



**Geography**

AS / A Level | AQA | 7036 / 7037



**2016 specification**  
first exams in 2018 (2017 for AS)

# **A Level AQA Topic Tests**

## **Coastal Systems and Landscapes**

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# Test 1 – Natural Systems

1. Discuss whether coasts are open or closed systems. *3 marks*
2. What is meant by the term 'dynamic equilibrium'? *2 marks*
3. Suggest how a coastal environment may be altered if the system no longer achieved dynamic equilibrium – give an example. *4 marks*
4. For each of the following, state whether the item is an 'input', 'output' or 'component' of a coastal system. One mark will be awarded for each two correct answers.
  1. Landscape of erosion
  2. Waves and winds
  3. Wave energy is dissipated
  4. Landscape of deposition
  5. Removal of material outside of a sediment cell
  6. Sea level change*3 marks*
5. Suggest which are the ultimate driver(s) of processes in a coastal system – explain why. *4 marks*
6. a) Study the image below, and explain how the beach might be altered (there is a change from equilibrium). *3 marks*



6. b) Explain how a negative feedback cycle could restore the beach to equilibrium. *3 marks*

7. Label the aerial photo below with the following features  
(assume that the photograph was taken just before low tide):

- Inshore
- Offshore
- Foreshore
- Backshore
- Swash zone
- Breaker zone

3 marks



Image courtesy of Google Earth © 2016 Google  
Image © 2016 DigitalGlobe © 2016 Infoterra Ltd & Bluesky

8. Distinguish between the following three concepts:

- Weathering
- Erosion
- Mass movement

6 marks

9. Discuss the role and factors involved in fetch.

3 marks

10. Assess how constructive and destructive waves differ. Copy and complete the table below.

7 marks

	Constructive	Destructive
Frequency		
Height		
Wavelength		
Description		
Swash		
Backwash		
Occur		

Total: 41 marks

## Extension Questions (A Level)

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11. Explain how waves are formed.

*4 marks*

12. Assess how wind can affect the coastal environment.

*6 marks*

*Extension: 10 marks*

*Total: 51 marks*

## Extension Question (AS Level)

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11. Assess the importance of wind in shaping the coastal environment.

*9 marks*

*Extension: 9 marks*

*Total: 50 marks*

## Test 2 – Coastal Processes

1. Give two factors which cause wave height to increase near the shore. 2 marks

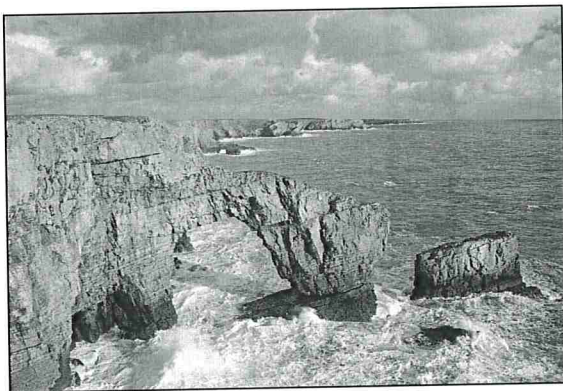
2. a) The data below shows the tide heights on the Severn Estuary at Beachley (Aust) on November 13 2016. Give the classification of the tidal range at Beachley based on this data, with a reason why you have chosen this classification.

High or Low Tide	Height (m)
Low	1.14
High	12.95
Low	1.1
High	13.45

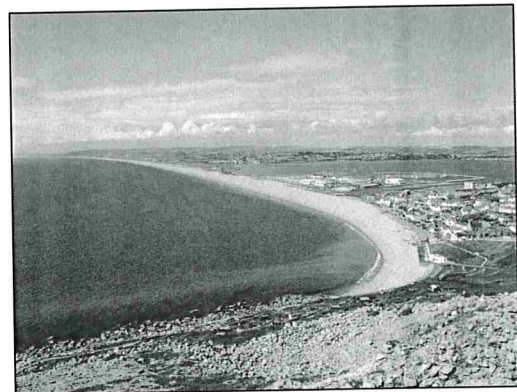
2 marks

b) Give the opposite classification of tidal range. 1 mark

3. Copy and complete the table below to explain which photograph represents a low energy and a high energy.



**Photograph A**



**Photograph B**

8 marks

	Photograph A	Photograph B
<b>Low or High Energy</b>		
<b>Reason 1</b>		
<b>Reason 2</b>		
<b>Reason 3</b>		

