INTERNATIONAL AS
GEOGRAPHY
GG01B

Paper 1B Physical Geography 1 Coastal Systems and Landscapes

Mark scheme

June 2022

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.

Further copies of this mark scheme are available from oxfordaqaexams.org.uk

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: • 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	**Which of the following are <u>all</u> typical characteristics of tsunamis?** Key – C: The wave height offshore is low and the wavelength is long. Waves travel very quickly, then slow down on approach to the coast.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	2	**To some extent tropical storms can be predicted. One reason for this is:** Key – D: tropical storms start over deep oceans, which take a long time to heat up, making it easy to predict when storms may occur.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	3	**Which of the following are <u>all</u> examples of geophysical hazards?** Key – A: Earthquakes; landslides; volcanic gases	1 AO1=1

Question	Part	Marking guidance	Total marks
01	4	**Which of the following are conditions leading to intense wildfires?** Key – B: Strong winds blowing over densely forested areas which have suffered drought, allow the wildfires to spread rapidly.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	5	**'The core heats rock in the mantle causing it to rise. This rock cools as it gets further from the core and closer to the crust.'** **This process refers to:** Key – A: convection currents.	1 AO1=1

Question	Part	Marking guidance	Total marks
02		**Figure 1** shows the impacts of a 2018 volcanic eruption in Guatemala, a country in Central America. **Analyse the data shown in Figure 1.**	6 AO3=6

Level	Marks	Descriptor
2	4 – 6	**AO3** – Clear selection and analysis of the evidence that has been provided linked to the distribution of volcanic materials. There is an element of comparison. Links are made between the data shown.
1	1 – 3	**AO3** – Some basic selection and analysis of the evidence that has been provided, and then appropriate, if simplistic links to the distribution of ash and/or pyroclastic flows with most affected departments. Some basic links are established and suggestions are made. Comparison may be limited.
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 map and look at patterns and relationships between areas severely affected, the pyroclastic flow and the ash. Students should be able to look at the figure and see anomalies and links between the data.

AO3

- Overall the pattern shows ash from the eruption is widespread – 50 to 60% of Guatemala's land area was affected by ash.
- Ash travels up to 225 km north-east.
- Ash flow extends 150 km north-east, but less than a third of this distance south-west.
- Most departments have some aspect of ash fall-out from the eruption – only four departments in the SE had no ash from the eruptions.
- The ash remains contained in Guatemala – but does touch the border with Mexico and El Salvador.
- The ash travels further north than south and extends both north-east and north-west.
- The pyroclastic flow is more contained and small scale than the ash in distribution.
- Both the ash and pyroclastic flows from north from the volcano.
- The ash covers more departments than the pyroclastic flow (ash over 18 whilst pyroclastic flows only are found in three).
- The ash completely covers five out of 18 departments (28% of departments with ash are 100% covered).
- The three most affected departments are those adjacent to the El Fuego volcano.
- Two thirds of the worst affected departments had pyroclastic flows – Chimaltenango and Sacatepéquez.
- Even those classed as a worst affected department, Escuintla (south of the volcano) did not suffer with the pyroclastic flow – it did have ash fallout – over two-thirds of the department.

Question	Part	Marking guidance	Total marks
03		**For a place you have studied at a local scale, assess how the hazardous setting influences the economic and social character of the community.** **AO1** – Knowledge and understanding of a hazardous setting to illustrate the physical nature of the hazard. **AO2** – Application of knowledge and understanding to analyse how the economic, social and political character of a hazardous setting's community reflects the presence and impacts of the hazard and the community's response to the risk.	9 AO1=4 AO2=5

Level	Marks	Descriptor
3	7 – 9	**AO1** – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change associated with a specific hazardous setting and the social, economic and environmental risks presented. **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.
2	4 – 6	**AO1** – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change associated with a specific hazardous setting and the social, economic and environmental risks presented. **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.
1	1 – 3	**AO1** – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change associated with a specific hazardous setting and the social, economic and environmental risks presented. **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

Knowledge and application should be specific to the local scale hazardous setting studied, therefore responses should refer to this.

The content will depend upon the local scale hazardous setting studied.

