



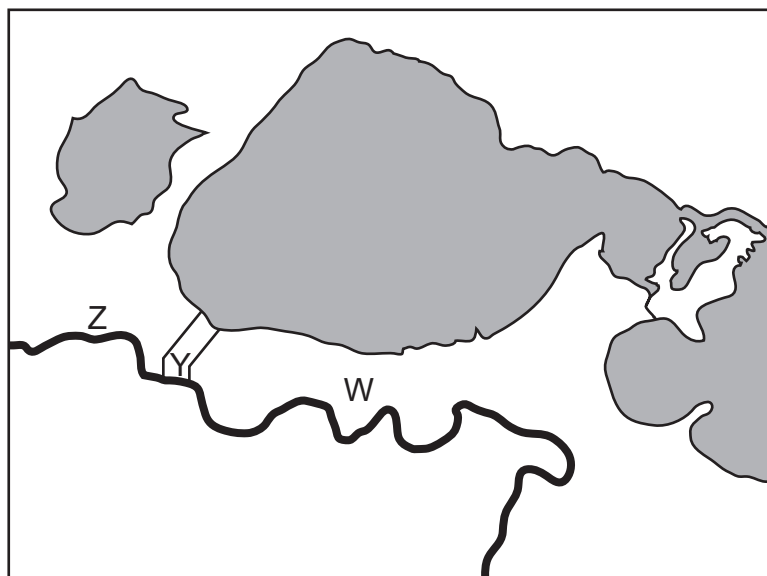
Answer ALL the questions. Write your answers in the spaces provided.

1. (a) Look at Photograph B in the Resource Booklet.  
It is a satellite image of the New Orleans area in 2004.  
Put a cross in the box next to the correct statements.

- (i) New Orleans is located **south** of Lake Pontchartrain.  (1)  
New Orleans is located **north** of Lake Pontchartrain.

- (ii) The city is next to the **straight** channel of the Mississippi River.   
The city is next to the **meandering** channel of the Mississippi River.  (1)

(b) Look at Photograph B again. Also look at the outline map of the same area below.



- (i) What type of land is found at **W**? Put a cross in the correct box.  
woodland  farmland  urban land  marshland  (1)

- (ii) In which direction does the Mississippi River flow at point **Z**?  
Put a cross in the correct box.  
west to east  east to west  (1)



Leave blank

(iii) Feature **Y** is a **floodway**.  
Explain the purpose of **this** floodway. Use evidence from the photograph.

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

(1)

Q1

(Total 5 marks)

2. (a) Look at Figure 1 in the Resource Booklet. It gives information about the Mississippi River.

(i) Name the sea that the Mississippi River flows into.

.....

(1)

(ii) Name one **tributary** of the Mississippi. Use evidence from the **map**.

.....

(1)

(b) The terms **sediment** and **discharge** of a river have different meanings.  
Look at the meanings **A**, **B** and **C** in the table below.

<b>A</b>	The speed of a river
<b>B</b>	The amount of water flowing in a river
<b>C</b>	The mud and sand transported by a river

Put a cross in the correct box for each sentence below.

The meaning of river **sediment** is      A     B     C

The meaning of river **discharge** is      A     B     C

(2)

(c) The Mississippi River causes pollution of the sea.  
Explain how.

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

(2)

Q2

(Total 6 marks)



Leave blank

3. Look at Figure 3 in the Resource Booklet.  
It gives information about river management in the Mississippi drainage basin.

(a) (i) The Mississippi River is dredged.  
Explain what **dredged** means.

.....  
.....

(1)

(ii) The table below lists some techniques used to control river floods.  
Put a cross in the **correct** boxes to show whether they are **hard** or **soft** engineering techniques.

	Hard	Soft
Build levees	<input type="checkbox"/>	<input type="checkbox"/>
Replant forests on slopes	<input type="checkbox"/>	<input type="checkbox"/>
Straighten river channels	<input type="checkbox"/>	<input type="checkbox"/>
Build dams	<input type="checkbox"/>	<input type="checkbox"/>

(2)

(iii) Building levees can help to control river floods.  
Explain how.

