



EASTERN UNIVERSITY, SRI LANKA
EXTERNAL DEGREE
THIRD EXAMINATION IN SCIENCE –2008/2009
SECOND SEMESTER (Mar /Apr., 2015)
EXTCS303 – INTERNET AND MULTIMEDIA APPLICATIONS
(PROPER AND REPEAT)

Answer all Questions

Time: 2 Hours

Q1)

i) Define the following terms:

- a) Internet;
- b) Web server;
- c) Browser;
- d) Hyperlinks;
- e) Distributed applications.

ii) Briefly explain each layers of *TCP/IP Reference Model*:

iii) Draw the IPV6 packet format and explain each component of this packet.

iv) Briefly explain the IPV6 addressing:

v) Briefly explain the following two approaches:

- a) Dual Stack approach;
- b) Tunneling approach.

Q2)

- i) The source host has an IP address of 192.168.0.10 and a subnet mask of 255.255.255.0. The destination host has an IP address of 192.168.20.2. Determine, whether these hosts are on the same subnet or different subnets.
- ii) Describe the following HTTP connections:
 - a) Non-Persistent connection;
 - b) Persistent connection.
- iii) Consider the url <http://www.esn.ac.lk/external/cs.html>, and write the series of steps to fetch this site using persistent connection.
- iv) Explain the HTTP Response messages with an example and write five status codes used in HTTP response messages.
- v) What are the advantages of having *Web Caches*?
- vi) What is the purpose of having *Subnetting*?
- vii) Consider an organization that needs to assign 120 hosts to connect the internet. Explain how to choose the most appropriate IPV4 class in classful address.
- viii) Consider a class C address 194.2.3.0, and its default subnet mask of 255.255.255.0. If this needs to be rearranged with 4 hosts per subnet, find the following:
 - a) Subnet mask;
 - b) 6th subnet host range;
 - c) 4th subnet ID and its broadcast address;
 - d) What subnet does the address 194.2.3.20 and 194.2.3.99 belong to and what are their subnet & broadcast address respectively?

Q3)

- i) What is the main difference between *HTML* and *XHTML*?
- ii) Describe the three major components of an E-mail system:
- iii) Briefly describe the scenario to send an e-mail from a person Alice to Zorpio.
- iv) Briefly explain the following terms:
 - a) Static web pages;
 - b) Dynamic web pages;
 - c) Active web pages;
 - d) FTP;
 - e) Telnet.
- v) Briefly describe the use of the following tags:
 - a) `<html></html>`;
 - b) `<p align=?>`;
 - c) `<body bgcolor=?>`;
 - d) ``;
 - e) `<table></table>`;
 - f) ``;
 - g) `<table></table>`;
 - h) ``.

Q4)

- i) Define the term “*interactive multimedia*”.
- ii) Briefly describe the purpose of data compression:
- iii) Explain the difference between *lossy* and *lossless* data compression:
- iv) Write down *Lempel-Ziv-Welch (LZW)* compression algorithm:
- v) Compress the following string using *LZW* compression algorithm.

/WED/WE/WEE/WEB/WET

- vi) Apply *Run Length Encoding (RLE)* data compression technique to write the outputs for the following inputs:
 - a) AACC;
 - b) BABBABAAAAC;
 - c) CSCSSCCCCDCCC.....(249 Cs);
 - d) AACCCCCC.....CCCCC(300 Cs).