The Open University of Sri Lanka

MA in Teacher Education Degree programme

Final Examination 2005

CSE 1177 Internet Technology

Duration: 2 Hours

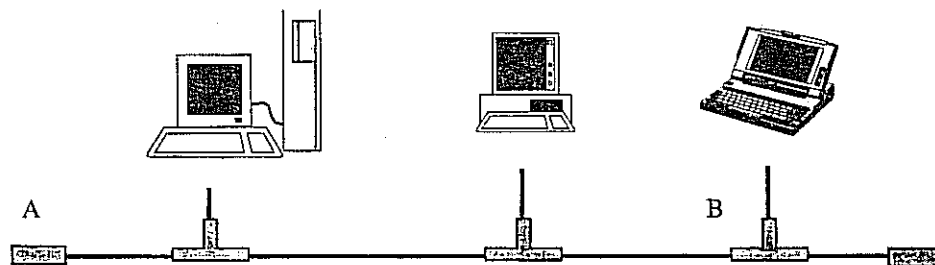Date: 22.05.2006   Time: 10.00 a.m. – 12.00 noon

Answer **Four** Questions Only.

Q1.

a. Why do people use computer Networks? Describe in your own words.

b. What are the types of computer systems that can adapt Star, Ring and Hierarchical network topologies?

c. What are the differences between WAN and MAN?

Use the above figure to answer questions d to f .

d. What are the components A and B?

e. What is the network topology used in the above network?

f. What are the limitations of the above network?

Q2

a. Operational layers of a network contain the IP layer, physical layer, application layer and TCP layer. Draw the layered architecture of the operational layer of computer networks and describe the IP layer and application layer.

b. Write short notes on the following:

    i. Direction of a transmission

    ii. Bandwidth of a transmission

c. A computer has the following network settings.

```
IP ADDERSS     : 10.73.41.11
GATEWAY        : 10.73.1.1
```

By using the above settings, answer the following questions

i. What is the subnet mask of the above computer? Assume that this computer is in the class B network.

ii. Suppose there is another computer in the same network. Give a method to check whether a computer is in the above network. Assume that IP address of the second computer is `10.73.41.15`.

Q3.

a. By means of protocol, domain and filename explain what is an URL.

b. What are the advantages of the following web services?

   i. www

   ii. Telnet

c. What are the protocol names and default port numbers used to send e-mails and receive e-mails?

d. "Now a days an electronic mail system is the most popular communication method than other communication methods" Do you agree with this statement? Explain briefly

e. A simple e-mail message is given below:

```
To: samankumara@yahoo.com
Cc: gaminiperera@ou.ac.lk
Bcc: skperera@ou.ac.lk
From: abskumara@yahoo.com
Data
Dear friends,
CSE 1177 CBT Exam will be held on 21.01. 2006
Thanks
Sk.
```

By using the above message, answer the following questions

i. What is the e-mail address of the sender?

ii. This email does not contain a subject, Write the message '*CSE 1177 OBT Exam*' as the subject.

Q4.

   a. State whether the following statements are TRUE or FALSE.

     i. According to the functions a network printer is a sever.

     ii. Microwave links are the most suitable communication media for LAN.

     iii. Data transfer speed for the telephone line is 64kbps.

     iv. Data transfer speed for the voice band is 110- 9600 bps.

     v. TCP/IP is a protocol but it does not need to connect to the internet.

     vi. RJ45 connectors are more expensive than BNC sockets.

   b. "When the number of computers connected to a network is increased, the network traffic is not increased " Do you agree with this statement? Explain briefly.

   c. What are the solutions you can provide to reduce the network traffic?

   d. The Open University contains three faculties named Natural Sciences, HSS and Engineering. Each faculty has more than 100 computers. The departments and the dean's office in each faculty use these computers for their work. The IT department handles all the network functions such as the Internet, e-mail etc... Using suitable network topologies, draw a network diagram to design the university computer network.

Q5.

   a.

Write short notes on the following:

     i. Cache and mirrors

     ii. Search engines

     iii. Agent software

   b. State whether the following statements are true or false.

     i. Ftp is not a character based utility.

     ii. Telnet was the first Internet application developed to log on to a remote machine.

     iii. Telnet is a character based application.

     iv. Web clients are also known as web browsers.

     v. ARPanet is a long distance computer network.

   c. What are the advantages and disadvantages of designing a web page using the frame technology?

Q6.

a. Rewrite the following paragraphs by using HTML. (Note the words that are in boldface, italic, underlined and with different font sizes)

Overview: Computer

Computer is a **machine**. Nevertheless, it is a special kind of machine as it can be instructed to <u>work as many other machines</u>. Further, a computer can also be instructed to control another machine connected to the computer. This is why we say that a computer is a *programmable machine*.

b. Create the following HTML page.

MY PERSIONAL WEB PAGE

- Personal details
- Education Qualifications
  - i.   G.C.E O/L
  - ii. B.Sc

PERSONAL DETAILS

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EDUCATIONAL QUALIFICATIONS

G.C.E A/L	• Pure Mathematics C • Applied Mathematics C • Chemistry A • Physics B
B.Sc.	The Open University of Sri Lanka.

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