





# a-level exam questions & answers:

## coastal systems & landscapes (section b) >

### mark scheme | 20-mark question #1



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| Q.: | Sp. Ref.:         | Information For Markers:  | B'down:          | Marks: |
|-----|-------------------|---|------------------|--------|
| 5)  | 3.1.3.3 & 3.1.3.4 | <p><b>To what extent does human activity influence coastal development? Use case studies</b></p> <p>AO1 – Knowledge and understanding of one or (preferably) multiple case studies involving anthropogenic activity and its impact on a coastal environment.</p> <p>AO2 – Application of knowledge and understanding to analyse and evaluate to what extent this human activity is responsible for current trends in coastal development relative to past changes.</p> <p><b>Notes for answers</b></p> <p>AO1</p> <ul style="list-style-type: none"> <li>• A range of processes affecting coastlines. Expect to see reference to: waves (constructive and destructive); prevailing currents; the role of wind its connection to fetch.</li> <li>• Erosional processes and associated landforms – abrasion, attrition, hydraulic action and solution – landscapes of erosion may feature.</li> <li>• Transportation processes of traction, saltation, solution and suspension. Links to longshore drift are likely, such as the presence of groynes to prevent the movement of material across a beach.</li> <li>• Deposition should feature in relation to a variety of landforms such as beach, dunes, spits and bars. • The contribution of these processes (erosion, transport and deposition) to the development of low and high energy environments may also feature. Expect to see stronger focus upon high energy environments with links to erosional coastlines and those at risk of flooding.</li> <li>• All the above are natural coastal development features and therefore are relevant to the question.</li> <li>• Case study of at least one coastal landscape within and / or beyond the UK to illustrate and analyse how it presents risks and opportunities for human occupation and development and evaluate human responses of resilience, mitigation, and adaptation.</li> <li>• Human intervention in coastal landscapes. Traditional approaches to coastal flood and erosion risk: hard and soft engineering. Sustainable approaches to coastal</li> </ul> | AO1=10<br>AO2=10 | 20     |

flood risk and coastal erosion management: shoreline management/integrated coastal zone management.

- Recent and predicted climatic change and potential impact on coasts as a higher-level concept might be mentioned – an 'invisible' human impact.

## **AO2**

- Expect many responses to consider coastal management as part of the intervention in shaping coastlines. Case studies are likely to focus on LICs such as Bangladesh (The Sundarbans); but with potential examples from HICs including the Netherlands as case studies for how human impacts have had a significant and marked impact on every aspect of their coastline, which is more artificial than naturally created. The existence and use of flood levees, dams, coastal reinforcements along the North Sea.
- Expect to see reference to Integrated Coastal Zone Management (ICZM). This is a holistic approach which brings together all stakeholders. It sees the whole coastline as one unit rather than the more dated approach which historically failed to see that actions in one part of the coast could have devastating impacts elsewhere.
- Bangladesh has the combined issues of land subsidence, sea level rise and a growing population occupying ever more marginal land.
- The Bengali people have years of experience of adapting to changing environmental conditions caused by shifting river channels, land creation and erosion, and the impacts of floods, cyclones and storm surges. The country's government, too, has long experience of managing change, including measures to cope with natural disasters. Bangladesh is not helpless, therefore, against coping with sea-level rise. A number of interventions are being used to counter foreseen impacts of sea-level rise during the 21st century.
- The country aims to maintain freshwater flow to western parts of the Ganges Tidal Floodplain in order to prevent the salt-water front from moving further inland. The most direct method has been to divert additional water from the Ganges River down the Gorai-Madhumati River by means of a barrage across the Ganges in Bangladesh. Embankments have been raised and strengthened as sea-level rises.
- Bangladesh has been experimenting with raised mounds or banks on which to grow crops. This adaptation is designed to retain farmland in the event of a saltwater ingress.
- In rural areas, work has been undertaken to raise house plinth levels above the highest predicted storm-surge

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|  |  | <p>levels and increase cyclone shelter capacity as population grows.</p> <ul style="list-style-type: none"> <li>• Further evaluation of more 'high level' concepts such as the impacts of climate change and sea level rise as originating from human activity, leading to significant amounts of change to the physical coastal environment should be credited. This could include statements such as "ultimately the most powerful factor impacting our coastlines in the coming century is through anthropogenic sea level rise, owing due to our own carbon and GHG emissions leading to warming sea levels and shrinking cryosphere. Therefore, it can be said that human activity is currently the predominant driving force behind short to long term changes into the future."</li> <li>• Assessment is likely to consider cost benefit as well as effectiveness of such strategies. Any assessment is permissible provided it is based upon preceding content.</li> </ul> |  |  |
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### Marking Level Criteria:

This grid is used by teachers and examiners to decide first your working level, then narrow down to a mark out of 20 for all long answer questions, and the kinds of things they are looking to see in each of these answers.

| <b>Level/Mark Range</b>   | <b>Criteria/Descriptor</b>   |
|---|--|
| <p><b>TOP LEVEL 4</b><br/>(16-20 marks – 80+% - typically an A* answer)</p> | <ul style="list-style-type: none"> <li>• Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question. Interpretations are comprehensive, sound and coherent (AO2).</li> <li>• Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2).</li> <li>• Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2).</li> <li>• Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1).</li> <li>• Full and accurate knowledge and understanding of key concepts, processes and interactions and change throughout (AO1).</li> </ul> |
| <p><b>HIGH LEVEL 3</b><br/>(11-15 marks – 55-75% - B to A grade answer)</p> | <ul style="list-style-type: none"> <li>• Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question. Interpretations are generally clear and support the response in most aspects (AO2).</li> <li>• Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2).</li> <li>• Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2).</li> <li>• Generally clear and relevant knowledge and understanding of place(s) and environments (AO1).</li> <li>• Generally clear and accurate knowledge and understanding of key concepts, processes and interactions and change (AO1)</li> </ul>                        |

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|---|--|
| <p>LOWER LEVEL 2<br/>(6-10 marks – 30-50% - D-C grade answer)</p> | <ul style="list-style-type: none"> <li>• Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). Interpretations are partial but do support the response in places.</li> <li>• Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2).</li> <li>• Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2).</li> <li>• Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1).</li> <li>• Some knowledge and understanding of key concepts, processes and interactions and change. There may be a few inaccuracies (AO1).</li> </ul>                   |
| <p>LOW LEVEL 1<br/>(1-5 marks) - &lt;25% - E or below answer</p>  | <ul style="list-style-type: none"> <li>• 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). Interpretation is basic.</li> <li>• Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2).</li> <li>• Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2).</li> <li>• Very limited relevant knowledge and understanding of place(s) and environments (AO1).</li> <li>• Isolated knowledge and understanding of key concepts, processes and interactions and change. There may be a number of inaccuracies (AO1)</li> </ul> |
| <p>LEVEL 0<br/>(0 marks) – no answer provided</p>                 | <ul style="list-style-type: none"> <li>• Nothing worthy of credit (something has gone ridiculously wrong if you're here!)</li> </ul>   |