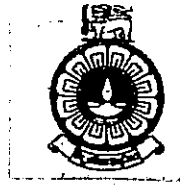


The Open University of Sri Lanka  
 Department of Electrical and Computer Engineering  
 Bachelor of Software Engineering



**ECX3163 – Introduction to Computing**  
**Final Examination 2009/2010**

**Closed Book Test**

**Date: 23 May 2010**

**Time: 09.30-12.30**

*Answer Part A, and two questions from Part B. Show all relevant steps of calculations where applicable.*

**PART A (50 marks)**

1. You, as a student of the BSE programme, intend to assemble a computer for your home use. Go ahead and decide on following components
  - a) First decide on the processor.
    - a. What are the main tasks of the processor?
    - b. What kind of processor would you choose? Justify your answer.
    - c. What would you consider when choosing the motherboard?
  - b) Now to memory modules.
    - a. What are the main tasks of the computer memory?
    - b. What type of memory would you buy? Justify your answer.
  - c) Secondary storage is also essential.
    - a. Why does the computer system need secondary storage?
    - b. What type of secondary storage would you want, and how much? Justify your answer.
  - d) Now to the input-output devices, so that you can communicate with the computer.
    - a. List the main I/O devices that you would wish to have in your system, stating the purpose of each.
    - b. What would be the type / size of each above I/O device?
  - e) Any computer system needs additional peripheral devices to be useful.
    - a. What are the peripheral devices you would wish to have?
    - b. State the need for each peripheral device you have chosen.

*(10 marks for each part)*

**PART B (50 marks)**

*Answer any two questions from this part. All questions carry 25 marks each.*

2.
  - a) Convert  $122.625_{10}$  into equivalent binary value.
  - b) Convert  $2C.8_{16}$  into equivalent decimal value.
  - c) Perform following operations in **binary** form:
    - i)  $101101_2 \times 1111_2$
    - ii)  $1100011_2 \div 1100_2$
  - d) Calculate value of  $k$  so that  $125_k = 173_{10}$ .
  - e) Using two's complement method, calculate  $3_{10} - 6_{10}$ .
  
3.
  - a) Describe the purpose of the operating system of a computer.
  - b) Explain the main functions of an operating system.
  - c) Describe different types of operating systems, giving one example each for each type.
  - d) Describe file systems used under UNIX and MS-Windows.
  
4. *You may answer this question based on your assignment 2.*

Discuss either

- The social impact of the World Wide Web
  - Opportunities and threats of online social networks and related phenomena and technologies

or

- Education in the internet age
  - Teaching/learning opportunities of the internet

*Limit your discussion to about a single page.*