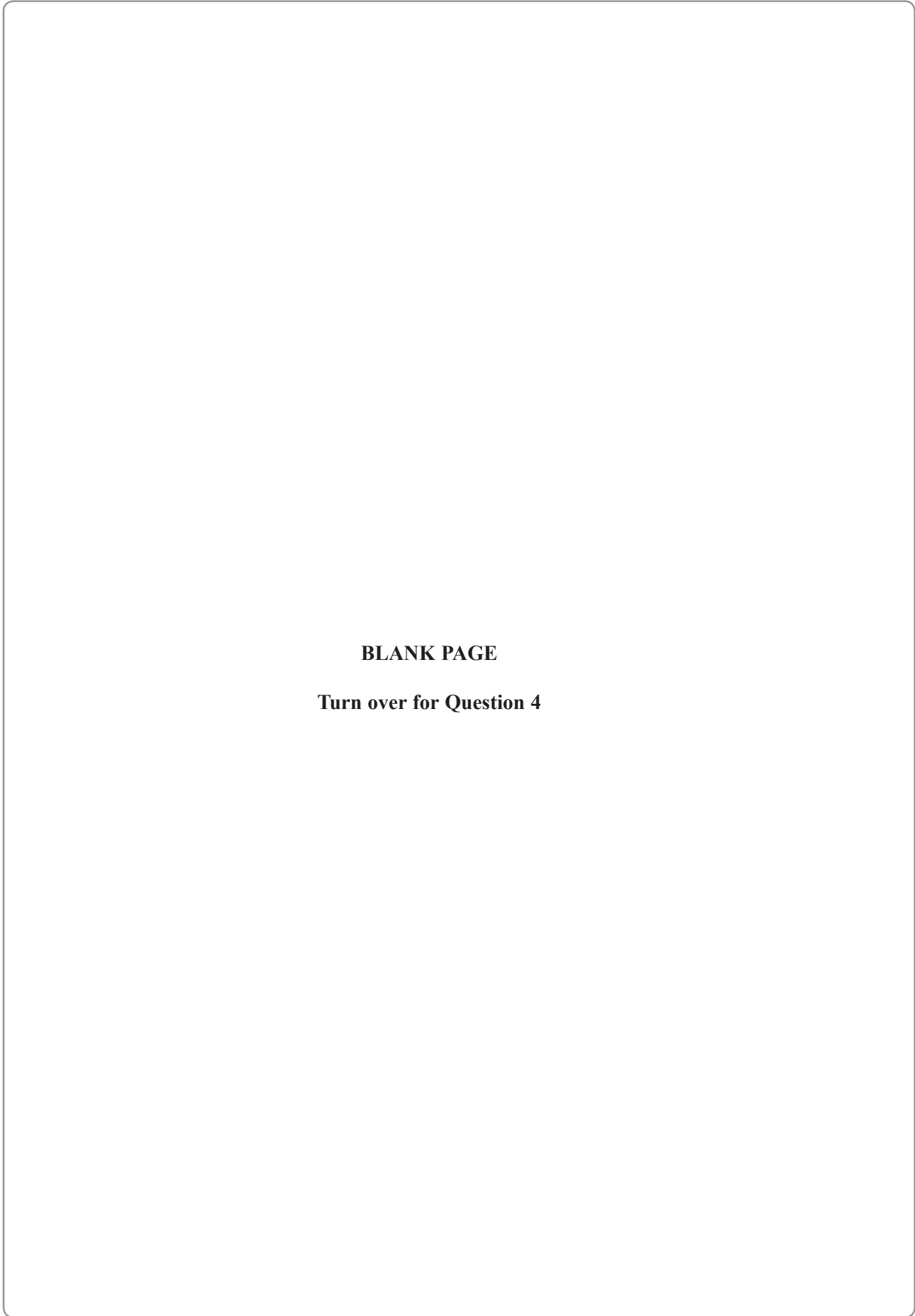
.....  
.....  
.....  
.....  
.....

(2)

Q3

(Total 5 marks)





**BLANK PAGE**

**Turn over for Question 4**



M 3 1 2 2 2 A 0 5 1 6



4. Look at Figure 4 in the Resource Booklet.  
It gives information about the Mississippi River Delta.

(a) (i) Describe **two** types of wetland found in the Mississippi River Delta.

1 .....

.....

2 .....

.....

**(2)**

(ii) Coastal wetlands are a natural defence against hurricanes.  
Explain how.

.....

.....

.....

**(1)**

(b) (i) What does **marine erosion** mean?

.....

.....

.....

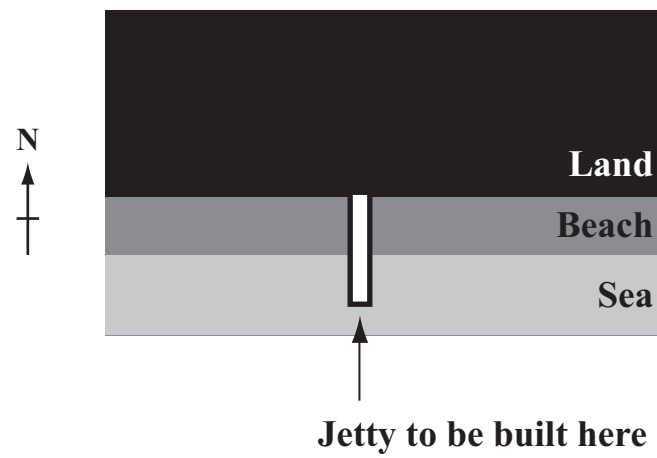
.....

