. This is not intended to be exhaustive and you must credit other valid points.

An answer that contains nothing of relevance to the question must be awarded no marks.

Annotating scripts

You should write a summative comment at the end for each Assessment Objective and indicate the marks for each Assessment Objective being tested at the end of the answer in the margin in sequence. It is vital that the way you arrive at a mark should be recorded on the script. This will help you with making accurate judgements and it will help any subsequent markers to identify how you are thinking. Please do not write negative comments about students' work or their alleged aptitudes.

Section A – Living with Hazards

Total for this section: 40 marks

Question	Part	Marking guidance	Total marks
01	1	Risk sharing in a hazardous environment is: Key – B	1 AO1=1
01	2	Which of the following are all causes of wildfires? Key – C	1 AO1=1
01	3	A storm surge can be described as: Key – C	1 AO1=1
01	4	‘Two tectonic plates move away from each other which releases pressure on the surface. This causes the mantle to melt and releases magma, which creates low intensity earthquakes and volcanic eruptions.’ This describes: Key – B	1 AO1=1
01	5	Which of the following is an appropriate way to prepare for a volcanic hazard? Key – B	1 AO1=1

Question	Part	Marking guidance	Total marks
02		<p>Figure 1a shows data about tropical storm Kenneth, which hit southern Africa, including Mozambique, in April 2019.</p> <p>Figure 1b shows population per district for the area shown in Figure 1a.</p> <p>Analyse the data shown in Figure 1a and Figure 1b.</p>	<p>6</p> <p>AO3=6</p>

Level	Marks	Descriptor
2	4 – 6	AO3 – Clear selection of evidence from the maps provided and appropriate comparison of evidence between the two maps. Making appropriate use of specific characteristics to support the analysis.
1	1 – 3	AO3 – Some basic selection of evidence from the map provided and appropriate comparison from the evidence between the two maps. Some specific characteristics are referred to support the analysis ideas or are isolated or show basic ideas.
0	0	No creditable content.

Indicative Content

There is a variety of ways of approaching this unseen material. Students must select the relevant data from the 2 maps and look at rain associated with the storm alongside the populations. Students should be able to look at the two maps and see anomalies and links between the data.

AO3

- Areas of highest rainfall are by the coast.
- Other than the Comoros, the 3 areas of highest population are inland such as Nampula in Mozambique and Masasi in Tanzania.
- Areas of moderate to low population in areas with a storm surge.
- When tropical storm Kenneth makes landfall it travels through areas of low population and wind speeds decrease to 93 km/h
- North of Pemba (population 200,000 to 400 000) has high rainfall totals and a possibility of a storm surge – likely to impact people in this region significantly.
- Possible landfall areas have populations of 100,000 to 200,000 – there is a port in this area.
- Comoros has a relatively high population and the storm passes north of the islands with relatively high wind speeds.
- Storm surge likely to affect the entirety of Comoros but only approximately 200 km of the Mozambique coastline.
- Many islands are missed by the track of the storm but still receive high rainfall (300 – 500 mm).
- The most northern island of the Comoros is approximately 20 km from the storm track whereas others are much further – this island receives up to 500 mm of rainfall between which the wind speeds have a range of 46 km/h and are at the peak.
- Peak wind speed is 185 km/h at approximately 250 km from Mozambique’s shoreline – the winds drop by 37 km/h just before the coast.

Question	Part	Marking guidance	Total marks
03		<p>Assess the role of destructive margins in creating landforms associated with volcanic activity.</p> <p>AO1 – Knowledge and understanding of the volcanic hazards. Knowledge and understanding of tectonic processes. Knowledge and understanding of magma plumes.</p> <p>AO2 – Application of knowledge and understanding to analyse the relative importance of plate margins and tectonic processes in creating volcanic landscapes. There should be an application of this knowledge and understanding to compare the role of destructive margins to magma plumes and constructive margins in creating volcanic landscapes such as rift valleys, ocean ridges, deep sea trenches and island arc volcanoes. Places and hazards studied, alongside other processes should be linked in and considered.</p>	<p>9</p> <p>AO1=4 AO2=5</p>

Level	Marks	Descriptor
3	7 – 9	<p>AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change associated with plate margins, magma plumes and tectonic processes.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering detailed analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are thorough and relevant.</p>
2	4 – 6	<p>AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change associated with plate margins, magma plumes and tectonic processes.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering clear analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident and relevant.</p>
1	1 – 3	<p>AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change associated with plate margins, magma plumes and tectonic processes.</p> <p>AO2 – Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation, drawn from the context provided. Connections and relationships between different aspects of study are basic and of limited relevance.</p>
0	0	No creditable content.

