



Leave  
blank

**Answer THREE questions.**

**If you answer Question 1 put a cross in this box .**

1. (a) Study Figure 1(a) on page 2 in the Resource Booklet. It shows River Thames profiles.

(i) Define these terms:

1 river long profile

.....  
.....

2 valley cross profile

.....  
.....

**(2)**

(ii) Describe the long profile of the River Thames.

.....  
.....  
.....  
.....  
.....  
.....

**(3)**



(iii) Describe and give reasons for the differences between the two valley cross profiles X and Y.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(6)

Leave  
blank



Leave blank

(b) Study Figure 1(b) on page 2 in the Resource Booklet. It gives information on water quality along the Thames.

(i) Describe how water quality changes downstream.

.....  
.....  
.....  
.....  
.....  
.....

(3)

(ii) Using Figure 1(b) and your own knowledge, outline the likely issues for river and wetland management in the Thames **Estuary**.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(6)







Leave  
blank

If you answer Question 2 put a cross in this box .

2. (a) Study Figure 2(a) on page 3 in the Resource Booklet. It shows flood data for the River Ouse, North Yorkshire.

(i) Describe the trends shown by the **two** graphs.

.....  
.....  
.....  
.....  
.....  
.....

**(3)**

(ii) Suggest possible reasons for these trends. You should consider both physical and human factors.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

**(6)**

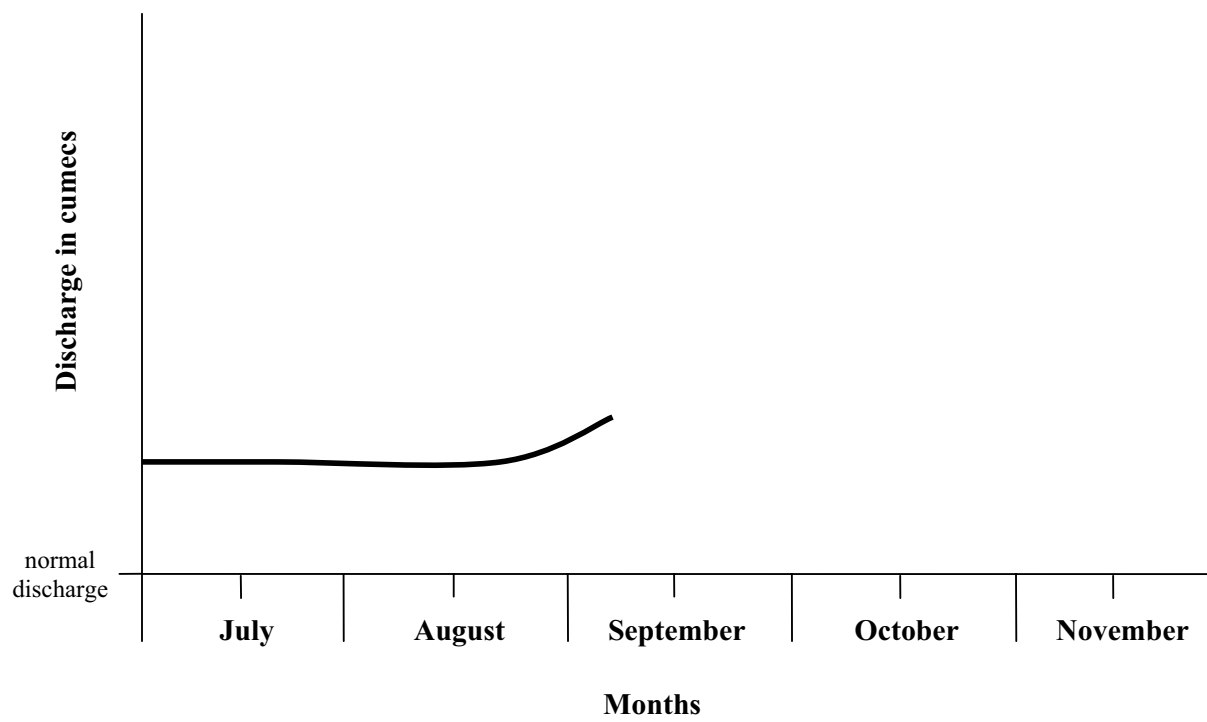


Leave blank

(b) Study Figure 2(b) on page 3 in the Resource Booklet. It shows weather information for North Yorkshire, July–November 2000.

