



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

Monday 24 May 2004 (afternoon)

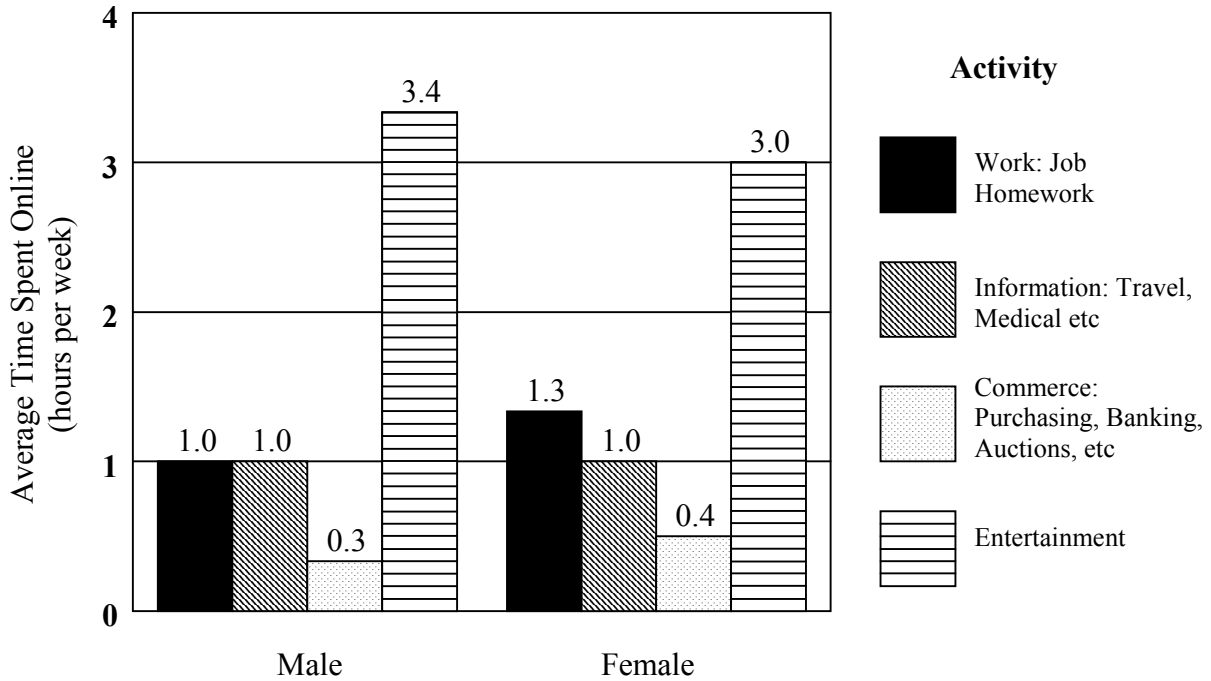
1 hour

INSTRUCTIONS TO CANDIDATES

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

1. A UCLA survey recently compared the ways in which teenagers use the Internet. Figure 1 compares the usage of male and female 12-17 year olds:

Figure 1



[Source: <http://www.ccp.ucla.edu/UCLA-Internet-Report-200.pdf>]

- (a) Which activity shows the largest difference between the ways in which males and females use the Internet? Give an example of this activity. [2 marks]

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(Question 1 continued)

- (b) Describe **two** different services on the Internet that may be used by a high school student to help with homework. *[4 marks]*

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- (c) Describe **one** positive and **one** negative impact related to teenage use of the Internet for entertainment. *[4 marks]*

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Total: *[10 marks]*

2. Encryption is often used when storing and transmitting data electronically.

(a) Identify **two** situations where encryption may be used to store data electronically. *[2 marks]*

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(b) Identify **two** situations where encryption may be used when transmitting data electronically. *[2 marks]*

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(c) Describe **three** situations where problems may occur because encryption has not been used and explain the problem. *[6 marks]*

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Total: *[10 marks]*

3. A school uses a database to store its student records. All teachers have read/write access so that they can update student details. The network administrator backs up the data.

(a) Describe **one** way in which the integrity of the data is at risk. *[2 marks]*

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(b) Describe **two** procedures that the network administrator can use to ensure the reliability of the backups. *[4 marks]*

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(c) Describe **one** way that a breach of security could occur and discuss its impact. *[4 marks]*

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Total: *[10 marks]*

4. China has become the second largest user of the World Wide Web. It is predicted that 25 % of the Chinese population will be online by 2006.

China holds tight controls on which Internet services and Web pages can be accessed by the Chinese people.

- (a) Describe **one** method that can be used to control the Internet services and Web sites available to the Chinese people. *[2 marks]*

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- (b) Describe **two** social impacts which this growth could have on Internet shopping. *[4 marks]*

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(Question 4 continued)

- (c) Describe **two** benefits to China from the increased use of the World Wide Web by the Chinese people. Do not include answers from part (b). *[4 marks]*

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Total: *[10 marks]*