Indicative Content

AO1

- The difference between destructive and constructive margins.
- Volcanoes and landscape creation at plate margins – such as rift valleys, ocean ridges, deep sea trenches and island arc volcanoes.
- Natural processes causing volcanoes and volcanic landforms.
- Magma plumes and their relationships to plate movement.
- Plate tectonic theory.
- Crustal evolution.
- Tectonic plate characteristics.
- Plate movement including gravitational sliding (slab pull), ridge push and the role of convection currents.

AO2

- Linking the landforms associated with volcanoes to plate margins and/or magma plumes.
- Drawing comparisons of landform formation – ie plate movement and/or margins help shape volcanic landforms – such as rift valleys, ocean ridges, deep sea trenches and island arc volcanoes.
- The relative importance of plate movement compared to the role of magma plumes.
- How similar-looking landscapes can be formed by different processes such as island arcs from destructive margins and magma plumes.
- Assessment of the influence of destructive margins and comparisons made to magma plumes and/or constructive margins.
- An evaluation of whether destructive margins are the most important in creating landforms such as rift valleys, ocean ridges, deep sea trenches and island arc volcanoes.
- The links and connections between plate movement and the landforms created.

Question	Part	Marking guidance	Total marks
04		<p>‘Risk management (such as preparedness, mitigation and adaptation) can reduce the impacts of earthquakes more than the impacts of wildfires.’</p> <p>Evaluate the extent to which you agree with this statement.</p> <p>AO1 – Knowledge and understanding of the hazard risk. Knowledge and understanding of human responses to seismic and wildfire hazards. Knowledge of the hazard management cycle and its stages. Knowledge and understanding of the potential effects and impacts of earthquakes and wildfires. Knowledge and understanding of the methods associated with reducing the impacts of earthquakes and their relative success. Knowledge and understanding of the methods associated with reducing the impacts of wildfires and their relative success. Knowledge of causes of both earthquakes and wildfires to discuss the cause linked to impact and reducing the risk. Knowledge of the issues surrounding why people live in areas of risk, and some in areas of multiple risk from natural hazards. Impact and human responses as evidenced by a recent wild fire event. Impacts and human responses as evidenced by a recent seismic event.</p> <p>AO2 – Application of knowledge and understanding to evaluate whether risk management can support people living comfortably in hazard risk zones – focussed on areas with seismic risk and wildfire risk. Evaluation of whether risk management can reduce the impacts of earthquakes. Evaluation of whether risk management can reduce the impacts of wildfires. Clear application of knowledge to evaluate whether risk management reduces the impacts of earthquakes or wildfires better. Application of knowledge and understanding using examples/case studies to help evaluate the responses and risk management to seismic and wildfire hazards. An evaluation of how humans can prepare and respond to the risk of earthquake and wildfire hazards. An analysis of the links between risk management and the particular hazards of earthquakes and wildfires. The links should be explained clearly and critically used to assess whether risk management is more successful in reducing the impacts of earthquakes or wildfires more – specific to the examples offered.</p>	<p>20</p> <p>AO1=10 AO2=10</p>

Level	Marks	Descriptor
4	16 – 20	<p>AO2 – Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout.</p> <p>AO2 – Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout.</p> <p>AO1 – Full and accurate knowledge and understanding of key concepts and processes throughout.</p> <p>AO1 – Detailed awareness of scale and temporal change which is well integrated where appropriate.</p>
3	11 – 15	<p>AO2 – Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 – Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Generally clear and relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 – Generally clear and accurate knowledge and understanding of key concepts and processes.</p> <p>AO1 – Generally clear awareness of scale and temporal change which is integrated where appropriate.</p>
2	6 – 10	<p>AO2 – Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Some partially relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 – Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Some relevant knowledge and understanding of place(s) and environments which is partially relevant.</p> <p>AO1 – Some knowledge and understanding of key concepts, processes and interactions and change.</p>

		AO1 – Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies.
1	1 – 5	<p>AO2 – Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence.</p> <p>AO2 – Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Very limited relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 – Isolated knowledge and understanding of key concepts and processes.</p> <p>AO1 – Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies.</p>
0	0	No creditable content.

