The University of Nottingham

SCHOOL OF COMPUTER SCIENCE

A LEVEL 3 MODULE, AUTUMN SEMESTER 2012-2013

Computers in the World

Time allowed ONE hour and THIRTY minutes

Candidates may complete the front cover of their answer book and sign their desk card but must NOT write anything else until the start of the examination period is announced

Answer ALL questions from Part A and ONE question from Part B

The distribution of marks available for the parts of each question are shown in brackets to the right of each part.

Only silent, self contained calculators with a Single-Line Display or Dual-Line Display are permitted in this examination.

Dictionaries are not allowed with one exception. Those whose first language is not English may use a standard translation dictionary to translate between that language and English provided that neither language is the subject of this examination. Subject specific translation dictionaries are not permitted.

No electronic devices capable of storing and retrieving text, including electronic dictionaries, may be used.

DO NOT turn your examination paper over until instructed to do so

ADDITIONAL MATERIAL:
BCS Code of Conduct (5 pages)

INFORMATION FOR INVIGILATORS:
None.

Part A

Answer ALL questions from Part A

A1. What is the UK "Data Protection Act"? Explain briefly its purpose and the constraints that it imposes on data storage and processing. (20%)

A2. What are the five defining features of a professional (according to the BCS model of professionalism)? Explain briefly the nature and purpose of a professional code of conduct. (20%)

A3. Explain briefly how the creation and use of computer-based systems can affect the natural environment. Illustrate your answer with some specific examples. (20%)

Part B

Answer ONE question from Part B

B1. Imagine that you are involved in the management of a project to create an engine management system for a new car. Explain how the project should be conducted in order to appropriately manage risk. Illustrate your answer using some of hazards present in this scenario. (40%)

B2. Alex is a professional software engineer. He is working as part of a team to develop a system to automatically administer drugs to a seriously ill person. The team is working hard and has only a few weeks in which to finish the system. Alex is worried that the work is not being done as carefully as it should be. In what ways might Alex's professional principles conflict with the interests of his team mates and his employer in this situation? Suggest what Alex should do, considering the various responses that his team mates and employer might make. Justify each suggestion, and include in your discussion any problems that might arise in practice. (40%)

END