AO1

- The nature, forms and potential impacts of natural hazards.
- Hazards can be geophysical, atmospheric and hydrological.
- Economic, cultural and political determinates of risk and character of a place/community.
- The nature of vulcanicity/seismic hazards/wildfires/tropical storms – dependant on the hazardous setting studied.
- Distribution and frequency of hazards.
- Primary and secondary impacts of hazards.
- Immediate and long-term responses to hazards.
- Community reflection of hazards' presence, risk and impact.
- Community response to risk.
- Use of the hazard management cycle.

AO2

- Linking a local scale hazardous setting to the relative nature of the hazards studied, eg villagers around Mount Etna risk pyroclastic flows which is relatively dangerous, the frequency or eruptions also pose a greater threat. For locals around the Chaiten volcano the dormancy of the volcano may have influenced a greater level of vulnerability.
- Analysis of the risks posed by the hazards to aspects of character and community.
- The relative importance of the hazard in the setting.
- Examples to help show how the hazardous setting's character and community are linked to the hazard.
- Linking and applying ideas on risk, nature and vulnerability to the place studied in the case study, such as the rapid evacuation of Paradise, California during the 2018 wildfires, due to the typically wealthier socio-economic demographics of the area.
- Analysis of the risks involved in a hazardous setting to make a decision or evaluation on the influence of the hazard on place, character and community, eg the wildfires in 2018 shaped the decisions of many celebrities moving away from their homes temporarily after the wildfires caused higher levels of social anxieties in response to the hazard.
- Evaluation on how the impacts and experience of the hazard reflect in the communities' response to the risk.

Max L1 if hazard is not physical in nature

Question	Part	Marking guidance	Total marks
04		**'Human responses to wildfires are less effective than human responses to seismic hazards.'** **Evaluate this statement with reference to examples you have studied.** **AO1** – Knowledge of impacts and responses to a recent wildfire event and a recent seismic event. Knowledge of the concept of a hazard in a geographical context. **AO2** – Application of knowledge and understanding to evaluate whether human responses to wildfires are more or less effective than human responses to seismic hazards.	**20** **AO1=10** **AO2=10**

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

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

Indicative Content

Content will depend on recent examples chosen.

AO1

- Hazard perception is controlled by people's cultural and socio-economic circumstances which will influence risk management of both wildfires and seismic events.
- There is no one set response to a natural hazard and these are determined by governments and individuals.
- Success of responses to wildfires and seismic hazards depend on incidence, magnitude and distribution of a hazard alongside frequency, magnitude and vulnerability.
- 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 and factors increasing the risk and impact of wildfires and their link/relationship to risk management.
- The causes of seismic events and their link/relationship to risk management.
- Some comparison of use of management strategies including prediction technology.
- Primary and secondary impacts of wildfires and seismic events and their link/relationship to risk management.
- Short and long-term responses to wildfires and seismic events and their link/relationship to risk management.
- Place knowledge of a recent seismic event.
- Place knowledge of a recent wildfire.

AO2

- Relative comparison between the responses to the recent wildfire and seismic events, eg the response to the Australian wildfires of 2019–2020 proved to be incredibly difficult in comparison to the 2018 Alaskan earthquake.
- Analysis and explanation of the interactions between causes, magnitude and distribution of wildfires and seismic events.
- Analysis and explanation of the interactions between causes, impacts and response to wildfires and seismic events.
- Evaluation of how risk management can reduce the impacts of wildfires and seismic events.
- Evaluation of specific risk management strategies that were used to response to reduce the impacts of a specific recent wildfire and seismic event, eg evacuation occurred in both the Australian wildfires and the Alaskan earthquake. The slower onset of the wildfire made it very difficult to ensure people had heeded the warning. Emergency personnel involved in rescues were much safer in the case of the earthquake as limited secondary damage was done. Whereas the emergency services involved in Australian wildfires had to put themselves in danger to try to reduce the flames and put out the fires, therefore making the human response less effective in the immediate term.
- Evaluation of other factors – political, cultural, economic that may have also influenced the effectiveness of the response to the recent wildfire and seismic event.
- Analysis of examples to suggest whether wildfire responses or seismic event responses are more effective.
- Comparison between the hazard events and the place-specific characteristics.
- Evaluation and explanation of effectiveness of the responses to both hazard events.