Indicative Content

Responses should include an example of a recent seismic event and an example of a recent wildfire event to help demonstrate ideas.

AO1

- Hazard perception is controlled by people’s cultural and socio-economic circumstances which will influence risk management of both wildfires and earthquakes.
- Hazard, risk and disaster are not interchangeable terms but can be used within the question to look at the impacts of a particular hazard example or type.
- There is no one set response to a natural hazard and these are determined by governments and individuals.
- Success of responses to hazards depends on incidence, magnitude and distribution of a hazard.
- Level of development of an area will influence how well hazards can be prepared for and responded to (eg may lack wealth and technology).
- The causes of seismic hazards including plate movement and their link/relationship to risk management.
- The causes and factors increasing the chance of wildfires and their link/relationship to risk management.
- Primary and secondary impacts of earthquakes and their link/relationship to risk management.
- Primary and secondary impacts of wildfires and their link/relationship to risk management.
- Short and long term responses to earthquakes and their link/relationship to risk management.
- Short and long term responses to wildfires and their link/relationship to risk management.

AO2

- Analysis and explanation of the interactions between incidence, magnitude and distribution of earthquakes.
- Analysis and explanation of the interactions between incidence, magnitude and distribution of wildfires.
- Analysis and explanation of the interactions between causes, impacts and response to earthquakes and wildfires.
- Evaluation of how risk management can reduce the impacts of seismic hazards and earthquakes.
- Evaluation of how risk management can reduce the impacts of wildfire hazards.
- Analysis of examples to suggest whether risk management can/has reduced impacts of an earthquake.
- Analysis to suggest whether specific locational factors of risk management influenced the reduction (or not) of the impacts of an earthquake example studied.
- Analysis of examples to suggest whether risk management can/has reduced impacts of a wildfire.
- Analysis to suggest whether specific locational factors of risk management influenced the reduction (or not) of the impacts of a wildfire example studied.
- Evaluation and explanation of risk management success in reducing the impacts of earthquakes and wildfires.
- Analysis and evaluation whether risk management is better at reducing impacts in earthquake or wildfire hazard events.

Section B – Coastal systems and landscapes

Total for this section: 40 marks

Question	Part	Marking guidance	Total marks
05	1	Which strategy can be described as hard engineering? Key – C	1 AO1=1
05	2	Which coastal process can be described as: ‘sediments are pushed at various speeds and distances along the sea bed by the force of the water’? Key – D	1 AO1=1
05	3	The sediment budget of a coast is described as: Key – B	1 AO1=1
05	4	Which coastal feature is formed by the following sequence of processes? <ul style="list-style-type: none"> • Deposited materials are moved up a beach by wind. • These deposits may become colonised by grasses which can stabilise the deposits. • Over time the feature migrates inland as newer deposits are created closer to the shoreline. Key – D	1 AO1=1
05	5	Scientists predict an increase in global temperatures and a likely rise in sea levels. Which of the following is a likely impact from climate change and sea level rise? Key – A	1 AO1=1

Question	Part	Marking guidance	Total marks
06		<p>Figure 2a shows changes in sand levels in Coolangatta Bay, on the east coast of Australia between 2007 and 2009.</p> <p>Figure 2b shows changes in sand levels in Coolangatta Bay, on the east coast of Australia between 2009 and 2012.</p> <p>Compare the changes of sand levels between Figure 2a and Figure 2b.</p>	<p>6</p> <p>AO3=6</p>

Level	Marks	Descriptor
2	4 – 6	AO3 – Clear selection of evidence from the maps provided and appropriate comparison of evidence between the two maps. Making appropriate use of specific characteristics to support the analysis.
1	1 – 3	AO3 – Some basic selection of evidence from the map provided and appropriate comparison from the evidence between the two maps. Some specific characteristics are referred to support the analysis ideas or are isolated or show basic ideas.
0	0	No creditable content.

