

UNIVERSITY OF EDINBURGH

COLLEGE OF SCIENCE AND ENGINEERING

Computer Literacy 1h

Class Examination

Date: Saturday, 24 January 2004

Time: 09:30 – 11:00

Place: Appleton Tower Concourse

Board of Examiners

Chair: M.R. Jerrum

External Examiner: R. Dyckhoff

Instructions to Candidates

Attempt **ALL** questions in part 'A' and **ONE** question from part 'B'

Marks for questions are indicated in brackets after each question. Each question in part 'A' is worth ELEVEN marks and the total for the exam is 75.

Candidates in the third or later year of study for the degrees of MA(General), BA(Relig Stud), BD, BCom, BSc(Social Science), BSc(Science) and BEng should put a tick (✓) in the box on the front cover of the script book.

Part "A"

Answer ALL questions from this section

1.
 - (a) A text editor, word processor and desktop publishing system can all be used to produce paper documents. What are the differences between these three applications? [3 marks]
 - (b) Approximately how many CD-ROMs would it take to back up a typical modern PC hard disk? [2 marks]
 - (c) Give an example of how using a computer under poor conditions could affect your health and how this could be avoided. [2 marks]
 - (d) What is a *cache* and what is it used for? [2 marks]
 - (e) An *IP address* is written as four numbers, e.g. 129.215.200.7. Why will you never see an IP address containing numbers greater than 255? [2 marks]

2.
 - (a) What factors go into the *cost of ownership* of a computer? [3 marks]
 - (b) List some of the benefits and possible problems you would expect to see when computerising a manual process. [5 marks]
 - (c) Applets are small Java programs that can be embedded in Web pages and run in the client PC.
 - i. Why might one want to run a program from within a Web page? [2 marks]
 - ii. Why might it be dangerous to do so? [1 mark]

3.
 - (a) Describe the benefits a company might expect through creating and maintaining a Web site. Give examples where appropriate. [4 marks]
 - (b) Describe the measures and criteria you would use to compare and contrast different complete home computer configurations when choosing one. [4 marks]
 - (c) Describe three different kinds of *computer-mediated communication* and the benefits and drawbacks of each. [3 marks]

4. (a) Explain how the laser may be viewed as the most important invention that has contributed to the growth of computer communications. [3 marks]
- (b) Explain the difference between client/server and peer to peer organisations in networks. [2 marks]
- (c) Identify a similarity and a difference in the part played by satellites in GPS use and global communication. [2 marks]
- (d) Compare and contrast Bluetooth and WiFi. [2 marks]
- (e) What is identity theft and how might it occur? [2 marks]
5. (a) I have a large pile of essays in random order on the floor. Describe one way I could efficiently sort them into alphabetic order by author name before starting to mark them. [2 marks]
- (b) Alternatively I could have marked each essay from the random pile and sorted them as I went along rather than as a separate operation. What is this sorting method and how would it operate in this example? [2 marks]
- (c) Explain how the interaction of computer networking and database technology can together lead to privacy problems. [3 marks]
- (d) Briefly describe two differences in the approach to privacy rights in communications in two of the following: USA, UK, China. [2 marks]
- (e) The Anna virus featured briefly as a worldwide news media story in 2001. Other than alliteration what links this to 'Ananova' ? Is Ananova in any way also a threat or is it an opportunity? [2 marks]

Part "B"

Answer ONE question only from this section

- B1.** A friend is about to begin her final year academic project, leading to a dissertation. This is the biggest computerised project she has ever undertaken, will take several months and will involve many hours in front of a PC. She will need to undertake background research, collect and analyse numerical data, test and cross-check her results then write them up and present them to a small audience. What advice would you give her on how to make best use of software tools? What other potential problems should she be aware of? [20 marks]
- B2.** Describe some of the underlying processes in *e-business* and the issues involved in using them to create more profitable and effective businesses. What else is required to allow customers to use e-enabled businesses with confidence? [20 marks]
- B3.** Briefly describe how computer internetworking provides global communications. Explain how radio, television and telephone services are also able to be provided by appropriate linkages rather than via completely separate networks. Outline important technologies and how services are provided. Discuss the difficulties that have to be overcome to achieve the impression and reality of one technology. [20 marks]
- B4.** (a) Explain what you understand by mesh networks and ubiquitous broadband. [6 marks]
- (b) Describe how a traveller with a laptop can have access to the World Wide Web in central London, at an international airport, in a remote Afghan valley and a remote Scottish island without having to enter a building or insert any plugs. [14 marks]