Section B – Coastal Systems and Landscapes   **Total for this section: 40 marks**

Question	Part	Marking guidance	Total marks
05	1	**Which of the following describes the role of sub-aerial weathering in coastal systems?** Key – C: Weathering leads to the transfer of material from stores to flows.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	2	**Integrated coastal zone management is:** Key – B: a large-scale approach that brings together all stakeholders within a coastal area to protect against erosion and resolve social and economic conflicts.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	3	**The main sources of energy in the coastal system are:** Key – D: winds, tides and the currents they generate.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	4	**Which of the following describes the formation of a tombolo?** Key – B: Longshore drift allows for the transportation and deposition of material between an area of land and an offshore island. Deposition of sediment occurs when waves lose their energy.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	5	**'A deep, long and often narrow inlet of water that reaches far inland, created by a rise in sea level that floods a glacial valley', describes which coastal feature?** Key – B: A fjord	1 AO1=1

Question	Part	Marking guidance	Total marks
06		**Figure 2** shows two areas of salt marsh in Louisiana, USA that experienced an oil spill in 2010. The figure shows the percentage of surface covered by oil and associated salt marsh losses. **Analyse the data shown in Figure 2.**	**6** **AO3=6**

Level	Marks	Descriptor
2	**4 – 6**	**AO3** – Clear selection of evidence from the maps provided and appropriate comparison of evidence. Making appropriate use of specific distribution to support the analysis.
1	**1 – 3**	**AO3** – Some basic selection of evidence from the maps provided. Isolated or basic ideas.
0	**0**	No creditable content.

Indicative Content

There is a variety of ways of approaching this unseen material.

Students should analyse the four maps to identify amounts and distribution of oil spills and compare this with the salt marsh loss over three time scales.

AO3

- North Bay Batiste appears to have received higher amounts of oil overall compared to South Bay Batiste – up to 50% (1 km in total) of North Bay's coast line has surface oil of 0.41 and above, whereas in South Bay this is less than 20% (0.5 km max).
- Place A for example has 21–60% of the land surface covered in oil to the north west, whereas places F and H are predominately surround by areas with no oil cover.
- Highest areas in North Bay are on the western cape and the north-west coast (places A and D) – these areas had salt marsh loss before the oil spill and are those which suffered most with salt marsh loss post-oiling – this extends further inland between 2013–2016.
- There is an uninterrupted stretch of up to 1.2 km along the west coast of North Bay Batiste south of place marker A with high oil coverage, which correlates to areas of salt marsh loss, mostly between 2010–2013.
- Relatively limited areas of both North Bay and South Bay have suffered with salt marsh loss between 2013–2016 (North Bay max 0.5 km^2 and South Bay less than 0.1 km^2) – only small areas north of place marker A, west of place marker D and limited amounts both north and south of place marker H.
- Whilst South Bay experienced lesser amounts of oil, it did have a wider expanse of post oil spill habitat loss – especially on the south-west coast near place marker H.
- Some areas of South Bay have no oil spills at all – such as the area 1 km from the north of the map, around place marker F – extending up to 1 km along the coastline – there have been some pre-oil spill salt marsh loss in these areas.

Question	Part	Marking guidance	Total marks
07		**'Erosional processes are essential in the creation of depositional landforms.'** **Assess the above statement with reference to <u>one or more</u> landforms of coastal deposition.** **AO1** – Knowledge and understanding of coasts as natural systems. Knowledge and understanding processes and landforms of erosion and deposition. **AO2** – Application of knowledge and understanding of the specific erosional processes involved in shaping landscapes. Evaluation of the natural systems approach to deposition. Students may apply their ideas to areas they have studied.	**9** **AO1=4** **AO2=5**

Level	Marks	Descriptor
3	7 – 9	**AO1** – Demonstrates detailed knowledge and understanding of the processes and landforms in coastal environments. Clear ideas on the role of systems, processes and landforms of coastal environments. **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.
2	4 – 6	**AO1** – Demonstrates knowledge and understanding of the processes and landforms in coastal environments. Basic ideas on the role of systems, processes and landforms of coastal environments. **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.
1	1 – 3	**AO1** – Demonstrates basic knowledge and understanding of systems, processes and landforms in coastal environments. **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.