Indicative Content

There is a variety of ways of approaching this unseen material. Students should analyse the maps to identify areas of erosion and of accretion in Coolangatta Bay. They should then draw clearly themed ideas to compare areas of erosion and accretion between the time frames and look at the variance in spatial and temporal distribution and change.

AO3

- Between 2007 and 2009 the bay is dominated by coastal erosion of between 0.5 to 2 m which is removing sand from the area.
- Within the areas of erosion between 2007 and 2009 there are some peaks of above 2 m of erosion, such as between Kirra and Coolangatta and north east of Rainbow Bay.
- Erosion is less dominant between 2009 and 2012
- There is still erosion between Kirra and Coolangatta but over a smaller area and this has been replaced with accretion of between 0.5 – 2 m
- Between 2009 – 2012 there is a significant area of accretion around Kirra Point Groyne of approximately 0.8 km at its longest stretch (both east and west of the groyne).
- There are some smaller areas of accretion – mostly between 0.5 – 2 m such as west of Kirra and east of Rainbow Bay (Snapper Rocks) and small areas of accretion of over 2 m
- The accretion around Snapper Rocks between 2007 and 2009 has been maintained and grown in area, with some areas of >2 m of accretion.

Question	Part	Marking guidance	Total marks
07		<p>‘There are more risks than opportunities for human occupation and development in coastal landscapes’.</p> <p>With reference to a coastal landscape you have studied, discuss the extent to which you agree with this statement.</p> <p>AO1 – Knowledge and understanding of coastal processes of erosion, transportation and deposition. Knowledge and understanding that coastal landscapes can create opportunities and areas for development and/or human occupation. Knowledge and understanding that coastal landscapes can be dangerous and create risk, such as from coastal erosion and flooding. Knowledge and understanding of other factors shaping the coastline eg humans, management, geology etc. Understanding of the interactions between coastal processes and coastal landscapes.</p> <p>AO2 – Application of knowledge and understanding of the specific types of risk and opportunity. There should be an application of whether risk or opportunity is created more by the coastal landscape studied. Knowledge and application of the how the risk and/or opportunity evolved over time with the interactions between processes and the risk/opportunity presented. Candidates should apply their ideas to areas they have studied and evaluate whether there is great opportunity or risk. Evaluation of the coastal environment’s potential for risk and/or opportunity.</p>	<p>9</p> <p>AO1=4 AO2=5</p>

Level	Marks	Descriptor
3	7 – 9	<p>AO1 – Demonstrates detailed knowledge and understanding of the concepts of risk and opportunity presented by coastal environment. Clear ideas on the processes shaping specific risks and/or opportunity in coastal landscapes.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering detailed analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are thorough and relevant.</p>
2	4 – 6	<p>AO1 – Demonstrates clear knowledge and understanding of the concepts of risk and opportunity presented by coastal environment. Basic ideas on the processes shaping specific features within the landscape.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering clear analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident and relevant.</p>
1	1 – 3	<p>AO1 – Demonstrates basic knowledge and understanding of the concepts of risk and opportunity presented by coastal environment and the processes creating these.</p>

		AO2 – Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation, drawn from the context provided. Connections and relationships between different aspects of study are basic and of limited relevance.
0	0	No creditable content.

Indicative Content

AO1

- Coasts are natural systems with inputs, outputs, flows and stores – these help shape the landscape.
- Sediment moves around in littoral cells and deposition falls within this process and is linked to transportation and erosion.
- Coastal processes including the balance between inputs and outputs shape whether the area presents risk or opportunity.
- Risks may be apparent from coastal erosion and flooding etc.
- Opportunities may occur in the form of habitation and tourism etc.
- Factors such as geology and coastal management create risks and opportunities for human occupation.

AO2

- An evaluation of the statement should form using evidence from the example studied.
- The landscape features should be linked and associated with specific processes and landscapes that create risk and/ or opportunity.
- The landscape could be evaluated against the statement using evidence and discussion of its risk and/or opportunity.
- Other factors should be discussed, specific to the example studied.
- Risk and/or opportunity can be created by multiple processes interacting including human influence.
- The degree of risk and/or opportunity is based upon location and perception.
- The risks and/or opportunities may have changed over time and the dominant outcome may have altered.

