

**INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY
STANDARD LEVEL
PAPER 1**

SPECIMEN

1 hour

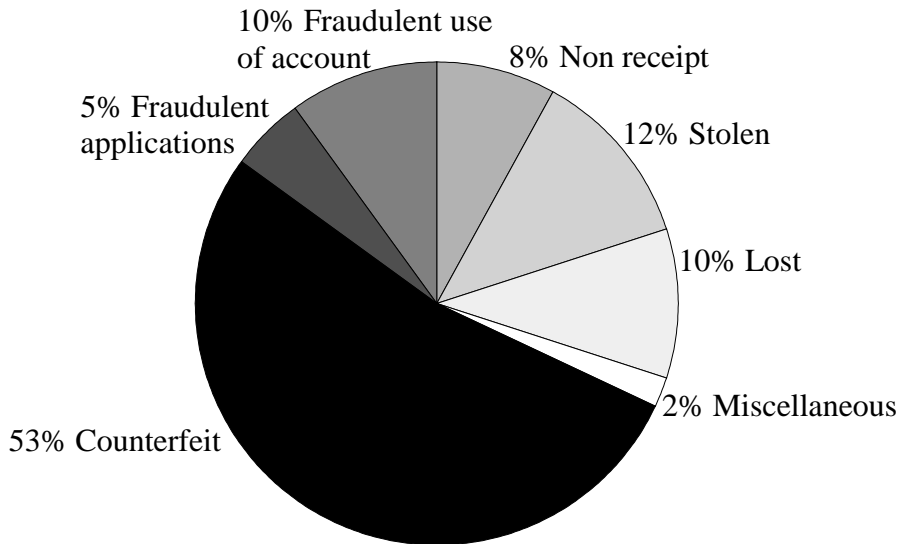
INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Answer all the questions in the spaces provided.

- 1. The figure shows the results of a survey by the Canadian Bankers' Association on the different types of credit card fraud in a twelve-month period.

Credit Card Fraud Activity – Dollars Lost

(For twelve months ending June 30, 2000)



Note:

“Card” fraud refers to fraud committed without the actual use of the card

(<http://www.cba.ca/statistics/fastfacts/credit-card-fraud>)

- (a) Use the chart to identify the **two** most common types of credit card fraud. [1 mark]

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- (b) Describe **one** way that a criminal can use IT to commit “no-card” fraud. [2 marks]

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(Question 1 continued)

- (c) Describe **one** way that a criminal can use IT to create a counterfeit card. [2 marks]

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- (d) Describe **two** ways (which use IT) of preventing counterfeit card fraud, and compare the likely effectiveness of these two ways. [5 marks]

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2. (a) Identify **two** ways in which a company wishing to send you “mail” by post can obtain your name and address. [2 marks]

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- (b) Identify **two** ways in which a company may obtain your e-mail address by electronic means. [2 marks]

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- (c) Identify **two** reasons why a person would want to receive unsolicited e-mail. [2 marks]

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- (d) Some countries have legislation that limits the sending of “mail” from organizations trying to sell goods. Many users would like to see similar legislation introduced to prevent unsolicited e-mail messages.

Consider **one** way in which such legislation might be introduced, and evaluate its probable effectiveness. [4 marks]

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3. Most computers now come with a graphical user interface installed as standard.

(a) Identify **two** features of a *graphical user interface* which are not present with a *command-driven interface*.

[2 marks]

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(b) Identify **two** groups of people, other than the physically disabled, who find a command-driven interface difficult to use and describe how each would benefit from the use of a GUI.

[4 marks]

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(c) Outline **two** ways in which a standard computer interface can be adapted for the use of people with physical disabilities, and explain how these adaptations can help.

[4 marks]

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4. Many people can telecommute for part of the working week, accessing their work place through their home computer system.

(a) Describe **one** task that can be done effectively by telecommuting. [2 marks]

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(b) Describe **one** advantage to the telecommuter of this method of working. [2 marks]

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(c) Describe **one** advantage to the employer of this method of working. [2 marks]

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(Question 4 continued)

- (d) Describe **two** issues raised by telecommuting which affect people other than the telecommuter and/or the employer. Do not repeat answers from parts (b) or (c).

[4 marks]

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

SPECIMEN

2 hours

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.

Area of Impact: Business and Employment

1.