**(2)**



Leave blank

(ii) Stone jetties block longshore drift and this can increase erosion.  
Look at the sketch map below.



Put a cross in the correct boxes in the sentences below.

The direction of longshore drift is from east to west.

When a jetty is built, the beach on the west side of it will lose  sand.  
gain

The land behind this western section of beach will now be more  protected.  
less

(2)

Q4

(Total 7 marks)

7

Turn over



Leave  
blank

5. Look at Figure 5 in the Resource Booklet. It gives information about New Orleans.

- (a) (i) French people built the first settlement.  
What feature did they build it on?

.....  
(1)

- (ii) Give one **advantage** of that site for a settlement.

.....  
.....  
(1)

- (b) Look at the relief cross-section in Figure 5.  
What is the height above sea level of levee **B**?

.....  
(1)

- (c) New Orleans' levees and floodwalls were designed to protect it against Category 3 hurricanes.  
What is meant by a **Category 3** hurricane?  
**Use data** from **Figure 6** in your answer.

.....  
.....  
.....  
.....  
(2)

(Total 5 marks)

Q5





<p>6. Look at Photograph D in the Resource Booklet. It is a satellite image showing Hurricane Katrina and sea surface temperatures on 27 August 2005.</p> <p>Describe the <b>appearance</b> of Hurricane Katrina. Use evidence from Photograph D only.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><b>(Total 3 marks)</b></p>	<p>Leave blank</p> <p><b>Q6</b></p> <input type="text"/>
<p>7. Look at Figure 6 in the Resource Booklet. It shows the track of Katrina from 23 to 30 August 2005.</p> <p>(a) Describe the main <b>changes</b> in Katrina's <b>location</b> during that period.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><b>(4)</b></p> <p>(b) Look at the key to Figure 6. What is meant by a storm surge?</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><b>(1)</b></p> <p style="text-align: right;"><b>(Total 5 marks)</b></p>	<p><b>Q7</b></p> <input type="text"/>



Leave blank

8. Look at Figure 7 in the Resource Booklet.  
It gives information about Katrina hitting New Orleans.

(a) When Hurricane Katrina was coming:

- some people did not want to leave the city – they chose to stay
- other people could not leave – they stayed because they had to.

Choose **one** of these groups. Put a cross next to your choice.

People who did not want to leave       People who could not leave

Suggest **two** reasons why this group of people did not leave.

1 .....

.....

2 .....

.....

(2)

(b) Look at the statements below about the flooding in New Orleans.  
Put a cross in the boxes for the **correct** statements in the table below.

Rain from Katrina was the main cause of flooding	<input type="checkbox"/>
Storm surges entered the city	<input type="checkbox"/>
The Mississippi River overflowed its banks	<input type="checkbox"/>
Some levees gave way and increased the flooding	<input type="checkbox"/>
85% of the city was flooded	<input type="checkbox"/>
All the land that flooded was below sea level	<input type="checkbox"/>
The worst floods were in parts of the city south of the river	<input type="checkbox"/>
Poorly designed floodwalls made the flooding worse	<input type="checkbox"/>

(3)

Q8

(Total 5 marks)



Leave  
blank

9. Look at Figure 8 in the Resource Booklet.  
It gives information about the effects of Katrina on New Orleans.

(a) (i) A road bridge over Lake Pontchartrain collapsed.  
What caused the bridge to collapse?

.....  
.....  
(1)

(ii) The Superdome is 80 metres high. Its roof was badly damaged.  
What caused this damage?

.....  
.....  
(1)

(iii) Many people **drowned** in the flood.  
The flooding also caused **other** risks to people's health.  
**Explain** two of the other risks. Use evidence from Figure 8.

1 .....  
.....  
2 .....  
.....  
(2)

(Total 4 marks)

Q9



<p><b>10.</b> Look at Photograph E in the Resource Booklet. It shows the 17th Street Canal in September 2005.</p> <p>(a) A type of flood defence is shown in the photograph. What is the name of that type of flood defence?</p> <p>.....</p> <p style="text-align: right;"><b>(1)</b></p> <p>(b) Explain what the helicopter crew are trying to do in the photograph.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><b>(2)</b></p> <p style="text-align: right;"><b>(Total 3 marks)</b></p>	<p>Leave blank</p> <p><b>Q10</b></p> <input type="text"/>
--	---



11. There were four options for New Orleans after Hurricane Katrina:

- Option A – Rebuild the city and give Category 5 protection.**
- Option B – Rebuild the city and give Category 3 protection.**
- Option C – Partly rebuild the city and give Category 4 protection.**
- Option D – Partly rebuild the city and give Category 3 protection.  
Also build a new port by the Atchafalaya.**

Look at Figure 12 in the Resource Booklet. It gives more details about these options.

(a) Which **one** of the four options (**A, B, C** or **D**) do you think would be best?

Chosen option .....

Explain why you have chosen this option.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....