Question	Part	Marking guidance	Total marks
08		<p>‘Climate change is likely to significantly alter the balance of coastal systems and the landscapes they create.’</p> <p>Discuss the extent to which you agree with this statement.</p> <p>AO1 – Knowledge and understanding of coastal processes. Knowledge and understanding of systems in physical geography including inputs, outputs, energy stores/flows, feedback loops and dynamic equilibrium. Knowledge and understanding of landforms and landscape creation from systems and processes. Knowledge and understanding of sea level change and coastlines of submergence and emergence.</p> <p>AO2 – Application of knowledge and understanding to evaluate how climate change and sea level rise will affect coastal systems. Application and analysis of the interaction between climate change and coastal systems. The evaluation should consider the scale of the impact of climate change in changing processes and landforms. The evaluation may include some examples to demonstrate interactions and evaluation of climate change’s influence.</p>	<p>20</p> <p>AO1=10 AO2=10</p>

Level	Marks	Descriptor
4	16 – 20	<p>AO2 – Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout.</p> <p>AO2 – Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout.</p> <p>AO1 – Full and accurate knowledge and understanding of key concepts and processes throughout.</p> <p>AO1 – Detailed awareness of scale and temporal change which is well integrated where appropriate.</p>
3	11 – 15	<p>AO2 – Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 – Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p>

		<p>AO1 – Generally clear and relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 – Generally clear and accurate knowledge and understanding of key concepts and processes.</p> <p>AO1 – Generally clear awareness of scale and temporal change which is integrated where appropriate.</p>
2	6 – 10	<p>AO2 – Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Some partially-relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 – Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Some relevant knowledge and understanding of place(s) and environments which is partially relevant.</p> <p>AO1 – Some knowledge and understanding of key concepts, processes and interactions and change.</p> <p>AO1 – Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies.</p>
1	1 – 5	<p>AO2 – Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 – Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence.</p> <p>AO2 – Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 – Very limited relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 – Isolated knowledge and understanding of key concepts and processes.</p> <p>AO1 – Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies.</p>
0	0	No creditable content.

Indicative Content

Responses should include examples to help demonstrate ideas.

AO1

- Coastal processes create landscapes of erosion and deposition.
- Climate change and sea level change can change coastal environments.
- Inputs and energy sources of coasts can include waves, tides, currents and winds.
- Feedback loops – both positive and negative create a balance in coastal systems as seen by sediment budgets and littoral cells.
- Coastal processes of erosion create distinctive landscapes such as caves and arches.
- Coastal processes of deposition create landscapes such as bars, spits and barrier beaches.
- Sea level rise can be eustatic, isostatic and tectonic.
- Coastal landscapes can be created from submergence.
- Coastal landscapes can be created from emergence.
- Recent and projected climate change suggests an increase in sea levels.
- The relationship between time and landforms in coastal environments.

AO2

- Recent and predicted sea level change suggests an increase in sea levels.
- An increase in sea level is a result of the general warming and this will melt ice sheets increasing the volume of water in global oceans/seas.
- There may be local variations of the impact of climate change dependant on climate, geology, altitude and management.
- There are interactions between coastal system, the role of water and the landforms associated.
- Climate change could increase storm frequency and therefore rates of erosion and transport will be altered within the system – thus altering the flows and stores.
- Flooding could be likely as a result of climate change creating more high energy coastlines.
- Submerged coastal features such as fjords, rias and Dalmatian coastlines may become more apparent and change the balance within some coastal systems.
- Some coastal areas will not experience significant changes within shorter time frames as other factors such as geology control the balance of the system.
- Time is an important factor and has created landscapes of change over time.
- Examples of coastal landscapes studied may be used to demonstrate whether climate change could significantly alter the balance of coastal systems.

Assessment Objective grid

	AO1	AO2	AO3	Total
Section A				
01.1	1			1
01.2	1			1
01.3	1			1
01.4	1			1
01.5	1			1
02			6	6
03	4	5		9
04	10	10		20
Section B				
05.1	1			1
05.2	1			1
05.3	1			1
05.4	1			1
05.5	1			1
06			6	6
07	4	5		9
08	10	10		20
Unit total	38	30	12	80