EASTERN UNIVERSITY, SRILANKA

THIRD EXAMINATION IN SCIENCE –2007/2008

FIRST SEMESTER (Dec. /Jan. 2008)

CS 303 – INTERNET AND MULTIMEDIA APPLICATIONS

(SPECIAL REPEAT)

Answer all questions **Time allowed: 02 hours**

Q1.

a) List and explain all the components of *IPV6* (Internet Protocol Version 6) packet.

b) Explain the most important changes introduced in *IPV6* over *IPV4*.

c) Briefly describe each of the following two approaches which are used to integrate *IPV6* hosts into *IPV4* world:

- Dual-Stack approach;
- Tunneling approach.

d) The Internet connects many networks each of which runs a protocol known as *TCP/IP* (Transmission Control Protocol/ Internet Protocol) and various protocols involved in each layer.

e) Describe the *"IP"* addressing procedure.

Q2.

a) Describe *LAN* addresses and *Address Resolution Protocol (ARP)*.

b) Explain how a web-cache satisfies an *HTTP* request on the behalf of a client.

c) Describe briefly *non-persistence* and *persistence* connections which are used to transfer web pages from server to client.

d) Describe each of the following components of an E- mail system:

- User Agent;
- Mail Server;
- SMTP;
- POP3.

e) List the differences between static, dynamic and active web pages.

Q3.

a) What is the main difference between HTML and XHTML?

b) How *"scripting languages"* can be used to create an *"Active web pages"*?

c) Briefly describe the use of the following tags in *"XHTML"*:

- <form>.....</form>;
- <img>.....</img>;
- <frameset>.....</frameset>;
- <base>.....</base>;
- <script>.....</script>.

d) Describe how multimedia can be applied in education and training. Discuss the advantages and disadvantages over more conventional methods when it is applied in this area.

e) The ***Lempel-Ziv-Wetch (LZW)*** compression algorithm replaces string of characters with single code. Give the *LZW* compression algorithm in its simplest form. Run the *LZW* compression algorithm for the string */WED/WE/WEE/WEB/WET*, creating the corresponding compression table.

Q4.

a) Define the terms *"interactive multimedia"*.

b) Compare and contrast the *"BMP"* &*"GIF"* image format.

c) State clearly what is meant by *"Video – on - Demand"*.

d) Briefly explain how the *"MPEG"* compression technique works.

e) Define the term *"Socket"* in connection with process communication across network.

f) Describe the purpose of the class *"Socket"* and *"ServerSocket"* define in the Java package *"java.net"* and outline how it can be used.