



The Open University of Sri Lanka
 Department of Electrical and Computer Engineering
 ECI4164 – Networking and Web Technology
 Final Examination – 2012/13

(Closed Book Test)

Time: 09.30 – 12.30 hrs

Date: 27.07.2013

INSTRUCTIONS TO CANDIDATES

1. This question paper contains 3 questions 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 any one question from question 2 and question 3 in Part A

Question 01

Assume you need to design a computer network for a Tea Company in Sri Lanka.

The company has its head office at Colombo and 3 factories in Nuwara Eliya, Badulla and Bandarawela. The management wants to link all 3 factories with the Colombo head office.

Head office needs 5 computers, 2 laptops, one file server and 2 network printers. Each branch decided to purchase 4 computers, one laptop and one network printer. All database transactions and documents will be saved in the main file server. All the computers in the branches should connect with the main server to complete the transactions.

Answer the following questions, based on the above network:

- a. Draw the most suitable network diagram for the above network using standard symbols. **(10 marks)**
- b. Explain the need of each hardware device you may use in the network at different locations. **(10 marks)**
- c. What are the operating system software and other software packages, you recommend installing in each of these computers? Justify your answer. **(5 marks)**

Question 2

- a. Networks can be classified using different types. Describe each type of network with examples. (10 marks)
- b. Describe the advantages of client server model. (10 marks)
- c. What are the main categories of transmission media? Give examples for each. (5 marks)

Question 3

- a. Explain the term “layered network model” with examples. What are the advantages of using layered network models? (10 marks)
- b. Describe OSI layered model with functions and protocols related to each layer. (10 marks)
- c. Explain the differences between TCP/IP layered model and OSI layered model. (5 marks)

Part B

Answer any two questions in Part B

Question 4

- a. Explain the HTTP request and HTTP response methods in detail. (10 marks)
- b. Describe the following acronyms, and write brief description of each. (10 marks)
 - 1) SMTP
 - 2) UDP
 - 3) TCP/IP
 - 4) URL
 - 5) OSI
- c. Explain the benefits of following HTML and CSS standards. (5 marks)

Question 5

- a. Write a XHTML main page for a tourist hotel web site. (This web page should include at least 6 different html element types including hyperlinks and images.) (10 marks)
- b. Create and apply an external style sheet to change the appearance of the web page. (5 marks)
- c. Create a php program using a “for” statement that increments through and prints every odd number between 50 and 100. (10 marks)

Question 6

a. What are the advantages of using XML in computer programming? **(10 marks)**

b. Write a XML file to represent following products data. **(10 marks)**

PID	PName	PCategoryID	PPrice
0001	PA	P001	100
0002	PB	P002	200
0003	PC	P003	150
0004	PD	P002	50
0005	PE	P001	40

c. Explain the functions of an XML Parser. **(5 marks)**