



22055514

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

Monday 23 May 2005 (afternoon)

Candidate session number

1 hour

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**INSTRUCTIONS TO CANDIDATES**

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Answer all the questions in the spaces provided.



1. Many computer networks are not well prepared against attacks caused by viruses and worms.

(a) Distinguish between the terms *computer virus* and *computer worm*. [2 marks]

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(b) Outline **two** actions of employees that could increase the risk of a virus infecting their company's computers. [2 marks]

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(c) Explain **one** type of damage caused by a *computer virus*. [2 marks]

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*(Question 1 continued)*

- (d) Describe **two** procedures that a company can implement to reduce the chance of losing valuable data due to a virus attack. *[4 marks]*

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Total: *[10 marks]*



2. It is estimated that in 2001, there were approximately 12 billion email messages sent every day (Jupiter Communications). America Online estimates that spam accounts for more than 30 percent of email messages to its members (The Standard).

(a) Define the term *spam*.

[2 marks]

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(b) A commercial organization has over 200 staff working online in its main office. Describe why *spam* is a problem for this organization.

[2 marks]

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*(Question 2 continued)*

- (c) Discuss **one** step that an ISP can take and **one** step that a government can take to reduce *spam*.

*[6 marks]*

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Total: *[10 marks]*



3. (a) Distinguish between *freeware* and *shareware*. [2 marks]

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- (b) Describe **one** disadvantage of *freeware*. [2 marks]

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(Question 3 continued)

- (c) *Open source* software is becoming very popular. Discuss **two** impacts of this increased popularity. [6 marks]

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Total: [10 marks]



4. Pearl (pictured below) is a “care” robot designed to assist elderly people in need of care.



Pearl [On-line image] 2002 <http://www-2.cs.cmu.edu/~nursebot/web/images.html> (18 Aug 2003)

- (a) State **one** type of software that could be used in Pearl and explain how it would help it to perform its duties. *[2 marks]*

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- (b) Identify **one** possible input device and **one** possible output device that could be part of Pearl. *[2 marks]*

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*(Question 4 continued)*

- (c) Discuss **one** use of Pearl to assist the elderly.

*[3 marks]*

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- (d) Discuss **one** ethical consideration when introducing robots like Pearl for assisting elderly people.

*[3 marks]*

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Total: *[10 marks]*