4. To what extent are sediment cells closed systems? 2 marks

5. Outline what is meant by the term 'sediment budget'. 4 marks

6. Discuss the forms of erosion caused by the ocean and its water. 8 marks

7. Using the four descriptions, state the type of transport which is taking place.

4 marks

<b>A</b>	The water is clear; transported material cannot be seen.
<b>B</b>	It is high tide. At the base of the chalk cliff, the ocean water appears lighter in colour.
<b>C</b>	As a storm wave passes above, a pebble is momentarily suspended. As the wave moves on, the material drops back to the sea floor, closer to the beach.
<b>D</b>	As waves travel up and down the beach, sand and shingle are rolled landwards in the uprush, and seaward once again with the backwash.

8. Discuss **one** form of sub-aerial weathering.

4 marks

9. Discuss the timescales on which different forms of mass movement occur.

4 marks

10. Assess the role of run-off on coastal erosion.

4 marks

Total: 43 marks

### Extension Questions (A Level)

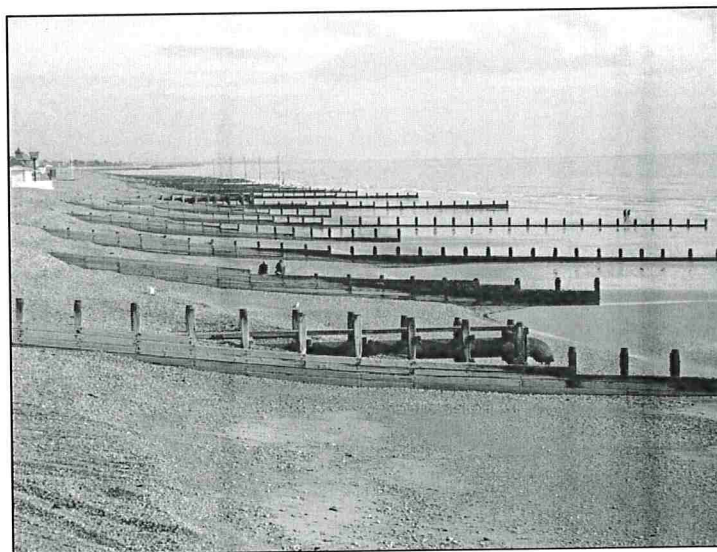
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11. Assess the role of the Moon in affecting tides.

6 marks

12. Explain the purpose, advantage(s) and disadvantage(s) of the structures shown in the photograph below.

4 marks



Extension: 10 marks

Total: 53 marks

### Extension Questions (AS Level)

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11. Assess the importance of the Moon in the effect of tides.

6 marks

12. Outline the role of longshore (littoral) drift in coastline development.

3 marks

Extension: 9 marks

Total: 52 marks

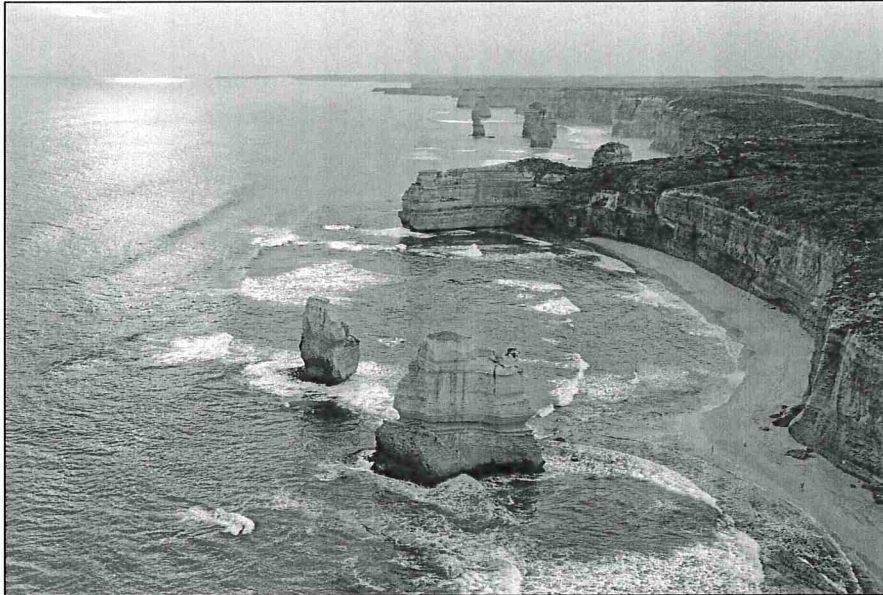
# Test 3 – Coastal Landscapes 1

1. Name the landform that is caused by the eventual expansion of a wave-cut notch?

1 mark

2. The photo below shows The Twelve Apostles (Australia). State and explain whether the stretch of coastline is concordant or discordant.

