



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

Wednesday 13 November 2002 (morning)

2 hours

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**INSTRUCTIONS TO CANDIDATES**

- Do not open this examination paper until instructed to do so.
- Answer Section A and two questions from Section B.

## SECTION A

Answer **all** parts of the question.

### School Identification Card

1. Some schools issue identification cards to each student. These cards are similar to a credit card and contain the student's identification number and other personal information. When a student arrives at school in the morning, the student swipes the identification card through a card reader which records the date and time of arrival at the school. In the afternoon the card is again used to record when the student has left school.

Students may also use their identification card to purchase small stationery items in the school store and lunches in the cafeteria. These purchases will be billed at the end of the month to the parents. The student's identification card is also used to sign out books in the school library. As an added benefit, some local stores give a 5% discount to students who show their identification cards when making a purchase.

- (a) State **two** pieces of student information, other than the identification number, which could be contained on the card. *[2 marks]*
- (b) State **two** methods for indicating the identification number on the card so that it could be read by the identification card reader. *[2 marks]*
- (c) Describe how **two** items of information are obtained by the school about a student without the student knowing it. *[4 marks]*
- (d) Discuss **three** social **and/or** ethical concerns which students may have about owning and using the identification card and weigh up the importance of your arguments. *[12 marks]*

## SECTION B

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

2. John runs a well-established small shop in a suburb of a large city. He sells stamps, coins, postcards and other items to collectors, and has been doing well for more than twenty years. He employs one assistant to help him in the shop, and his wife looks after the accounts for him on a part-time salary.

Three years ago, his son set up a Web site to give an alternative method for selling these items. Approximately 30% of his business is due to purchases made over the Web. However, more than 60% of his profit is generated from these Web purchases. John is considering closing the shop and running the whole business over the Internet from home.

- (a) Outline **two** types of costs that John will be able to reduce by changing from a business in a shop to a business exclusively on the Internet. [2 marks]
- (b) His son already has the hardware they feel they need to run the business, but they decide to replace the software currently being used. Describe **three** items of software that they will need to buy to run the business effectively and for what purpose each item will be used. Brand names are not acceptable. [6 marks]
- (c) Identify **three** social factors that they will need to discuss before changing to a business exclusively on the Internet. Discuss the implications of each and weigh up the importance of your arguments. [12 marks]

3. Instead of using a professional publishing company, authors are now able to publish their books directly on the World Wide Web. Usually the first few chapters of the book are made available at no cost to the public so that they can decide if they wish to purchase the remainder of the book online. If readers decide to purchase the book, they are asked to pay by credit card on the Web site. After the payment is made, the reader is able to access the remaining chapters in the book.

- (a) Describe **two** precautions which could be used by the company to assure readers that their credit card information is secure whenever it is submitted and stored. [4 marks]
- (b) Describe **two** ways readers can gain access to the remaining chapters of the book after the payment has been made. [4 marks]
- (c) Discuss **three** social **and/or** ethical consequences of making books available online rather than in printed form and weigh up the importance of your arguments. [12 marks]

4. The traditional advertising which occurs in magazines and newspapers is very different to the advertising found on Web pages.
- (a) State **one** software application which can be used to produce advertisements in print and **one** software application to produce advertisements on the World Wide Web. Brand names are not acceptable. *[2 marks]*
  - (b) Explain **three** ethical considerations which Web page designers must consider before placing an advertisement on their pages. *[6 marks]*
  - (c) Discuss **three** differences set in a social context between advertising in magazines and newspapers and advertising which appears on the World Wide Web. Weigh up the importance of your arguments. *[12 marks]*
5. Surveillance by video cameras is now a common feature in public places.
- (a) Describe **two** uses for such surveillance. *[4 marks]*
  - (b) The images captured from these cameras are often stored on a computer database.  
  
Describe **two** processes that the image may undergo before being stored in a database. *[4 marks]*
  - (c) Discuss **three** possible social **and/or** ethical issues raised by the use of video cameras for surveillance and weigh up the importance of your arguments. *[12 marks]*
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