

# OCR

Oxford Cambridge and RSA

**Thursday 18 May 2017 – Afternoon**

**AS GCE CRITICAL THINKING**

**F501/01/RB** Introduction to Critical Thinking

**RESOURCE BOOKLET**

**Duration:** 1 hour 30 minutes

**To be issued with the Question Paper**



## INSTRUCTIONS TO CANDIDATES

- Read all the documents before starting to answer the questions.

## 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 **4** pages. Any blank pages are indicated.

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## Document 1

### Wearable Computers

*Wearables* is the new buzzword. The question is, will these devices free us from the 'black mirror' of our smartphone screen, that seems to obsess us to the exclusion of all else when walking down streets, waiting for transport or even hanging out with friends?



*Wearables* is a broad term. Technically, a fancy electronic watch is a *wearable* computer, as in the Apple smartwatch, a wristwatch that allows you to quickly place a call or send a message; or the Nike+, a sportwatch that measures how far you have run and at what speed. But perhaps the ultimate version of this technology is the curved-glass screen of the Samsung Gear smartwatch that wraps around the wrist. Using voice dictation it sends and receives messages and connects directly to social networks using the internet.

You can now even wear a touchscreen on your T-shirt. Exeter University researchers have developed 'GraphExeter', a transparent, lightweight and flexible material invented for conducting electricity. **GraphExeter lead researcher** says, "Our material could revolutionise the electronics industry, since it could be used for a number of applications. These could range from solar panels to 'smart' T-shirts."

One of the first *wearables* to make calls, the Filip, was aimed at children. It is a colourful plastic band embedded with a tiny SIM card. As it has the facility to call up to five stored numbers, it enables children to make quick and easy contact. Essentially a tracking device, it was created by a Norwegian after his young son was lost for 30 heart-stopping minutes in a shopping centre.

Of course the smartphone (a mobile phone that has access to the internet and social media) is really the first *wearable* computer. A 2011 survey found that, "A quarter of Britons are never more than a metre away from their smartphone, which is often only centimetres from their bed during the night." The concern is now that if we are already distracted by our smartphones, this will become even worse with *wearables*. As a result, we will simply swap the 'black mirror' of our smartphone for an even smaller one, which we wear on our wrist!

As with the smartphone, *wearable* devices come with a risk of making confidential data available to hackers. Despite this, they may help to improve security, since they can be used as another form of identification, demonstrating that you are who you say you are. *Wearables* can also be very convenient, allowing us to make payments by swiping our smartwatch with the 'flick of the wrist', rather than having to take out cash or credit cards. Consequently, the overall effect of *wearables* might be to actually make our lives easier.

## Document 2

### An aid to modern living?

- An **employee for Fitbit** health-tracking bracelets says, "Since early 2010 Fitbit has sold software to thousands of companies that want to monitor employees as part of preventative health programmes, and more employees sign up to these preventative health programmes when Fitbit is involved. So, I expect to eventually see insurers work directly with individuals who use the Fitbit to adjust the cost of their personal health insurance payments."

- A **smartphone research analyst** believes, “There’s definitely scope for *wearables* as you can immediately see what you need on your wrist: a tweet, a Facebook notification or a traffic update. So, for instance, you don’t have to take a device out of your pocket to check on the traffic conditions whilst driving, which makes it safer. I do think though that society isn’t ready for another smart device with the always-connectedness that this technology implies.”
- A **security strategist at Symantec** (a leading American technology company) claims, “One of the most apparently innocent forms of *wearable* technology, smart fitness bands, will provide an even richer source of data for cybercriminals to exploit.” For example, data extracted from a smartwatch that shows a person has chronic high blood pressure could be used to prove a person is unfit for work. A cybercriminal could use this information to blackmail that person.
- A **contributor to a road safety forum** argues, “When mobile phones were first introduced drivers didn’t realise the dangers of using these whilst driving until the law made this practise illegal, drivers today will only realise the dangers of using smartwatches whilst driving once the law has caught up with this new technology. Until then smartwatches will cause more accidents. So, only when the law changes will *wearables* become safe.”

## Document 3

### Students and smartphones

At Alabama State University we conducted an internet survey of 134 university students from MIS (Management Information Sciences) classes, to assess how students use smartphones. MIS students were asked if they agreed or disagreed with the following statements.

Survey statements	Percentage of students who agreed with the statements
• My phone gives me more freedom, because I can stay in touch.	95%
• I like that my phone makes it easy to change plans quickly.	76%
• I feel safer, because I can always use my phone to get help.	89%
• I like to use my phone to keep in touch, no matter where I am.	98%
• When I am bored, I use my phone to entertain myself.	73%
• It is a lot of trouble to keep my phone with me all the time.	11%
• I get irritated when a call or text on my phone interrupts me.	42%

The **Head of MIS Research** concluded, “Over 63% of these students had made or received calls in the classroom, while over 96% had received a text in the class. This generation of students is of the opinion that they can multi-task, so professors should not be offended by students using smartphones in the classroom.

Over 92% had an active Facebook account and 81% had an active account on Twitter. Google+ and YouTube were also popular. So, if educators are to be effective they need to know what their students are doing on these sites.”

*MIS staff research team, Alabama State University, USA.  
The research was published in the university’s ‘Journal of Academic Articles’.*

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