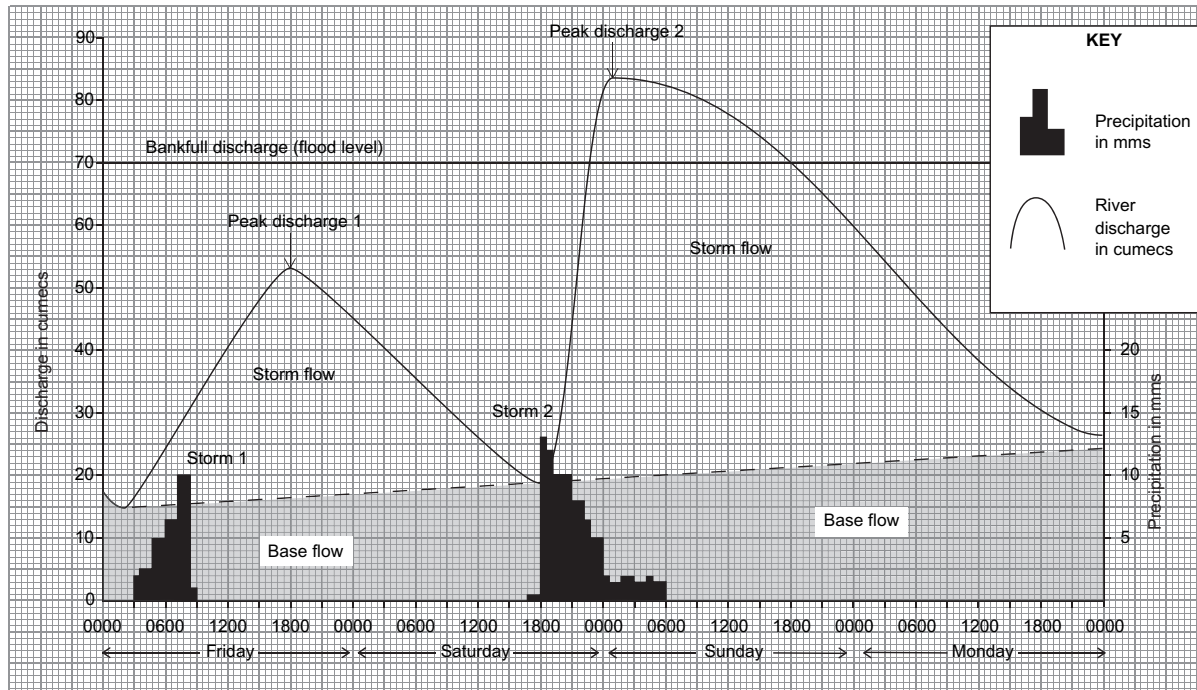




Answer **THREE** questions.

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

1. (a) Study the hydrographs below which show the impact of two storms on the River Tay.



(i) State **two** differences between the two storm events.

1 .....

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2 .....

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(2)

(ii) Compare the **shapes** of the two hydrographs.

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(3)



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(iii) For how many hours was the river in flood?

..... hours

**(1)**

(iv) Explain why the impacts of Storm 2 on the river's discharge were very different from those of Storm 1.

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**(5)**



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(b) Study Figure 1 on page 2 in the Resource Booklet. It shows the pattern of surface run-off during floods at Coombe Hill in Surrey.

(i) Suggest **three** reasons why the flood risk has increased over the last forty years.

1. ....

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2. ....

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3. ....

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**(6)**

(ii) Suggest **three** ways in which the flood risk could be reduced in places such as Coombe Hill.

1. ....

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2. ....

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3. ....

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**(3)**

(c) With reference to **one** named drainage basin, examine the view that it is human pressures which create the need for management schemes.

Named drainage area .....

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<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>(10)</p> <p>(Total 30 marks)</p>	Leave blank
	Q1



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

2. (a) Study Figure 2 on page 3 in the Resource Booklet. It shows the Carding Mill catchment area and the results of a stream study carried out by a GCSE group during the very dry summer of 2003.

(i) Define the following terms:

watershed .....

.....

catchment area .....

.....

(2)

(ii) Comment on the choice of sampling method used in Figure 2.

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(2)

(iii) Describe and suggest reasons for the variations in channel size shown by the fieldwork results.

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(4)



(iv) The group were very concerned about the inaccuracy of their velocity results. Suggest possible reasons for this inaccuracy.