4 marks



3. Outline the sequence of development which takes place to form a stump.

6 marks

4. Copy and complete the table on *Handout 1*.

15 marks

5. Distinguish between a simple and compound spit.

2 marks

6. Outline the conditions needed for a bar to develop.

3 marks

7. The map below shows Long Island, part of the state of New York.

Identify the protective feature to the south of the island, and explain how the feature protects the coast.

6 marks



## Extension Questions (A Level)

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8. Assess the role of geology in the influence of a coastline's morphology. *6 marks*
9. Assess the roles of deposition and succession in the creation of salt marshes or dunes. *6 marks*

*Extension: 12 marks*

*Total: 47 marks*

## Extension Questions (AS Level)

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8. Assess the extent that depositional features are in a state of flux. *6 marks*
9. Assess the extent of deposition and succession in the creation of salt marshes or dunes. *6 marks*

*Extension: 12 marks*

*Total: 47 marks*

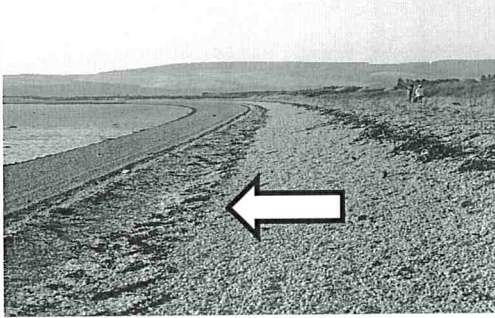
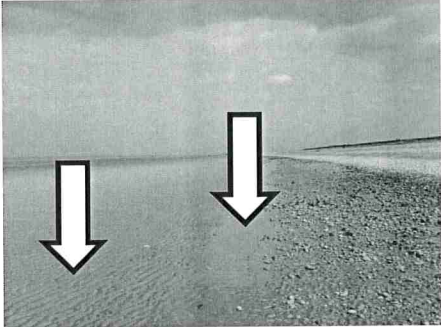

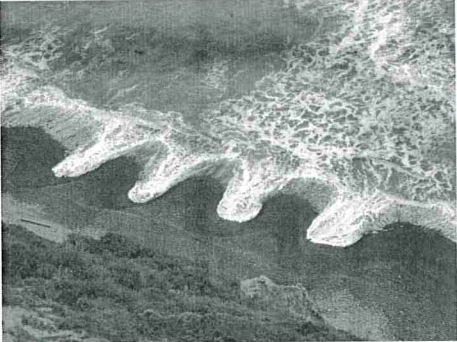


# Handout 1

## Test 3: Coastal Landscapes 1

4. Copy and complete the table:

15 marks

Image	Name of Beach Feature (1 mark)	Formation of Beach Feature (1 mark)	Location on the beach (1 mark)
<p style="text-align: center;">A</p> 			
<p style="text-align: center;">B (TWO features)</p> 			
<p style="text-align: center;">C</p> 			
<p style="text-align: center;">D</p> 			

