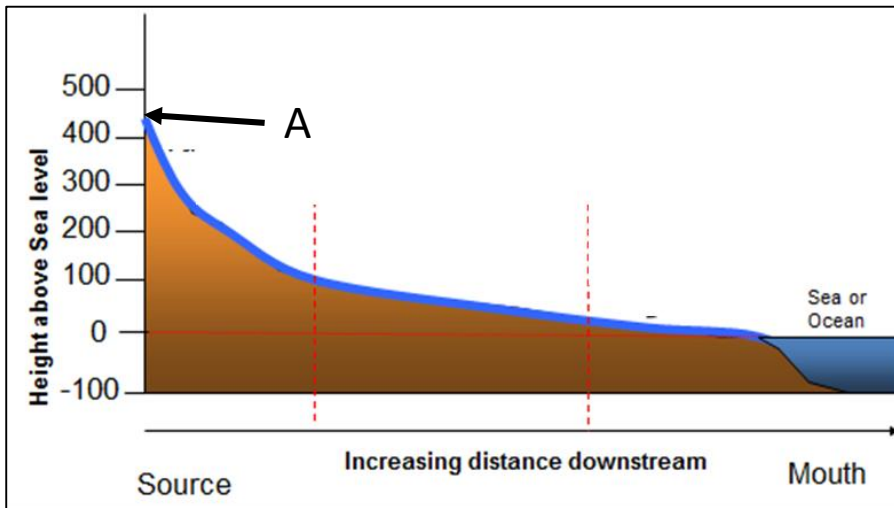


Rivers

1. Study Figure 1 showing the long profile of a river

Figure 1



Which part of the river is labelled in Figure 1?

(1 mark)

- a) Mouth
- b) Source
- c) Lower course
- d) channel

2. Complete the sentences to describe how a river's long and cross profile change over it's course.

Rivers begin in _____ areas and flow downhill. Near the source, the cross profile shows that the valleys are _____ shaped, with _____ slopes. The gradient gets lower until it reaches the lower course where the valley is _____ and flat.

(4 marks)

3. For each of the landforms named below, write next to it whether the landform can be found in the;

(6 marks)

Upper course, middle course or lower course;

- a) Interlocking spur _____
- b) Meanders _____
- c) Waterfall _____
- d) Floodplain _____
- e) River cliff _____
- f) Slip off slope _____

4. Study Figure 2, showing interlocking spurs.

Figure 2



Explain how interlocking spurs are formed.

(4 marks)

5. Outline why rivers deposit sediment

(2 marks)

10. Explain the formation of a levee in the lower course of a river. You may draw a diagram to help you. (4 marks)

11. Outline what an estuary is. (2 marks)

12. Describe the key physical features of an estuary (2 marks)

13. Describe the human features that may be found around an estuary (2 marks)

14. Study Figure 4 which shows two OS map extracts.

Figure 4a

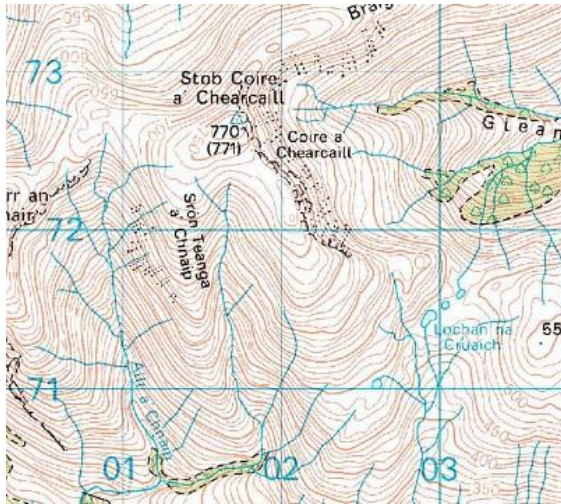
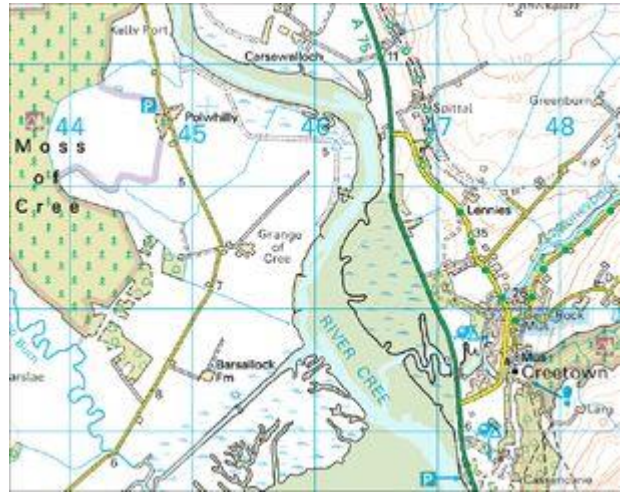


Figure 4b



Using Figure 4, identify which shows the upper course of a river and which shows an estuary.