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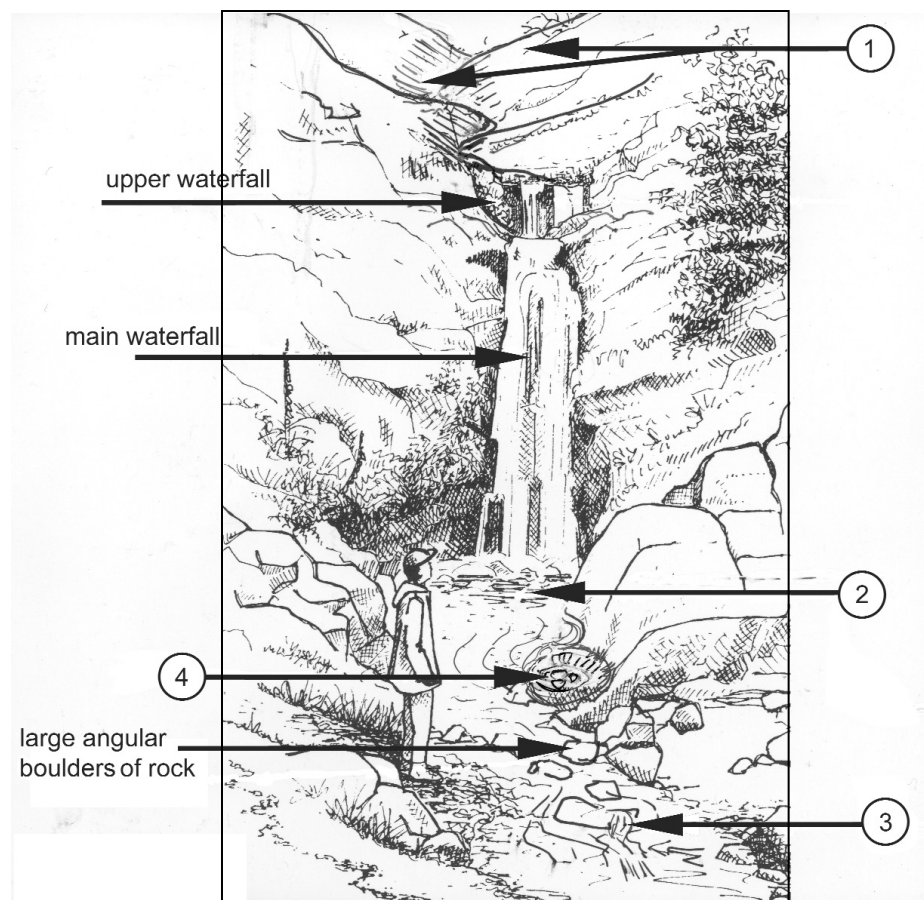
(2)

(v) The group wished to calculate the **hydraulic radius** (a measure of the river's efficiency). Explain how this could be done.

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(2)

(b) Study the field sketch below of Lightspout Waterfall located in Figure 2 in the Resource Booklet.



(Source: National Trust Pack, Carding Mill, Field Studies Council)





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(i) Using the boxes below, match the numbers to the correct features.

Plunge pool		Pothole	
Rapids		Interlocking spurs	

(2)

(ii) Explain how the large boulders of rock shown in the field sketch could be transported by the river.

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(3)

(iii) Describe the **erosive** processes which contribute to the formation of waterfalls.

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(3)







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

3. (a) Study Figure 3 on page 4 in the Resource Booklet. It shows a satellite image of the Danube Delta.

(i) Identify the physical features at X, Y and Z.

X .....

Y .....

Z .....

(3)

(ii) Explain how features X and Y have been formed.

X .....

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.....

Y .....

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(6)



(ii) W shows where the river has been **channelised**. Suggest possible reasons for this.

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(3)

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(b) (i) Use Figure 3 in the Resource Booklet to describe **two** general characteristics of the delta.

1. ....

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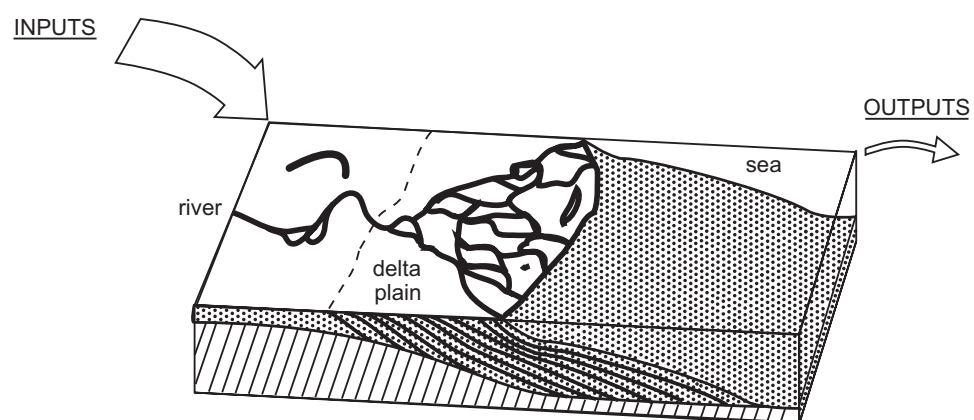
2. ....

.....

(2)

(ii) Deltas are said to form when there is a **positive sediment budget**. Annotate the diagram below to explain how a positive sediment budget may occur.

(6)









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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 a barrier island in its natural state.