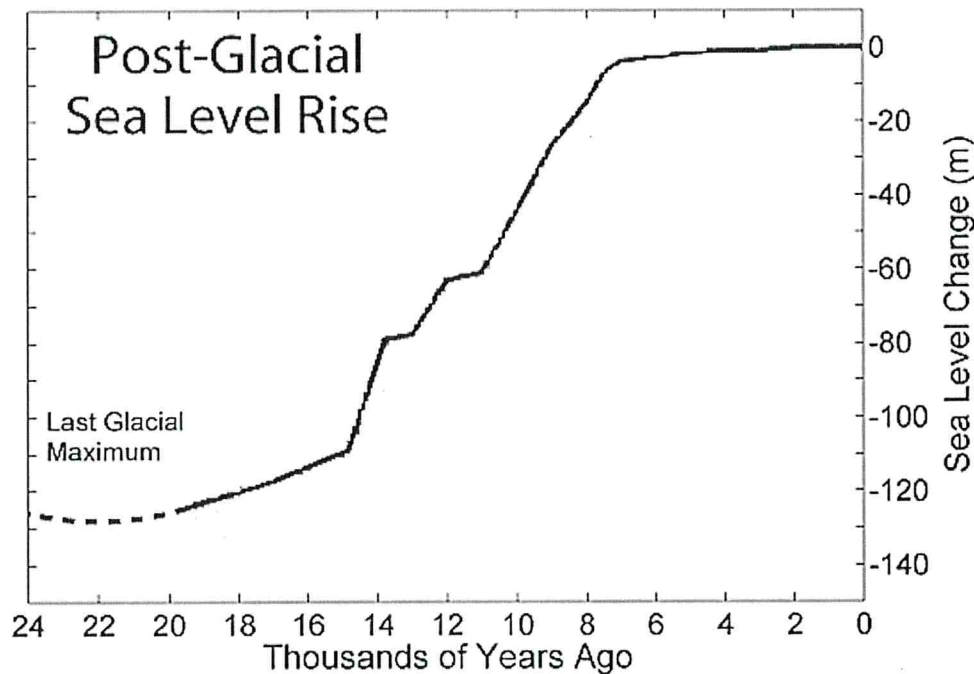
## Test 4 – Coastal Landscapes 2

1. Distinguish between 'isostatic' and 'eustatic' changes.

4 marks

2a. The graph below shows sea level change, during and after the last ice age. Describe the changes in sea level shown by the graph.

3 marks



2b. Explain the change to sea level during an ice age.

2 marks

2c. Discuss how the land surface level is altered during an ice age.

2 marks

2d. Explain why the UK was once connected to Europe by land.

2 marks

2e. Name an **emergent** feature and explain why the future may appear during the millennia which form the interglacial period.

3 marks

3. Discuss why sea levels are rising at present.

2 marks

4. Outline the role of tectonic activity on local relative sea level and global sea level.

4 marks

5. a) Study the aerial photograph below (which shows Chesapeake Bay, on the eastern coast of the United States) and explain whether the feature shown is a ria or a fjord.

*4 marks*



- b) Discuss the cross-section of a ria and a fjord.

*4 marks*

- c) What is meant by a 'Dalmatian coast'?

*2 marks*

6. Assess why we cannot be certain of how much global sea levels will rise.

*6 marks*

*Total: 38 marks*

## Extension Questions (A Level)

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7. Assess the role of seral stages in the development in the development of depositional features (e.g. salt marsh, sand dune or mud flats).

*6 marks*

8. Using examples, explain what is meant by the term 'relict' features.

*4 marks*

*Extension: 10 marks*

*Total: 48 marks*

## Extension Question (AS Level)

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7. Assess the importance of time for the creation of coastal landscapes.

