Bachelor in Information Technology (BIT)

Term-End Examination

December, 2006

CSI-09 : COMMUNICATION TECHNOLOGY

Time : 3 Hours *Maximum Marks : 75*

Note : *There are **two** sections in this paper. Section A is **compulsory** and consists of 10 objective type questions and descriptive questions. Section B consists of 4 questions from which you have to answer any **three** questions.*

SECTION A

1. There are 10 objective type questions in this section. There are four choices given for each question. Select the best choice as your answer. If you feel that none of the given choices are correct then mark '0' as your answer. Attempt all the questions. Each question carries one mark. *10×1=10*

(i) When a signal is sent over a long network cable, signal gets weakened due to

(a) Attenuation

(b) Multicasting

(c) Striping

(d) Mirroring

(ii) The purpose(s) of a Bridge is/are to

(a) isolate networks by MAC addresses

(b) manage network traffic by filtering packets

(c) translate from one protocol to another

(d) All of the above

(iii) _____ are used where the network is being locally segmented.

(a) Remote Bridges

(b) Half Bridges

(c) Token Ring

(d) None of the above

(iv) A complex network that needs a device which not only analyses the address of each segment, but also can find the best path for sending data and filtering broadcast traffic to the local segment is

(a) Switch

(b) Router

(c) Bridge

(d) Hub

(v) Collection of communication lines and routers form

(a) Hosts

(b) Subnet

(c) End system

(d) Gateway

(vi) A high performance WAN protocol that operates at the physical and data link layers of the OSI reference model is

(a) X.25

(b) CSU/DSU

(c) Frame Relay

(d) LAP-B

(vii) A routing technique for reducing the number of bits needed to transmit information in broadcasting is called

(a) Digital broadcasting

(b) Digital compression

(c) Multicasting

(d) MBONE

(viii) A well planned network will be

(a) more reliable

(b) lower in cost and more flexible

(c) simple to support and use

(d) All of the above

(ix) A low-cost computing device that works in a server-centric computing model which doesn't require powerful processors and large amount of RAM and ROM is called

(a) Thin client

(b) Thick client

(c) RISC

(d) None of the above

(x) Frame Relay operates at the _____ of OSI model.

(a) Network layer

(b) Session layer

(c) Physical and Application layers

(d) Physical and Datalink layers

2. Expand the following : *5*

(i) ISAPI

(ii) CGI

(iii) COPS

(iv) SATAN

(v) SET

3. Write any ***two*** functionalities for each of the following network devices : *4×2=8*

(i) Gateways

(ii) Modems

(iii) Hubs

(iv) Switches

4. What is E-Commerce ? Mention the types of E-Commerce. For each classification, give an example in support, along with their systems of payment. *7*

SECTION B

*Answer any **three** questions from this section.*

5. (a) Mention the uses of the following WAN technologies : *5×2=10*

(i) Router

(ii) Asymmetric Digital Subscriber Line

(iii) X.25

(iv) Frame Relay

(v) Switched Multimegabit Data Service (SMDS)

(b) What is MBONE ? List any three uses of MBONE. *5*

6. (a) With the help of a diagram, explain how the network costs can be calculated with the help of a spreadsheet methodology (Network Cost Analyzer). *8*

(b) "For RAID systems to work, fault tolerance isn't an option, it's a necessity." Explain, how fault tolerance is an integrated part of a RAID theory. Also list different levels of RAID. *7*

7. (a) Explain the need of security implementation in networks. Describe any five security measures to protect the systems from the intruders. *7*

(b) Explain the following public key algorithms : *8*

(i) Diffie-Hellman

(ii) RC4

8. (a) Mention any seven Intranet applications for an IT based organization. *7*

(b) How is packet switching different from circuit switching ? Is TCP/IP a packet switched technology or circuit switched technology ? Explain the principle of packet switching in data transfer ? *8*