



**INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY  
STANDARD LEVEL  
PAPER 2**

Tuesday 24 May 2005 (morning)

2 hours

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**INSTRUCTIONS TO CANDIDATES**

- Do not open this examination paper until instructed to do so.
- Section A: answer all parts of the question.
- Section B: answer two questions.

## SECTION A

Answer **all** parts of the question.

### Area of Impact: Business and Employment

1. The Royal Bank of Canada provides both traditional banking and online banking services. It has many branches in Canada and has customers all over the world.
  - (a) Identify **two** online banking services, which the bank can provide for its customers. *[2 marks]*
  - (b) Outline **two** advantages for the customer of an online bank over a traditional bank. *[2 marks]*
  - (c) Banks store customers' personal data. The bank must have a policy covering the storage and use of this data. Describe **two** rules that must be included in this policy. *[4 marks]*
  - (d) Discuss **three** social and/or ethical concerns that customers should have about storage of their personal data. Evaluate your arguments. *[12 marks]*

Total: *[20 marks]*

## SECTION B

Answer **two** questions. Candidates should note they are unlikely to achieve high marks for part (c) or part (d) of each question if the answer is not developed and presented in a planned and structured way.

### Area of Impact: Education

2. Many schools are buying mobile computer labs to use in different classrooms. The mobile lab has a set of laptop computers, a printer and a server all in a mobile cart (see Figure 1). The server, connected to a network port in the classroom, allows the laptops to connect to the school network.



Source: IB Wireless Mobile Classroom  
<http://www.apple.com/uk/education/cart/uk>

- (a) A teacher of French has booked the mobile lab for a lesson. Describe **one** use that her class could make of the Internet during the lesson. [2 marks]
- (b) A science teacher has booked the mobile lab. Describe **one** use that his class could make of the equipment without network access. [2 marks]
- (c) Describe **two** problems that the school administration may face by introducing mobile computer labs.. [4 marks]
- (d) Many issues may arise from the use of mobile labs. Discuss **three** distinct issues that may affect the students' education. Evaluate your arguments. [12 marks]

Total: [20 marks]

**Area of Impact: Health**

3. “A large proportion of Australia’s remote population has limited or no access to psychiatric services as 92% of psychiatrists work in the big cities.” (Murray, 2003)  
To overcome this problem a high-speed, broadband service has been set up. Using videoconferencing, patients are able to have a consultation with a psychiatrist without leaving their home town.

Murray, Denise 2003, ‘Unbundling you burden over the wires’, in Australian IT, <http://australianIT.news.com.au/articles/0,7204,6569332%5e15841%5e%5enbv%5e,00.html> (12 Aug 2003)

- (a) Describe **one** type of broadband connection. Explain why broadband access is needed in this case. *[4 marks]*
- (b) Describe **two** other possible uses of videoconferencing in healthcare. *[4 marks]*
- (c) Discuss **one** advantage and **two** concerns relating to the use of videoconferencing to conduct psychological consultations. Evaluate your arguments. *[12 marks]*

Total: *[20 marks]*

**Area of Impact: Arts, Entertainment and Leisure**

4. The introduction of third generation (3G) cell phone (mobile phone) technology means that camera phones are now available worldwide. This phone works as a normal cellular phone but can also take and send photographs. The camera can take a photograph of someone without the person knowing. (‘Candid Camera Phones’, Kate Heartfield; Ottawa Citizen, August 7 2003).

- (a) Identify **two** other features present in 3G phones. *[2 marks]*
- (b) Outline **two** ways that a camera phone can ensure that privacy is not violated when a picture is being taken. *[2 marks]*
- (c) Describe **two** IT processes which may be used when processing digital photographs. *[4 marks]*
- (d) Many social and ethical issues are raised by the use of camera phones. Discuss **one** economic issue, **one** privacy issue and **one** other issue. Evaluate your arguments. *[12 marks]*

Total: *[20 marks]*

**Area of Impact: Science and the Environment**

5. The technology used in cars now once seemed like Science Fiction. New cars will use several different technologies including wireless communication, navigation systems and biometrics.
- (a) Describe **two** different uses of information technology in cars today. [4 marks]
  - (b) Describe **two** advantages of the technologies described in part (a) for the driver of the car. [4 marks]
  - (c) Discuss **two** social and ethical considerations that a company would have to consider when providing this technology in cars for the use of their employees. Evaluate your arguments. [12 marks]
- Total: [20 marks]

**Area of Impact: Politics and Government**

6. In Australia a facial-recognition technology called SmartGate has been implemented at Sydney airport passport control. The trial will begin with airline crews and will be used with travellers later.
- Berger, Sandy 2003, '*Airport face recognition*',  
[http://www.compukiss.com/populartopics/tech\\_gadgetshtm/article836.htm](http://www.compukiss.com/populartopics/tech_gadgetshtm/article836.htm) (17 Aug 2003).
- (a) Explain **one** way this technology could be used to assist the traveller and **one** way this technology could be used to assist the government. [4 marks]
  - (b) Describe **one** other way of using information technology to authenticate a traveller apart from biometrics. Compare this method with biometric scanning. [4 marks]
  - (c) Describe **two** other situations, apart from airport control, where biometrics could be used by the government for authentication. [4 marks]
  - (d) Discuss **two** ethical impacts that should be considered before this facial recognition system is implemented. Evaluate your arguments. [8 marks]
- Total: [20 marks]
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