THE OPEN UNIVERSITY OF SRI LANKA

Department of Electrical & Computer Engineering
Bachelor of Software Engineering

FINAL EXAMINATION – (2010/2011)

ECI4164 - Networking and Web Technology

CLOSED BOOK EXAM

Time Allowed: **3 hours**

Date: 05th March 2011   Time: 0930 – 1230 hours

INSTRUCTIONS TO CANDIDATES

1. This question paper contains 3 question in **Part A**, and 3 questions in **Part B** on 3 pages.
2. Answer **TWO** questions from **Part A** including question 1.
3. Answer any **TWO** questions from **Part B**.
4. Each question carries 25 marks

Part A:

Answer question 1 and <u>any</u>one question from question 2 and question 3 in <u>Part A</u>

Question 01

Assume you need to design a network for a Tea Manufacturing and Distribution Company. The company has three departments, Administration, Manufacturing and Marketing departments at three different locations in the country.

Each department has a server, 5 computers and 1 network printer. Administration and Marketing departments are working as the central office which maintains all database transactions and the main server. The main server is connected with servers of other departments.

Answer the following questions, based on the network defined above:

   a. Draw and explain the best suited/updated network diagram for the above network.
   b. Justify the need of each hardware device you may use in the network at different locations.
   c. What are the best suitable cables that can be used for this network? Justify your answer.

Question 2

   a. What are the advantages of computer networks?
   b. How do you categorise a network according to the distance? Briefly explain with examples.
   c. What are the advantages of using layered network models?
   d. Briefly describe the 'OSI' reference network model including its protocols, services and functions.

Question 3

   a. Describe the client-server and peer-to-peer network models.
   b. What are the advantages of client-server network model over peer–to- peer model?
   c. Explain the advantages of using fiber optic cables in computer networks

Part B:

Answer **any two** questions from **Part B**

Question 1

a. Define the following acronyms, and write brief description of each:

1) UDP

2) DNS

3) URL

4) DTD

b. Explain the differences between HTML and XHTML.

c. What are the benefits of using XHTML validator at http://validator.w3.org/

Question 2

a. Write a XHTML document to display page title, an image, and a paragraph.

b. Write an external cascading style sheet for the above code that sets the value of the font-family property to "*verdena*" and the background color of each cell to "*green*".

Question 3

a. Briefly describe the importance of XML.
b. Briefly explain the functions of an XML Parser.
c. Write a XML file to represent following data set.

```
IDNo, Name, Dept, JobTitle
11234, Asanthi, accounting, senior accountant
23564, Chaminda, administration, manager
14562, Lasantha, marketing, graphic designer
45655, Latif, development, programmer
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— The End —