3.6 UK Physical Landscapes: River Landscapes: Test Pack

Total Marks

AQA 8035 · Calculators not allowed · about 20 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Describe TWO features commonly found in a river estuary.

(Total for Question 1 is 4 marks)

2 Describe a named UK flood management scheme you have studied, and evaluate how effective it has been. (For example, you could refer to the Banbury Flood Storage Reservoir on the River Cherwell, Oxfordshire, which opened in 2012.)

(Total for Question 2 is 6 marks)

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3 This question is about how a river changes along its course, from source to mouth.

(a) Describe how the gradient of a river's long profile typically changes from source to mouth. **(2)**

(b) Describe how the width and depth of a river's channel typically change from source to mouth. **(2)**

(c) Explain why the velocity (speed) of a river generally increases downstream, despite the gradient becoming gentler. **(3)**

(Total for Question 3 is 7 marks)

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Mark scheme · 3.6 UK Physical Landscapes: River Landscapes: Test Pack

Question 1

feature 1 named, e.g. mudflats, oe **B1**

linked detail, e.g. formed where fine sediment carried by the river settles out as the current slows where it meets the sea, oe **B1**

feature 2 named, e.g. salt marsh, oe **B1**

linked detail, e.g. vegetation that can tolerate salt water colonises the mudflats, stabilising them further, oe **B1**

Answer: For example: mudflats, formed as fine sediment settles where the river's current slows on meeting the sea; and salt marsh, where salt-tolerant vegetation colonises and stabilises the mudflats.

Question 2

names a valid UK flood management scheme, e.g. the Banbury Flood Storage Reservoir, on the River Cherwell, Oxfordshire **B1**

describes the scheme, e.g. it is a flood storage reservoir/dam that holds back river water upstream of the town of Banbury during periods of high flow, oe **B1**

further descriptive detail, e.g. it was built after Banbury suffered serious flooding in 1998, and opened in 2012, oe **B1**

evaluates a strength, e.g. it has protected the town centre and thousands of homes and businesses from flooding since it opened, oe **B1**

evaluates a limitation, e.g. large hard engineering schemes like this are expensive to build, and cannot remove flood risk completely in a very extreme event, oe **B1**

reaches an overall judgement, e.g. supported by evidence, on how effective the scheme has been, oe **B1**

Answer: For example, the Banbury Flood Storage Reservoir (River Cherwell, Oxfordshire, opened 2012) holds back flood water upstream of the town; it has successfully protected homes and businesses from flooding since opening, though such large hard engineering schemes are costly and cannot guarantee protection in an extreme, rare flood event.

Question 3

(a) the gradient is steep in the upper course, near the source, oe **B1**

(a) the gradient becomes gentler through the middle and lower course, becoming almost flat near the mouth, oe **B1**

(a) Answer: The gradient is steep near the source and becomes gradually gentler downstream, almost flat near the mouth.

(b) the channel is narrow and shallow in the upper course, oe **B1**

(b) the channel becomes wider and deeper through the middle and lower course, oe **B1**

(b) Answer: The channel is narrow and shallow near the source, and becomes wider and deeper downstream.

(c) the channel becomes wider and deeper downstream, oe **B1**

(c) this increases the hydraulic radius, so a smaller proportion of the water touches the bed and banks, oe **B1**

(c) this reduces friction, allowing the water to flow faster overall, despite the gentler gradient, oe **B1**

(c) Answer: A wider, deeper channel downstream means less water (proportionally) is in contact with the bed and banks, reducing friction, so the river flows faster overall despite the gentler gradient.

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