Issue Evaluation 2018: New reservoir for Oxfordshire

*This information should be read alongside the Issue Evaluation Advice booklet, which gives examples of the style of questions and suggestions about what the examiners are looking for in brilliant answers. Some of these questions below will also develop the skills that are required for other sections of the exams.*

Figure 1

1. Describe the distribution of rainfall in Figure 1. (4)
2. The type of mapping technique showing the rainfall in the UK is called a choropleth map, where shading is used to represent different values. Evaluate the appropriateness of choropleth maps to show information about rainfall. (4)
3. Explain why people actually consume 3400 litres of water per day, rather than the lower figure of 150 litres. (2)
4. Define water stress. (1)
5. Identify two impacts of water stress. (2)
6. Describe the distribution of water stress in England. (3)
7. Suggest reasons for the pattern of water stress in England. (6) *Hint:*  Use the rainfall map and the terms demand, supply, water surplus, water deficit, population density and evaporation.
8. State the name of the main organisation that monitors water supply issues in England. (1)
9. Water demand in the south-east of England is expected to increase from 4900 million litres / day in 2005 to 5600 million litres / day in 2030. Calculate the percentage increase in water demand. (2)
10. Suggest reasons why the total demand for water supply in the south-east of England is expected to change by 2030. (4) Or discuss the importance of long term planning for water supply in the UK. (6)
11. Study the two maps on p2 and the map on p3. Outline the connections between the maps. (3)
12. To what extent are water transfer schemes needed to meet the growing water demand in the UK. (9)

Figure 2

1. Define the term reservoir. (1)
2. Define the term agricultural. (1)
3. The area of the proposed reservoir near Abingdon is described as “a low-lying clay vale”. How might that affect the development of the reservoir? (2)
4. What direction is Abingdon from the proposed reservoir? (1)
5. What direction is Abingdon from the village of Marcham? (1)
6. What is the straight line distance from Abingdon to Marcham? (1)
7. Describe the location of Abingdon. (3)
8. Figure 2 states that “The Thames Basin is the largest basin in the south of England.” What is the meaning of the term basin? (2)
9. What is the average annual rainfall for the Thames Basin and compare this to the UK average? (2)
10. Figure 2 states that “Of the rain that falls, two thirds is lost to evaporation and transpiration”. Explain how water is lost through evaporation and transpiration. (4)
11. Define the term water abstraction. (1)
12. If two thirds of water is lost to evaporation and transpiration, and 55% of the remainder is abstracted for use. Calculate the percentage of the total rainfall that is abstracted. (2)
13. Discuss the reasons why there is increasing water stress in the Thames Water region. (6) *Hint:* Use the information at the top of p4 and p5. Make sure you include an explanation of how climate change might affect water stress.
14. Identify three ways in which water efficiency and conservation can reduce water stress. (3)
15. Study the OS map. Which direction is the railway line from the proposed reservoir? (1)
16. What is the approximate distance from north to south of the proposed reservoir? (1)
17. List the human features that are in 4492. (2)
18. What is the approximate area of the proposed reservoir? (1)
19. Give the four figure grid reference of the deciduous woodland which forms part of Goose Willow Estate. (1)
20. Give the six figure grid reference of the building in Drayton Copse. (1)
21. Describe the relief of the area shown on the OS map. (4)

Figure 3

1. Give two reasons to justify the view of Thames Water that the Abingdon Reservoir is needed to be built. (2)
2. Outline Thames Water’s opinion about the effectiveness of water conservation in solving water stress. (2)
3. Define the term seasonal precipitation. (1)
4. Identify one method of representing the data showing in the table in Figure 3 about Total household water use. Justify your choice. (4)
5. Draw out your choice of showing the data from question 35. (4) *You may have to complete a graph in the exam.*
6. Describe the changes in Total household water use between 2011 and 2039. (4)
7. Using the graph in Figure 3, what is the range of demand for water? (2)
8. Describe how maximum temperatures changed between October 2011 and January 2012. (4)
9. Using the graph in Figure 3, discuss and suggest reasons for the seasonal variations of water stress. (6)
10. Farmoor reservoir is 7km west of Oxford and was built in 1967. Discuss how Farmoor reservoir has reduced some of the negative impacts of building a reservoir and has created opportunities for the local area. (6)
11. Suggest why the Group Against Reservoir Development (GARD) are against the proposed reservoir. (6)
12. Rank your reasons why GARD are against the development according to how significant they are. Rank 1 is the most significant reason. Justify your choice. (6)
13. Summarise the views of other people and organisations from Figure 3 towards the proposed reservoir. (6) (Comment upon the views that residents of different settlements may have towards the reservoir.)
14. Do you think that the proposed Abingdon reservoir should go ahead? (9 + 3 SPaG)

*Planning this out as a table or mind map may help you.*

*Give a range of evidence to support your points and state where you got the information from e.g. Destroys natural habitats, (GARD, Fig 3)*

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| --- | --- | --- | --- | --- | --- |
|  | Description (what, where, refer to transfer schemes) | How it may reduce water stress & list groups of people in favour. Categorise points as social, economic & env. Short / long term. | Limitations &list groups of people against. Categorise points as social, economic & env. Short / long term. | How the limitations may be overcome | Alternative strategies e.g. water conservation. Who’s in favour & why? Limitations. |
| Abingdon reservoir |  |  |  |  |  |
| Decision: Yes / No | Summary of the main reasons: |

Extra: 1. Design an environmental quality survey that could be used to assess the environment of a rural area (similar to the format of the survey you did for the urban fieldwork) e.g. -2 to +2. Factors may include noise pollution, range of vegetation, range of animals / birds/ insects, aesthetic quality, flood risk, traffic flows, leisure opportunities ……Find the proposed reservoir site on Google maps to complete a survey for the area now and then repeat the survey for what you think it may be like if the reservoir was built (base your ideas on Farmoor reservoir). Work out the total EQS scores and note them down to refer to as evidence in your answers.

1. Carry out some research, but don’t overdo it! E.g

<http://www.abingdonreservoir.org.uk/>

<http://www.abingdonreservoir.org.uk/latestnews.html>

<http://www.oxfordmail.co.uk/news/15330037.Plans_to_build_reservoir_the_size_of_Heathrow_back_on_the_table/>

<http://www.cpreoxon.org.uk/news/current-news/item/2666-abingdon-reservoir-back-on-the-cards>

<https://www.thameswater.co.uk/-/media/Site-Content/Thames-Water/Corporate/AboutUs/Our-strategies-and-plans/Water-resources/Document-library/Past-meetings/29-January-2018/Thames-Water-comments-on-GARDs-presentation-on-resilience.pdf>

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