

UNIVERSITY OF EDINBURGH  
COLLEGE OF SCIENCE AND ENGINEERING  
SCHOOL OF INFORMATICS

# Computer Literacy 1

Resit Examination

**Date:** 26 August 2005  
**Time:** (one and a half hours)  
**Place:**

**Board of Examiners**  
**Chair:** M.R. Jerrum  
**External Examiner:** Robert Irving

## 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 cross (×) in the box on the front cover of the script book.

## Part "A"

### Answer ALL questions from this section

1. (a) My document scanner can scan in 24-bit colour at resolutions from 75 dpi to 2400 dpi.
- i) What is meant by the terms ‘resolution’ and ‘dpi’? [1 mark]
  - ii) How much data will this scanner generate scanning a 5 inch \* 4 inch photograph, full colour at 300 dpi? [2 marks]
  - iii) Why might I want to scan some or all of a photograph at
    - a. 75 dpi? [1 mark]
    - b. 2400 dpi? [1 mark]
- (b) Compare and contrast the factors I need to consider when making a choice whether to buy
  - o an ordinary (i.e. desktide or desktop) computer
  - or
  - o a laptop computerfor some typical tasks at home and when studying. [4 marks]
- (c) Compare and contrast the processes of preparing a document with visual (WYSIWYG) formatting versus using a *markup language*. [2 marks]
- 2 (a) Name two aspects of real-world scenes that are difficult to reproduce in the computer and explain why. [2 marks]
- (b) What are *cookies* and what security issues do they present? [2 marks]
- (c) In what ways do packet-switched and circuit-switched networks differ? [2 marks]
- (d) What is the “World-Wide-Web”? How is the Web different from the Internet? [2 marks]
- (e) What is distributed computing? Give an example. [2 marks]
- (f) What technologies support large scale e-Science? [1 mark]

- 3 (a)**
- (i) What applications are likely to develop around *Natural Language Processing*? [3 marks]
  - (ii) What aspects of Natural Language Processing are ‘difficult’? [1 mark]
- (b)** What environmental benefits follow from the increased use of I.T.? [3 marks]
- (c)** What is an algorithm? Give an example from daily life. [2 marks]
- (d)** Give two ways in which computers and people solve problems differently. [2 marks]
- 4 (a)** What is *metadata*? Give an example. [2 marks]
- (b)** What aspects of a Web site can be manipulated in order to affect its prominence when searched for through a search engine such as Google? [2 marks]
- (c)** Name two advantages of using Cascading Style Sheets when building web sites. [2 marks]
- (d)** What is the function of the *key* when encrypting or decrypting data? What weakness does the key present in a symmetric key encryption system? [2 marks]
- (e)** What factors contribute to the cost of ownership of an effective web site? [3 marks]
- 5 (a)** What are the major barriers to the adoption of e-commerce? Explain how the Consumer Credit Act (1974) provides some protection when shopping on-line. [3 marks]
- (b)** What features are provided by a Database Management System (DBMS)? [2 marks]
- (c)** In what ways does the operating system support interaction between human and computer? [2 marks]
- (d)** What do you understand by the term *communications protocol*? Illustrate your example using some aspect of communication between two computers. [2 marks]
- (e)** Which features of a spreadsheet support experimentation and the asking of “what-if?” questions? [2 marks]

## Part "B"

### Answer ONE question only from this section

- B1.** Describe some of the factors that you would need to consider to ensure that an I.T. project went according to plan or which, if neglected, could cause a project to fail, go over budget or run late? [20 marks]
- B2.** Describe the strengths and weaknesses of different technologies and methods that can be used to find information on the Internet. How would you assess the reliability of the information you find? [20 marks]
- B3.** Describe the wireless technologies that could be used
- in a hospital
  - by a wildlife documentary team on location
- and the potential benefits and problems they present. [20 marks]
- B4.** Describe some normal and some undesirable forms of social or commercial relationships that occur between people over the Internet. In what ways do these relationships differ from the equivalent relationships in the 'real world'? [20 marks]