Diploma Programme
Programme du diplôme
Programa del Diploma

Information technology in a global society
Higher level and standard level
Paper 2 – article

Monday 13 May 2019 (morning)

1 hour 15 minutes

Instructions to candidates

- Do not open this booklet until instructed to do so.
- This booklet contains the article required for information technology in a global society higher level and standard level paper 2.

2219 – 5514

3 pages

Theme: Business and employment

IT system: Radio frequency identification (RFID) chip implants for employees

Employees working at the company headquarters of *Three Square Market* in Wisconsin, USA, do not have to carry their company identification (ID) cards any more. They can now have a radio frequency identification (RFID) chip containing their personal information implanted under their skin.

The RFID chip is placed inside an unbreakable glass capsule that is slightly smaller than a fingertip (**Figure 1**). The capsule is inserted under the skin between the thumb and forefinger of one hand. The procedure to insert the implant under the skin is quick and medically safe.

Figure 1: The RFID chip

[Source: Vetkit/iStock]

Employees at *Three Square Market* can use their implanted chips to unlock doors, log in to computers, use office equipment – such as photocopiers – and even pay for their lunch simply by waving their hand near an RFID scanner (**Figure 2**). Once the scanner has read the data from the chip, the IT system authenticates the employee and confirms that they are authorized to perform the requested action.

Figure 2: A typical RFID scanner connected to a door lock

[Source: © International Baccalaureate Organization 2019]

The technology itself is not new, but having RFID chips implanted in humans raises a number of social and ethical concerns.

15 “The [potential issues with this] kind of technology are enormous,” says Vincent Conitzer, professor of computer science at Duke University. As these chips can store a significant amount of personal data, experts such as Conitzer are concerned that people might be expected to have RFID implants for an increasing range of uses.