*9 marks*

*Extension: 9 marks*

*Total: 47 marks*

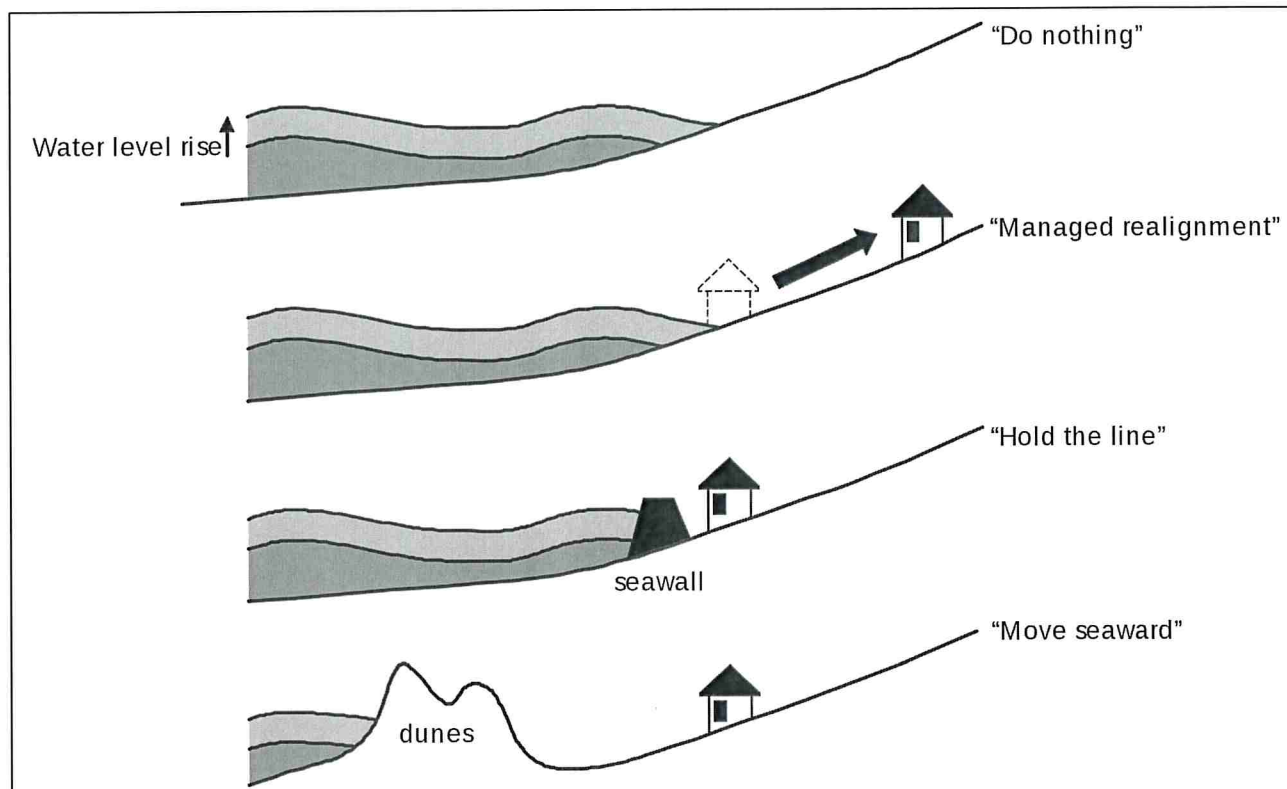
## Test 5 – Coastal Management

1. Using an example of each, distinguish between hard and soft coastal engineering.

*4 marks*

2. Using the diagram below, explain how each of the four management techniques work.

*8 marks*



3. Discuss how humans can work alongside nature to help protect the coast.

*4 marks*

4. Assess how the cost of coastal protection may determine the type or degree of protection.

*4 marks*

5. a) Why are there 22 Shoreline Management Plans (SMPs)?

*1 mark*

- b) Discuss why SMPs are more sustainable than traditional forms of coastal engineering.

*4 marks*

6. Discuss the size and scope of Integrated Coastal Zone Management (ICZM).

*6 marks*

7. Name the additional framework which can enhance ICZM, set up by the European Commission in 2013.

*1 mark*

8. Using an example which you have studied, evaluate the problems associated with coastal erosion, and explain how coastal management helped solve the problems.

*8 marks*

*Total: 40 marks*

## Extension Questions (A Level)

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9. Explain who benefits from coastal management – people or wildlife.

*4 marks*

10. Assess the benefits of Integrated Coastal Zone Management (ICZM) over traditional approaches.

*6 marks*

*Extension: 10 marks*

*Total: 50 marks*

## Extension Question (AS Level)

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9. Using example(s), assess the importance of Integrated Coastal Zone Management (ICZM) in allowing sustainable management for a stretch of coastline.

*9 marks*

*Extension: 9 marks*

*Total: 49 marks*

## Test 6 – General and Case Studies

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1. Give four sources of sediment in the coastal environment. *2 marks*
2. Discuss the causes and nature of storm surges in the coastal environment. *4 marks*
3. Explain the causes of differential erosion shown in the photograph below. *4 marks*



4. Distinguish between oxidation and hydrolysis. *2 marks*
5. Eustatic changes are global, isostatic changes are local. Assess the validity of this statement. *4 marks*
6. Discuss how coastal landscapes are affected by successive glaciations. *6 marks*
7. State **two** causes of sea level rise and discuss how future sea level rise will alter the world's coasts. *6 marks*
8. Distinguish between traditional and modern coastal management. *4 marks*
9. Study the photograph below. Assess the challenges faced by coastal managers working in the region. *4 marks*



*Total: 36 marks*

## Extension Question (AS and A Level)

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10. To what extent do you agree that humans have overcome the challenges faced in a coastal environment that you have studied?

*20 marks*

*Extension: 20 marks*

*Total: 56 marks*