(i) State **two** factors which encourage the formation of sand dunes.

1. ....

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2. ....

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(2)

(ii) Suggest reasons why there is only limited colonisation of the sand dunes by vegetation.

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(5)



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(iii) Study Figure 4(b) on page 5 in the Resource Booklet. It shows a barrier island after development. Suggest why environmentalists might be concerned about the impact of development.

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(4)



(b) Study Figure 4(c) on page 5 in the Resource Booklet. It shows three options for the coastal management of barrier islands to cope with the threat from rising sea levels.

(i) Suggest reasons why both options A and B led to a huge amount of local opposition.

A .....

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.....

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B .....

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(4)

(ii) Suggest arguments for and against option C.

For .....

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.....

.....

Against .....

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(4)

(iii) Suggest **one** other alternative option which might be a short-term solution.

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(1)







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

**5.** (a) Study Figure 5 on page 6 in the Resource Booklet. It is a photograph of Old Harry Rocks near Swanage in Dorset.

(i) Identify the physical features labelled A, B and C.

A .....

B .....

C .....

**(3)**

(ii) Explain how both rock type and structure have contributed to the formation of features A and B. Space is provided should you wish to draw a diagram.

Rock type .....

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Structure .....

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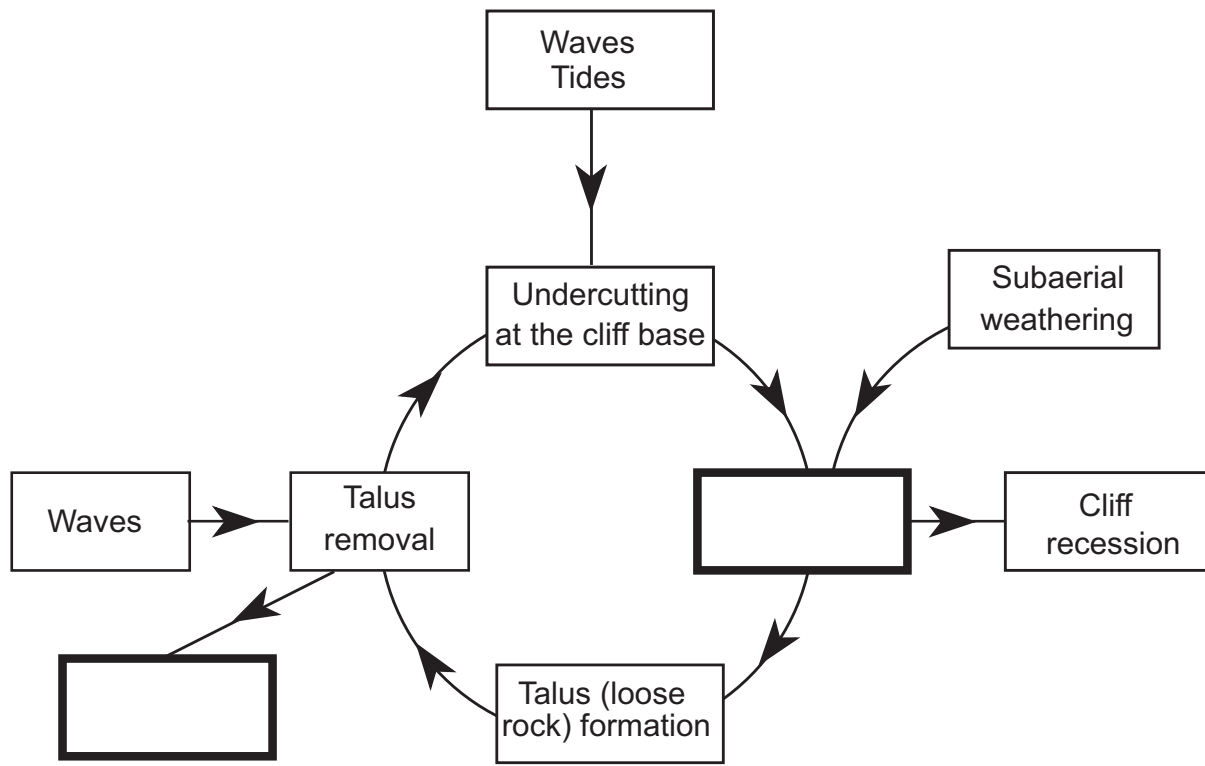
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**(4)**



(b) The diagram below shows the cycle of cliff erosion.



(i) Fill in the missing words in the empty boxes to complete the diagram. (2)

(ii) Outline the main processes involved in undercutting at the cliff base. (3)

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(iii) Explain, with examples, what is meant by **subaerial weathering**.

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(3)

(iv) Explain how a severe storm can lead to dramatic changes along a coast.

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(5)







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(10)

(Total 30 marks)

Q5

**TOTAL FOR PAPER: 90 MARKS**

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M 2 3 4 4 7 B 0 2 7 2 8

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