(2 marks)

Figure 4a) _____

Figure 4b) _____

15. Describe how the sediment in the river channel would be different in Figure 4a and Figure 4b

(2 marks)

16. For a named river valley you have studied, identify the location of the following;

a) Its source _____

b) It's mouth _____

c) A waterfall _____

d) A Meander _____

(4 marks)

27. How can the following factors contribute to flooding;

(6 marks)

a) Geology

b) Relief

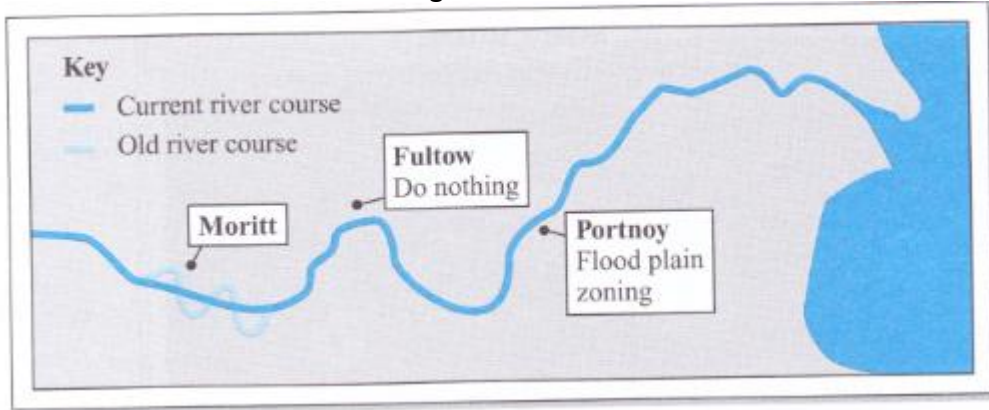
c) Land use

28. Which **two** of the following are hard engineering strategies to manage flooding? (2 marks)

- a) Flood relief channel
- b) River restoration
- c) Flood plain zoning
- d) River channel straightening

29. Study Figure 5 showing engineering strategies on the River Joiner

Figure 5



30. Identify the hard engineering strategy that has been used to protect Moritt from river flooding in Figure 5. (1 mark)

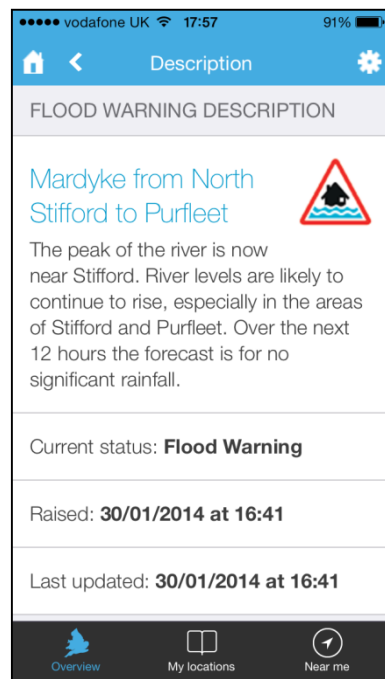
31. Explain how this strategy works to reduce flooding. (4 marks)

32. Describe the strategy of Flood Plain Zoning that is being used at Portnoy in Figure 5. (2 marks)

33. With reference to Figure 5 and your own knowledge, assess the effectiveness of strategies used in Figure 5 to manage river flooding. (6 marks)

36. Study Figure 6 which shows a flood warning.

Figure 6



Outline **two** advantages of the flood warning strategy shown in Figure 6 (2 marks)

Advantage 1

Advantage 2 (2 marks)

37. Explain how the strategy shown in Figure 6 helps to reduce the impacts of flooding. (4 marks)