Recently, thousands of customer records containing sensitive information were viewable on popular e-commerce sites. The records could be accessed and downloaded by anyone using a standard Web browser. No sophisticated hacking tools or programming knowledge were required. Many security experts think that consumer records are not properly protected on a significant number of Web sites.

- (a) Identify **two** sensitive fields, other than those containing personal information, in a customer record which could possibly be viewed due to this security error. *[2 marks]*
- (b) Explain **two** ways in which such a security error could occur. *[4 marks]*
- (c) Explain **two** reasons why large retail stores are diversifying into e-commerce. *[4 marks]*
- (d) Discuss **three** reasons why many online companies have failed. *[10 marks]*

SECTION B

Answer **two** questions.

Area of Impact: Education

2. Currently several universities are cooperatively involved in the new e-learning venture called eArmyU. It is a college degree program in which US Army soldiers who are stationed around the world can enrol in variety of university degree programs online. Through eArmyU, soldiers can study and gain part of the credits towards their college degrees. It is expected that 80,000 soldiers will be enrolled by 2005.
- (a) Describe **two** online services that must be provided for the student. *[4 marks]*
 - (b) Describe **three** different types of process which a university may use to authenticate the identify of the student at specific stages in a course of study. *[6 marks]*
 - (c) Discuss **three** social consequences of soldiers being able to gain credits towards their college degree through the eArmyU. *[10 marks]*

Area of Impact: Health

3. According to a recent survey from the Kaiser Family Foundation, young people are going to the Web medical databases for health-related information. One in four young people aged 15 to 24 indicate that they get a considerable amount of health information online. In addition, a significant number of them act on what they learn online. Half of all online youths have searched the Web for information on specific diseases such as cancer, diabetes, HIV/AIDS, birth control and sexually transmitted diseases.
- (a) Identify **two** fields that would be included in a Web medical database. *[2 marks]*
 - (b) Describe **two** social advantages which Web medical databases provide for young people. *[4 marks]*
 - (c) You have a friend who has diabetes. Describe how you would search the Web in order to understand the illness and also research the treatment which the doctor has advised. *[4 marks]*
 - (d) Discuss the issue of the validity of the information contained in Web medical databases and any **two** other ethical issues. *[10 marks]*

Area of Impact: Arts, Entertainment and Leisure

4. Ananova has her own news site on the Internet. She is not real, but merely a virtual actor (VActor). She is a sample of the virtual characters that can be created using 3D graphics programs. These actors live in a virtual world and their designers offer descriptions of their virtual lifestyles. Such Web sites are very popular and are visited by thousands of fans.
- (a) Describe **two** IT processes which are used to create VActors. *[4 marks]*
 - (b) Explain **three** economic issues which are related to the use of VActors. *[6 marks]*
 - (c) Discuss **three** non-economic issues which emerge from the use of VActors. Use specific examples in your discussion. *[10 marks]*

Area of Impact: Science and the Environment

5. Robots are used in a variety of exploration situations in outer space and the ocean depths. Robots have been used to explore the remains of the sunken ship, the Titanic, as well as collect samples from the surfaces of planets. Robots have also been used in a wide variety of other situations.
- (a) Identify a specific type of robot and outline **two** IT tools which help the robot to function. *[3 marks]*
 - (b) Robots are often used to aid people with disabilities. Identify an example of a disability, the robotic device which may help and how it may help. *[3 marks]*
 - (c) Describe how a robot may be used in each of the following situations:
 - (i) for a repetitive task
 - (ii) in a dangerous situation.

Do not include any of the answers given in part (a). *[4 marks]*
 - (d) Discuss **three** issues which medical experts must consider before implementing new robotic processes in surgery. *[10 marks]*

Area of Impact: Politics and the Government

6. Countries are troubled that the Global Positioning System (GPS), which is the only functioning worldwide navigational network, is run by the US military and controlled by the US government. As American technology becomes a worldwide standard, other governments are worried that this dependence raises serious issues despite the fact that it is free. GPS which is operated by the US Defense Department is also used by military forces in other countries. However, some countries are investigating creating their own version of GPS.
- (a) Identify **two** IT components used in a Global Positioning System and describe how a GPS operates. *[4 marks]*
- (b) Describe **one** civilian use, **one** military government use and **one** non-military government use for GPS. *[6 marks]*
- (c) Discuss **three** issues involved in the control of this important tool by any single country. *[10 marks]*
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