

Bachelor in Information Technology (BIT)

Term-End Examination

December, 2006

CSI-13 : NETWORKING

Time : 3 Hours

Maximum Marks : 75

Note : *There are two sections in this paper. All questions from Section A are **compulsory**. Answer any **three** questions from Section B. Multiple choice questions carry one mark each.*

SECTION A

1. Encryption is handled by the _____ . 1
 - (a) Transport layer
 - (b) Session layer
 - (c) Presentation
 - (d) Network layer

2. Ethernet address is of _____ bit size. 1
 - (a) 32
 - (b) 48
 - (c) 64
 - (d) 16

3. If an IP address starts with a bit sequence of "1110", it is a class _____ address. 1
 - (a) A
 - (b) B
 - (c) C
 - (d) D

4. ATM is a _____ technology. 1
 - (a) asynchronous TDM
 - (b) statistical TDM
 - (c) synchronous TDM
 - (d) asynchronous SDM

5. A Radio broadcast is an example of _____ transmission. 1
- (a) Full duplex
 - (b) Half duplex
 - (c) Simplex
 - (d) Triplex
6. To implement decentralized access control, *ethernet* uses the approach of _____. 1
- (a) loopback
 - (b) LIFO
 - (c) CSMA/CD
 - (d) FIFO
7. Which of the following layers in ATM network is used for protocol transformation ? 1
- (a) Data link
 - (b) ATM
 - (c) AAL
 - (d) Physical
8. Disk strip set without _____ is a cost efficient way to increase disk performance. 1
- (a) Key
 - (b) Volume name
 - (c) Mirror
 - (d) Parity
9. Which of the following functions is **not** a user right tool function ? 1
- (a) Access computer from network
 - (b) Add computer to the domain
 - (c) Mirroring
 - (d) Log on locally to this computer
10. _____ utility creates an emergency repair disk with the updated disk information. 1
- (a) WINDISK.EXE
 - (b) UDISK.EXE
 - (c) RDISK.EXE
 - (d) DISKUPDATE.EXE

11. Assume you are designing a network for a Gargent manufacturing and distribution company. The company has 3 departments at different locations in India like Administration, Manufacturing and Distribution departments at New Delhi, Gujarat and Mumbai respectively. Further, distribution department has 4 sub distribution departments in Mumbai at different locations.

Each department has 25 computers, 2 printers and one FAX machine, and each sub-department has 10 computers and 2 printers while Administration department is working as the central office which maintains all database, transactions and main server.

The main server is connected with servers of other departments and sub-departments. Give answer of the following, based on the network defined above :

- (i) Draw and explain the best suited physical and logical topology for the network specification. 4
- (ii) Justify the need of each hardware device you may use in the network at different locations. 4
- (iii) Which cable is best suited for this company ? Compare merits and demerits of all the available cables, to justify your answer. 5
- (iv) Which operating system is best for this company ? Justify your answer. 4
- (v) Explain the best hardwares and softwares you should use in the network to implement the security. 3

SECTION B

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

12. (a) Explain any **two** functionalities of each of the following : 3×2=6
- (i) Presentation layer
 - (ii) Data link layer
 - (iii) Internet layer of TCP/IP
- (b) Explain, how the microwave communication works. In what ways is it different from the satellite communication ? Give at least three differences. 5
- (c) In OSI model, how does the transport layer ensure the complete reliability of the message and the proper ordering of the message ? 4

- 13.** Write three differences between each of the following pairs : **3×5=15**
- (a) Token ring and Token bus
 - (b) Message switching and Packet switching
 - (c) Connection oriented and Connection-less services
 - (d) 10 Base 2 and 100 Base T cable
 - (e) Gateway and Router
- 14.** (a) What is the importance of mirroring ? How do we mirror a disk partition on server ? Can we establish the mirror of boot partition ? If yes, how ? If no, why not ? 8
- (b) How does NTFS file system provide the 'recoverability' and 'compression' of files ? Explain your answer with the help of suitable examples for each. 7
- 15.** (a) What is disk stripping ? What are the differences between strip set with parity and without parity ? Explain, how you can create and remove strip set with parity and without parity. 8
- (b) Explain the different check points for evaluating the Administrator Account and Administrators Group. 7
- 16.** (a) What are the different types of activities that could be addressed by the network administrator in the security policy ? Also, explain why these activities are included in the security policy. 10
- (b) How are the configuration of a local printer and a network printer different ? Explain with suitable diagram. 5