<u>Indicative Content</u>

Candidates may refer to one or more landform in their answers and can approach this in various ways.

AO1

- Coastal landscapes are unique to the geology and processes.
- Weathering helps create materials for erosion and transportation.
- Erosional processes such as hydraulic action and abrasion create materials that can be moved and transported.
- Sediment cells identify sources, flows and stores of sediment in the coastal system.
- Materials eroded and transported are deposited in other areas – often due to low wave energy, sheltered areas or in areas where fresh water meets salt water.
- Landscapes of deposition include spits, bars, tombolos, sand dunes and beaches.
- Eg dune formation occurs as a result of erosion within the sediment cell and wind or water transporting loosened particles to areas of deposition.
- Knowledge of case study of coastal landscapes.
- Candidates may reference an example landscape or landforms in their answer which they have studied.

AO2

- A clear explanation of the links between weathering, erosion, transportation and deposition.
- The landscape features should be linked and associated with specific processes and landscapes – there should be reference and evaluation of the importance of erosional processes.
- Critical evaluation of whether erosional processes are important in creating depositional landforms.
- Other factors could be discussed (such as geology, sea level change, transportation, human intervention and management).
- Analysis of how landforms can be created by multiple processes interacting.
- A reasoning of how landforms and processes may have changed over time and into the future.
- A reasoning of how depositional landforms contribute to the process and landforms of erosion – systems approach.
- The scale of the landscape and specific landforms could be considered and evaluated against the importance of erosional processes.

Question	Part	Marking guidance	Total marks
08		**'Coastal management will result in long-term changes to natural coastal processes and environments.'** **Evaluate the extent to which you agree with this statement.** **AO1** – Knowledge and understanding of coastal management approaches. Knowledge and understanding of the coast as a natural system. **AO2** – Application of knowledge and understanding to analyse the importance and change associated with coastal management.	**20** **AO1=10** **AO2=10**

Level	Marks	Descriptor
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3	11 – 15	**AO2** – Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question. **AO2** – Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding. **AO2** – Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Generally clear and relevant knowledge and understanding of place(s) and environments. **AO1** – Generally clear and accurate knowledge and understanding of key concepts and processes. **AO1** – Generally clear awareness of scale and temporal change which is integrated where appropriate.

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

<u>Indicative Content</u>

AO1

- The systems concept – inputs; outputs; stores; flows and transfers; sinks; positive/negative feedback; dynamic equilibrium.
- Feedback loops – both positive and negative create a balance and change in coasts.
- Knowledge of the specific coastal management approaches – soft/hard engineering, shoreline management, sustainability plans and integrated coastal zone management.
- Knowledge of a case study of a coastal environmental at a local scale to illustrate and analyse fundamental coastal processes.
- Knowledge of a case study of a coastal environmental at a local scale to illustrate and analyse challenges represented by their sustainable management.
- Clear knowledge on the main processes shaping specific features eg rias – sea level change, barrier beach – deposition, stack – erosional.
- Knowledge of the specific coastal landforms – erosional, depositional and those associated with sea level change.
- Clear knowledge on the main processes shaping specific features eg rias – sea level change, barrier beach – deposition, stack – erosional.
- The interactions between processes and landforms.
- The impacts of coastal management on processes and landforms.

AO2

- Analysis of the systems concept and its application to the development of coastal landscapes.
- Analysis of how coastal management affects coastal environments.
- Analysis of the feedback loops created from coastal management approaches.
- Coastal environment used to evaluate the challenges represented in its sustainable coastal management.
- Analysis of the processes shaping coastal landforms and how coastal management approaches will affect these.
- Analysis and evaluation of how coastal management will alter, change or maintain coastal environments.
- Examples used to analyse whether landforms and processes will be altered in all cases.
- A conclusion of the impact of coastal management approaches in protecting landforms and/or changing landforms.
- Evaluation of how coastal management affects coastal systems, flows, processes and therefore landforms.
- Some coastal management may be limited and reduce change in one area and have a negative impact on another.
- Eg groynes on the Holderness Coast at Hornsea reduce littoral drift down coast to Mappleton in the south and reduce the beach materials – exacerbating the erosional rates in one place and maintaining a constant elsewhere.

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