(i) Use the information in Figure 2(b) to complete and annotate the sketch hydrograph below.

**Discharge of River Ouse, July–November 2000**



(4)

(ii) Define the term **lag time**.

.....  
.....

(2)





Leave  
blank

(iii) Explain the factors that might lead to a long lag time.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(5)

(c) Using examples, examine the positive and negative impacts of **either** changing river channels **or** changing discharge levels.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....





**BLANK PAGE**



If you answer Question 3 put a cross in this box ☒.

3. (a) Study Figures 3(a) and 3(b) on page 4 in the Resource Booklet. Figure 3(a) shows a sediment cell along the Californian coast.

(i) Sediment cells can be thought of as systems. Match the letters **A, B, C** and **D** on Figure 3(a) to the correct terms below.

Term	Letter	Term	Letter
input		transfer	
output		store	

(4)

(ii) Suggest reasons why this stretch of coastline should be **managed** as a system.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(4)

(iii) Resorts along this coastline have annual beach nourishment. State **one** advantage and **one** disadvantage of this strategy.

Advantage .....

.....

.....

Disadvantage .....

.....

.....

(2)



Leave  
blank

(iv) Figure 3(b) is a sketch of the area around the Buena Vista Lagoon. Suggest how a lagoon such as this may have been formed.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(4)

(b) Some **rivers** are heavily managed by hard engineering.

Name **two** examples of hard engineering strategies used to manage rivers and explain how these can have an impact on the **coastal** environment.

1 .....

.....  
.....  
.....  
.....  
.....  
.....

2 .....

.....  
.....  
.....  
.....  
.....  
.....

(6)



(c) Using named examples, examine the impact of rising sea levels on people and the environment.

Leave blank

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....



Leave  
blank

Ruled area for writing answers, consisting of 24 horizontal dotted lines.

(10)

(Total 30 marks)

Q3

15

Turn over



Leave  
blank

If you answer Question 4 put a cross in this box ☒.

4. (a) Study Figure 4(a) on page 5 in the Resource Booklet. It shows part of the coastline in the Channel Islands.

(i) Describe in detail the physical features of the coastline shown in the photograph.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(4)

(ii) Identify the conditions necessary for sand dunes to form.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(3)





Leave  
blank

(b) Study Figure 4(b) on page 5 in the Resource Booklet. It shows data collected by students during field work across sand dunes.

(i) Suggest how the students may have collected the data shown in Figure 4(b).

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(5)

(ii) The kite diagram in Figure 4(b) illustrates the process of plant succession. What is meant by **plant succession**?

.....  
.....  
.....  
.....  
.....

(2)



Leave blank

(iii) Using Figure 4(b), describe how and explain why the vegetation changes with distance from the sea.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

**(6)**

(c) For a named stretch of coastline, examine the ways in which human activities can lead to conflict.

Named stretch of coastline .....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....





Leave blank

If you answer Question 5 put a cross in this box ☒.

5. (a) Study Figure 5(a) on page 6 in the Resource Booklet. It shows changes along a coastline.

(i) Describe how the cliff line changed between 1901 and 2001.

.....  
.....  
.....

(2)

(ii) How do sub-aerial and marine processes combine to erode these soft clay cliffs?

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

(5)

(iii) What are the implications of this cliff erosion for land use?

.....  
.....  
.....  
.....

(2)



(b) Study Figure 5(b) on page 6 in the Resource Booklet. It shows coastal defences.

(i) Explain how **two** of the methods shown protect the coastline from erosion.

Method 1

.....  
.....  
.....  
.....

Method 2

.....  
.....  
.....  
.....

**(4)**

(ii) Suggest reasons why hard engineering methods are sometimes chosen to protect a coastline.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

**(3)**



(iii) Name **two** groups of people who would oppose hard engineering defences and explain why.

Group 1

.....  
.....  
.....  
.....

Group 2

.....  
.....  
.....  
.....

**(4)**

Leave blank





