

**Wednesday 12 June 2013 – Morning**

**A2 GCE CRITICAL THINKING**

**F503/01/RB** Ethical Reasoning and Decision-Making

**RESOURCE BOOKLET**

**To be issued with the Question Paper**

**Duration:** 1 hour 30 minutes



**INSTRUCTIONS TO CANDIDATES**

- Use the resource documents to answer the questions in the Question Paper.

**INFORMATION FOR CANDIDATES**

- The information contained in this Resource Booklet was accurate when it went to press, but may subsequently have changed. Questions should be answered on the basis that the information is correct.
- This document consists of **8** pages. Any blank pages are indicated.

**INSTRUCTION TO EXAMS OFFICER/INVIGILATOR**

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## Document 1

### Saving Water

You may wonder why saving water is important as it appears to rain all the time in the UK. Wet summers and even wetter winters seem to keep the garden nice and green and our rivers flowing. Despite having a seemingly wet climate, some parts of the UK are experiencing water shortages. The South East of England has less water available per person than Sudan and Syria. **1**

It is not feasible for us to give our water to parts of the world where they are suffering serious droughts, so surely it should be OK for us to use all our water? Yes, Waterwise doesn't want people to stop using water, we want people to stop wasting water. **The key to water efficiency is reducing waste, not restricting use.** About one third of the water each person uses on a daily basis is wasted – it runs straight down the plughole or down the toilet without being used. It is this wastage we want to cut down. **2**

*Source: Waterwise  
Waterwise is a non-governmental organisation*

## Document 2

### Water Resources

There are significant pressures on water resources which affect both the water environment and water supplies. Pressures are greatest in South East and Eastern England because they are the driest parts of England and Wales, and have the highest population density and household water use. Over the next 30 years, there will be increasing pressures from the rising population and associated development. Looking further ahead, the impact of climate change could have a major impact on the water that will be available for all uses.

1

There is usually sufficient water to meet the needs of people and wildlife apart from during prolonged periods of dry weather. It is crucial to manage water resources carefully during these dry periods. We plan to make sure that there is enough water for people and the environment during droughts and that appropriate action is taken when there isn't enough to go around.

2

Over the past decade, there has been little change in the average amount of water each person uses at home in England and Wales. In 2007/08, average household water use over England and Wales was 148 litres per person per day. In homes where the supply is unmetered\*, people used slightly more at 153 litres per person per day. In metered properties, people used, on average, 13% less than in unmetered homes.

3

Leakage from the supply pipes is now about the same as it was eight years ago, at almost a quarter of the water supplied in England and Wales. The majority of water companies are now at what they calculate to be their Economic Level of Leakage (ELL). This is the level at which the cost of further reducing leakage exceeds the cost of producing water from another source. Most water companies are planning to maintain leakage at their economic levels for the foreseeable future.

4

*Source: The Environment Agency  
The Environment Agency is a government agency*

\* Some households pay a fixed amount for their water, irrespective of how much they use. Other households have a meter installed to measure the amount of water they use and they pay for their actual usage.

## Document 3

### Water Saving Tips

- **Turn your taps off properly** and change washers promptly when taps start dripping. A dripping tap can waste over 5500 litres of water a year. 1
- **Take a shower instead of a bath.** If everybody in a four person family replaces one bath a week with a five minute shower they can save up to £10 a year on energy bills and up to £25 on water bills if they have a water meter. 2
- **Turn the tap off when you brush your teeth.** If everyone did this, we would save **446 million litres** of water – enough water to supply 2.9 million people for one day – that's the entire population of Leeds, Birmingham, Glasgow and Sheffield (the UK's 2nd, 3rd, 4th and 5th largest cities) for one whole day. 3
- **Install a cistern displacement device in your toilet.** These are free of charge from your water company and displace water in your cistern so that the volume of water in your flush is reduced by between 1–3 litres. 4
- **Don't use your toilet as a dustbin.** Put your face wipes and cotton wool balls in your dustbin rather than down the toilet. If everyone did this, we could save **27 million litres** of water a week – that's enough to supply the population of York or Portsmouth for one day. 5
- **Fill your dishwashers and washing machines** before putting them on and always use the most efficient water and energy settings. 6
- **Avoid wasting water from running taps** whilst waiting for hot water. 7

*Sources: Waterwise and the Energy Saving Trust  
Waterwise and the Energy Saving Trust are non-governmental organisations*

## Document 4

### Ways to Save Water at Home

'Grey water' is water that was previously supplied as 'wholesome water' but has been used in washbasins, baths and showers. Using grey water reduces the costs of water supply and disposal. **1**

Some people put a bucket in their shower to catch water that would otherwise just go down the drain. Some very conscientious individuals go so far as to use the water from their washing machines for this purpose. Grey water from household usage can be used to water plants. It's just important to note that grey water should not be used on edible plants and should be used within 24 hours. **2**

All of us need to be serious about saving water for the sake of the environment – not only in the future but right now! The situation is already urgent and the expression "The future is now" is more appropriate than many people realise. Water is becoming an increasingly scarce commodity and without it we are in deep trouble. Water is life! **3**

*Ruth Woodhouse*

*This article was published in Helium, which is an open publishing website. Ruth Woodhouse is an Australian freelance author, who has contributed articles to Helium on a wide range of subjects.*

**TURN OVER FOR DOCUMENT 5**

## Document 5

### Low Energy House – Grey Water Systems

In order to collect and distribute grey water efficiently, a separate internal waste water drainage system should be fitted. The water is stored in a tank from where a distribution system takes it, by a pump or gravity, to the toilets and/or garden tap. A mains fed back-up system will be necessary for times when supply of grey water does not meet demand. Equally, an overflow system connected to the sewer will be required when grey water exceeds demand.

1

Grey water systems have the potential to save a third of domestic mains water usage. Installing a grey water system for use in an individual property can be expensive. A typical off-the-shelf grey water system for a single house may cost more than £3000. This system will also incur running and installation costs. Grey water systems that are installed in new buildings are usually more cost effective than those fitted into existing properties.

2

*Source: Low Energy House website*

*The Low Energy House website provides information to enable the building industry to deliver comfortable, energy efficient and affordable homes that will help the environment. The website also creates an opportunity for manufacturers and suppliers of house building components to publicise energy saving products and renewable energy technologies.*



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